

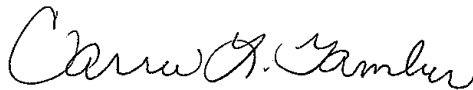
## ANALYTICAL REPORT

Job Number: 180-43411-1

Job Description: Sparrows Point Trust Offshore Investigat

For:

EA Engineering, Science, and Technology  
225 Schilling Circle  
Hunt Valley, MD 21031  
Attention: Sanita Corum



Approved for release.  
Carrie L. Gamber  
Senior Project Manager  
5/15/2015 1:11 PM

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05/15/2015

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# Definitions/Glossary

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description  |
|-----------|--|
| B         | Compound was found in the blank and sample.  |
| J         | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

### GC/MS Semi VOA

| Qualifier | Qualifier Description  |
|-----------|--|
| J         | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

### GC Semi VOA

| Qualifier | Qualifier Description   |
|-----------|---|
| p         | The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported. |

### Metals

| Qualifier | Qualifier Description  |
|-----------|--|
| J         | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| B         | Compound was found in the blank and sample.  |

### General Chemistry

| Qualifier | Qualifier Description  |
|-----------|--|
| J         | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

## Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| α              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CNF            | Contains no Free Liquid   |
| DER            | Duplicate error ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision level concentration  |
| MDA            | Minimum detectable activity   |
| EDL            | Estimated Detection Limit   |
| MDC            | Minimum detectable concentration  |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| NC             | Not Calculated  |
| ND             | Not detected at the reporting limit (or MDL or EDL if shown)  |
| PQL            | Practical Quantitation Limit  |
| QC             | Quality Control   |
| RER            | Relative error ratio  |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |

## **CASE NARRATIVE**

**Client: EA Engineering, Science, and Technology**

**Project: Sparrows Point Trust Offshore Investigation**

**Report Number: 180-43411-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

### **RECEIPT**

The samples were received on 04/24/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.1 C.

### **VOLATILES**

Methylene Chloride and Toluene were detected in method blank MB 180-139703/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

### **SEMIVOLATILES**

The following samples was diluted due to the nature of the sample matrix: DE01-SD (180-43411-1) and F05-SD (180-43411-2). As such, surrogate recoveries will be considered as estimated and elevated reporting limits (RLs) are provided.

### **PCBs**

The following sample were diluted due to the nature of the sample matrix: F05-SD (180-43411-2). Elevated reporting limits (RLs) are provided. The sample extract was dark in color and very thick.

### **AVS/SEM**

The following sample was diluted due to the presence of iron which interferes with nickel and lead: F05-SD (180-43411-2). Elevated reporting limits (RLs) are provided.

Copper SEM, Nickel SEM and Zinc SEM were detected in method blank MB 180-140635/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

### **METALS**

Thallium was detected in method blank MB 180-139790/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

### **GENERAL CHEMSITRY**

Due to the matrix, the initial volume used for the following sample deviated from the standard procedure for Oil and Grease: F05-SD (180-43411-2). The reporting limits (RLs) have been adjusted proportionately.

The reporting limit for Lloyd Kahn TOC analysis is a nominal value and does not reflect adjustments in sample mass processed on an individual basis.

The presence of the '4' qualifier indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

# Detection Summary

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

Client Sample ID: DE01-SD

Lab Sample ID: 180-43411-1

| Analyte                           | Result | Qualifier | RL     | MDL      | Unit   | Dil Fac | D | Method     | Prep Type |
|-----------------------------------|--------|-----------|--------|----------|--------|---------|---|------------|-----------|
| Fluoranthene                      | 7.2    | J         | 23     | 2.5      | ug/Kg  | 5       | ☼ | 8270D LL   | Total/NA  |
| Pyrene                            | 6.5    | J         | 23     | 2.3      | ug/Kg  | 5       | ☼ | 8270D LL   | Total/NA  |
| Cadmium SEM                       | 2.5    |           | 0.17   | 0.0057   | mg/Kg  | 1       | ☼ | 6010B      | SEM/AVS   |
| Copper SEM                        | 9.1    | B         | 0.86   | 0.077    | mg/Kg  | 1       | ☼ | 6010B      | SEM/AVS   |
| Lead SEM                          | 14     |           | 0.35   | 0.068    | mg/Kg  | 1       | ☼ | 6010B      | SEM/AVS   |
| Nickel SEM                        | 3.4    | B         | 1.4    | 0.040    | mg/Kg  | 1       | ☼ | 6010B      | SEM/AVS   |
| Zinc SEM                          | 420    | B         | 3.5    | 0.26     | mg/Kg  | 1       | ☼ | 6010B      | SEM/AVS   |
| Arsenic                           | 5.0    |           | 0.068  | 0.012    | mg/Kg  | 1       | ☼ | 6020A      | Total/NA  |
| Cadmium                           | 1.8    |           | 0.068  | 0.0048   | mg/Kg  | 1       | ☼ | 6020A      | Total/NA  |
| Chromium                          | 110    |           | 0.14   | 0.0042   | mg/Kg  | 1       | ☼ | 6020A      | Total/NA  |
| Lead                              | 15     |           | 0.068  | 0.0026   | mg/Kg  | 1       | ☼ | 6020A      | Total/NA  |
| Selenium                          | 0.13   | J         | 0.34   | 0.034    | mg/Kg  | 1       | ☼ | 6020A      | Total/NA  |
| Silver                            | 0.073  |           | 0.068  | 0.0027   | mg/Kg  | 1       | ☼ | 6020A      | Total/NA  |
| Beryllium                         | 0.10   |           | 0.068  | 0.0051   | mg/Kg  | 1       | ☼ | 6020A      | Total/NA  |
| Thallium                          | 0.032  | J B       | 0.068  | 0.0014   | mg/Kg  | 1       | ☼ | 6020A      | Total/NA  |
| Antimony                          | 0.29   |           | 0.14   | 0.0018   | mg/Kg  | 1       | ☼ | 6020A      | Total/NA  |
| Nickel                            | 4.1    |           | 0.068  | 0.0077   | mg/Kg  | 1       | ☼ | 6020A      | Total/NA  |
| Zinc                              | 290    |           | 0.34   | 0.044    | mg/Kg  | 1       | ☼ | 6020A      | Total/NA  |
| Copper                            | 8.5    |           | 0.14   | 0.023    | mg/Kg  | 1       | ☼ | 6020A      | Total/NA  |
| SEM/AVS Ratio                     | 19     |           | 0.0010 | 0.0010   | NONE   | 1       |   | SEM        | SEM/AVS   |
| Cyanide, Total                    | 1.6    |           | 0.34   | 0.11     | mg/Kg  | 1       | ☼ | 9014       | Total/NA  |
| Total Organic Carbon - Duplicates | 3200   |           | 1400   | 120      | mg/Kg  | 1       | ☼ | Lloyd Kahn | Total/NA  |
| Acid Volatile Sulfides (AVS)      | 11     | J         | 21     | 4.1      | mg/Kg  | 1       | ☼ | 9034       | SEM/AVS   |
| Analyte                           | Result | Qualifier | RL     | MDL      | Unit   | Dil Fac | D | Method     | Prep Type |
| Cadmium SEM                       | 0.022  |           | 0.0015 | 0.000050 | umol/g | 1       | ☼ | 6010B      | SEM/AVS   |
| Copper SEM                        | 0.14   | B         | 0.014  | 0.0012   | umol/g | 1       | ☼ | 6010B      | SEM/AVS   |
| Lead SEM                          | 0.067  |           | 0.0017 | 0.00033  | umol/g | 1       | ☼ | 6010B      | SEM/AVS   |
| Nickel SEM                        | 0.059  | B         | 0.024  | 0.00068  | umol/g | 1       | ☼ | 6010B      | SEM/AVS   |
| Zinc SEM                          | 6.4    | B         | 0.053  | 0.0039   | umol/g | 1       | ☼ | 6010B      | SEM/AVS   |
| Acid Volatile Sulfides (AVS)      | 0.35   | J         | 0.65   | 0.13     | umol/g | 1       | ☼ | 9034       | SEM/AVS   |

Client Sample ID: F05-SD

Lab Sample ID: 180-43411-2

| Analyte                     | Result | Qualifier | RL  | MDL  | Unit  | Dil Fac | D | Method   | Prep Type |
|-----------------------------|--------|-----------|-----|------|-------|---------|---|----------|-----------|
| Methylene Chloride          | 2.2    | J B       | 7.0 | 0.94 | ug/Kg | 1       | ☼ | 8260C    | Total/NA  |
| Toluene                     | 1.3    | J B       | 7.0 | 1.0  | ug/Kg | 1       | ☼ | 8260C    | Total/NA  |
| Acenaphthylene              | 110    |           | 23  | 2.7  | ug/Kg | 5       | ☼ | 8270D LL | Total/NA  |
| Anthracene                  | 62     |           | 23  | 2.3  | ug/Kg | 5       | ☼ | 8270D LL | Total/NA  |
| Benzo[a]anthracene          | 320    |           | 23  | 2.9  | ug/Kg | 5       | ☼ | 8270D LL | Total/NA  |
| Benzo[b]fluoranthene        | 370    |           | 23  | 3.7  | ug/Kg | 5       | ☼ | 8270D LL | Total/NA  |
| Benzo[k]fluoranthene        | 160    |           | 23  | 4.7  | ug/Kg | 5       | ☼ | 8270D LL | Total/NA  |
| Benzo[g,h,i]perylene        | 500    |           | 23  | 2.3  | ug/Kg | 5       | ☼ | 8270D LL | Total/NA  |
| Benzo[a]pyrene              | 400    |           | 23  | 2.3  | ug/Kg | 5       | ☼ | 8270D LL | Total/NA  |
| Bis(2-ethylhexyl) phthalate | 790    |           | 230 | 19   | ug/Kg | 5       | ☼ | 8270D LL | Total/NA  |
| Chrysene                    | 280    |           | 23  | 2.8  | ug/Kg | 5       | ☼ | 8270D LL | Total/NA  |
| Dibenz(a,h)anthracene       | 45     |           | 23  | 2.6  | ug/Kg | 5       | ☼ | 8270D LL | Total/NA  |
| Fluoranthene                | 1400   |           | 23  | 2.5  | ug/Kg | 5       | ☼ | 8270D LL | Total/NA  |
| Indeno[1,2,3-cd]pyrene      | 310    |           | 23  | 2.4  | ug/Kg | 5       | ☼ | 8270D LL | Total/NA  |
| Naphthalene                 | 37     |           | 23  | 2.0  | ug/Kg | 5       | ☼ | 8270D LL | Total/NA  |
| Phenanthrene                | 37     |           | 23  | 3.7  | ug/Kg | 5       | ☼ | 8270D LL | Total/NA  |

This Detection Summary does not include radiochemical test results.

TestAmerica Pittsburgh

# Detection Summary

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

Client Sample ID: F05-SD (Continued)

Lab Sample ID: 180-43411-2

| Analyte                           | Result | Qualifier | RL     | MDL      | Unit   | Dil | Fac | D          | Method | Prep Type |
|-----------------------------------|--------|-----------|--------|----------|--------|-----|-----|------------|--------|-----------|
| Pyrene                            | 690    |           | 23     | 2.4      | ug/Kg  | 5   | ☼   | 8270D      | LL     | Total/NA  |
| Phenol                            | 20     | J         | 23     | 2.8      | ug/Kg  | 5   | ☼   | 8270D      | LL     | Total/NA  |
| PCB-1254                          | 38     |           | 2.9    | 0.69     | ug/Kg  | 5   | ☼   | 8082A      |        | Total/NA  |
| Cadmium SEM                       | 3.0    |           | 0.18   | 0.0058   | mg/Kg  | 1   | ☼   | 6010B      |        | SEM/AVS   |
| Copper SEM                        | 22     | B         | 0.88   | 0.079    | mg/Kg  | 1   | ☼   | 6010B      |        | SEM/AVS   |
| Lead SEM                          | 34     |           | 0.70   | 0.14     | mg/Kg  | 2   | ☼   | 6010B      |        | SEM/AVS   |
| Nickel SEM                        | 17     | B         | 2.8    | 0.081    | mg/Kg  | 2   | ☼   | 6010B      |        | SEM/AVS   |
| Zinc SEM                          | 570    | B         | 3.5    | 0.26     | mg/Kg  | 1   | ☼   | 6010B      |        | SEM/AVS   |
| Arsenic                           | 5.9    |           | 0.068  | 0.012    | mg/Kg  | 1   | ☼   | 6020A      |        | Total/NA  |
| Cadmium                           | 5.3    |           | 0.068  | 0.0048   | mg/Kg  | 1   | ☼   | 6020A      |        | Total/NA  |
| Chromium                          | 860    |           | 0.14   | 0.0042   | mg/Kg  | 1   | ☼   | 6020A      |        | Total/NA  |
| Lead                              | 75     |           | 0.068  | 0.0026   | mg/Kg  | 1   | ☼   | 6020A      |        | Total/NA  |
| Selenium                          | 0.34   |           | 0.34   | 0.034    | mg/Kg  | 1   | ☼   | 6020A      |        | Total/NA  |
| Silver                            | 0.80   |           | 0.068  | 0.0027   | mg/Kg  | 1   | ☼   | 6020A      |        | Total/NA  |
| Beryllium                         | 0.10   |           | 0.068  | 0.0051   | mg/Kg  | 1   | ☼   | 6020A      |        | Total/NA  |
| Thallium                          | 0.093  | B         | 0.068  | 0.0014   | mg/Kg  | 1   | ☼   | 6020A      |        | Total/NA  |
| Antimony                          | 1.9    |           | 0.14   | 0.0018   | mg/Kg  | 1   | ☼   | 6020A      |        | Total/NA  |
| Nickel                            | 41     |           | 0.068  | 0.0077   | mg/Kg  | 1   | ☼   | 6020A      |        | Total/NA  |
| Zinc                              | 1200   |           | 0.34   | 0.044    | mg/Kg  | 1   | ☼   | 6020A      |        | Total/NA  |
| Copper                            | 66     |           | 0.14   | 0.023    | mg/Kg  | 1   | ☼   | 6020A      |        | Total/NA  |
| Mercury                           | 0.088  |           | 0.023  | 0.0077   | mg/Kg  | 1   | ☼   | 7471A      |        | Total/NA  |
| SEM/AVS Ratio                     | 0.28   |           | 0.0010 | 0.0010   | NONE   | 1   |     | SEM        |        | SEM/AVS   |
| Cyanide, Total                    | 0.74   |           | 0.35   | 0.11     | mg/Kg  | 1   | ☼   | 9014       |        | Total/NA  |
| HEM                               | 14000  |           | 1400   | 240      | mg/Kg  | 1   | ☼   | 9071B      |        | Total/NA  |
| Total Organic Carbon - Duplicates | 17000  |           | 1400   | 120      | mg/Kg  | 1   | ☼   | Lloyd Kahn |        | Total/NA  |
| Acid Volatile Sulfides (AVS)      | 1100   |           | 21     | 4.2      | mg/Kg  | 1   | ☼   | 9034       |        | SEM/AVS   |
| Analyte                           | Result | Qualifier | RL     | MDL      | Unit   | Dil | Fac | D          | Method | Prep Type |
| Cadmium SEM                       | 0.027  |           | 0.0016 | 0.000051 | umol/g | 1   | ☼   | 6010B      |        | SEM/AVS   |
| Copper SEM                        | 0.34   | B         | 0.014  | 0.0012   | umol/g | 1   | ☼   | 6010B      |        | SEM/AVS   |
| Lead SEM                          | 0.16   |           | 0.0034 | 0.00067  | umol/g | 2   | ☼   | 6010B      |        | SEM/AVS   |
| Nickel SEM                        | 0.28   | B         | 0.048  | 0.0014   | umol/g | 2   | ☼   | 6010B      |        | SEM/AVS   |
| Zinc SEM                          | 8.7    | B         | 0.054  | 0.0040   | umol/g | 1   | ☼   | 6010B      |        | SEM/AVS   |
| Acid Volatile Sulfides (AVS)      | 34     |           | 0.66   | 0.13     | umol/g | 1   | ☼   | 9034       |        | SEM/AVS   |

This Detection Summary does not include radiochemical test results.

TestAmerica Pittsburgh

# Client Sample Results

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## Method: 8260C - Volatile Organic Compounds by GC/MS

Client Sample ID: F05-SD

Date Collected: 04/23/15 16:00

Date Received: 04/24/15 08:30

Lab Sample ID: 180-43411-2

Matrix: Sediment

Percent Solids: 71.3

| Analyte                   | Result | Qualifier | RL  | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| 1,1,1-Trichloroethane     | ND     |           | 7.0 | 0.68 | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| 1,1,2,2-Tetrachloroethane | ND     |           | 7.0 | 1.0  | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| 1,1,2-Trichloroethane     | ND     |           | 7.0 | 1.2  | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| 1,1-Dichloroethane        | ND     |           | 7.0 | 0.81 | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| 1,1-Dichloroethene        | ND     |           | 7.0 | 1.2  | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| 1,2-Dichlorobenzene       | ND     |           | 7.0 | 1.1  | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| 1,2-Dichloroethane        | ND     |           | 7.0 | 0.86 | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| 1,2-Dichloropropane       | ND     |           | 7.0 | 0.76 | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| 1,3-Dichlorobenzene       | ND     |           | 7.0 | 0.92 | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| 1,4-Dichlorobenzene       | ND     |           | 7.0 | 0.89 | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| 2-Chloroethyl vinyl ether | ND     |           | 14  | 1.1  | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| Acrolein                  | ND     |           | 140 | 9.9  | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| Acrylonitrile             | ND     |           | 140 | 15   | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| Benzene                   | ND     |           | 7.0 | 0.95 | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| Bromoform                 | ND     |           | 7.0 | 0.62 | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| Bromomethane              | ND     |           | 7.0 | 1.0  | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| Carbon tetrachloride      | ND     |           | 7.0 | 0.63 | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| Chlorobenzene             | ND     |           | 7.0 | 1.1  | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| Chloroform                | ND     |           | 7.0 | 0.82 | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| Chloromethane             | ND     |           | 7.0 | 1.2  | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| Chlorodibromomethane      | ND     |           | 7.0 | 0.99 | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| cis-1,3-Dichloropropene   | ND     |           | 7.0 | 0.95 | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| Dichlorobromomethane      | ND     |           | 7.0 | 0.79 | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| Ethylbenzene              | ND     |           | 7.0 | 0.90 | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| Methylene Chloride        | 2.2    | J B       | 7.0 | 0.94 | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| Tetrachloroethene         | ND     |           | 7.0 | 0.95 | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| Toluene                   | 1.3    | J B       | 7.0 | 1.0  | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| trans-1,2-Dichloroethene  | ND     |           | 7.0 | 0.84 | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| trans-1,3-Dichloropropene | ND     |           | 7.0 | 0.84 | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| Trichloroethene           | ND     |           | 7.0 | 0.92 | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| Vinyl chloride            | ND     |           | 7.0 | 0.66 | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| Chloroethane              | ND     |           | 7.0 | 2.2  | ug/Kg | ☼ | 04/27/15 05:33 | 04/27/15 11:57 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 96        |           | 52 - 124 | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| 4-Bromofluorobenzene (Surr)  | 87        |           | 63 - 120 | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| Dibromofluoromethane (Surr)  | 101       |           | 68 - 121 | 04/27/15 05:33 | 04/27/15 11:57 | 1       |
| Toluene-d8 (Surr)            | 110       |           | 72 - 127 | 04/27/15 05:33 | 04/27/15 11:57 | 1       |



# Client Sample Results

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: DE01-SD  
Date Collected: 04/23/15 13:00  
Date Received: 04/24/15 08:30

Lab Sample ID: 180-43411-1  
Matrix: Sediment  
Percent Solids: 72.2

| Analyte                     | Result | Qualifier | RL  | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|-----|-----|-------|---|----------------|----------------|---------|
| Anthracene                  | ND     |           | 23  | 2.3 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:12 | 5       |
| Benzo[a]anthracene          | ND     |           | 23  | 2.9 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:12 | 5       |
| Benzo[b]fluoranthene        | ND     |           | 23  | 3.6 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:12 | 5       |
| Benzo[k]fluoranthene        | ND     |           | 23  | 4.7 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:12 | 5       |
| Benzo[g,h,i]perylene        | ND     |           | 23  | 2.3 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:12 | 5       |
| Benzo[a]pyrene              | ND     |           | 23  | 2.3 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:12 | 5       |
| Chrysene                    | ND     |           | 23  | 2.7 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:12 | 5       |
| Dibenz(a,h)anthracene       | ND     |           | 23  | 2.6 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:12 | 5       |
| Fluoranthene                | 7.2    | J         | 23  | 2.5 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:12 | 5       |
| Fluorene                    | ND     |           | 23  | 3.0 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:12 | 5       |
| Indeno[1,2,3-cd]pyrene      | ND     |           | 23  | 2.4 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:12 | 5       |
| Phenanthrene                | ND     |           | 23  | 3.7 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:12 | 5       |
| Pyrene                      | 6.5    | J         | 23  | 2.3 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:12 | 5       |
| Acenaphthene                | ND     |           | 23  | 2.2 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:12 | 5       |
| Acenaphthylene              | ND     |           | 23  | 2.6 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:12 | 5       |
| Naphthalene                 | ND     |           | 23  | 2.0 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:12 | 5       |
| Bis(2-ethylhexyl) phthalate | ND     |           | 230 | 19  | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:12 | 5       |

| Surrogate              | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------------|-----------|-----------|----------|----------------|----------------|---------|
| Nitrobenzene-d5 (Surr) | 75        |           | 41 - 108 | 05/04/15 03:00 | 05/12/15 12:12 | 5       |
| 2-Fluorobiphenyl       | 75        |           | 38 - 103 | 05/04/15 03:00 | 05/12/15 12:12 | 5       |
| Terphenyl-d14 (Surr)   | 71        |           | 28 - 109 | 05/04/15 03:00 | 05/12/15 12:12 | 5       |

# Client Sample Results

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Client Sample ID: F05-SD

Date Collected: 04/23/15 16:00

Date Received: 04/24/15 08:30

Lab Sample ID: 180-43411-2

Matrix: Sediment

Percent Solids: 71.3

| Analyte                              | Result | Qualifier | RL   | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|--------|-----------|------|-----|-------|---|----------------|----------------|---------|
| Acenaphthene                         | ND     |           | 23   | 2.2 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Acenaphthylene                       | 110    |           | 23   | 2.7 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Anthracene                           | 62     |           | 23   | 2.3 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Benzidine                            | ND     |           | 2300 | 490 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Benzo[a]anthracene                   | 320    |           | 23   | 2.9 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Benzo[b]fluoranthene                 | 370    |           | 23   | 3.7 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Benzo[k]fluoranthene                 | 160    |           | 23   | 4.7 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Benzoic acid                         | ND     |           | 600  | 48  | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Benzo[g,h,i]perylene                 | 500    |           | 23   | 2.3 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Benzo[a]pyrene                       | 400    |           | 23   | 2.3 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Bis(2-chloroethoxy)methane           | ND     |           | 120  | 7.7 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Bis(2-chloroethyl)ether              | ND     |           | 23   | 3.1 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Bis(2-ethylhexyl) phthalate          | 790    |           | 230  | 19  | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| 2,2'-oxybis[1-chloropropane]         | ND     |           | 23   | 2.5 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| 4-Bromophenyl phenyl ether           | ND     |           | 120  | 10  | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| 4-Chlorophenyl phenyl ether          | ND     |           | 120  | 13  | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| 2-Chloronaphthalene                  | ND     |           | 23   | 2.4 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Butyl benzyl phthalate               | ND     |           | 120  | 16  | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Chrysene                             | 280    |           | 23   | 2.8 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Dibenz(a,h)anthracene                | 45     |           | 23   | 2.6 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Di-n-butyl phthalate                 | ND     |           | 120  | 15  | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Di-n-octyl phthalate                 | ND     |           | 120  | 12  | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Diethyl phthalate                    | ND     |           | 120  | 13  | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Dimethyl phthalate                   | ND     |           | 120  | 13  | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| 3,3'-Dichlorobenzidine               | ND     |           | 120  | 12  | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| 2,4-Dinitrotoluene                   | ND     |           | 120  | 9.4 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| 2,6-Dinitrotoluene                   | ND     |           | 120  | 12  | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| 2-Chlorophenol                       | ND     |           | 120  | 9.6 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| 2,4-Dichlorophenol                   | ND     |           | 23   | 2.3 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| 2,4-Dimethylphenol                   | ND     |           | 120  | 18  | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| 2,4-Dinitrophenol                    | ND     |           | 600  | 140 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| 2-Nitrophenol                        | ND     |           | 120  | 13  | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| 2,4,6-Trichlorophenol                | ND     |           | 120  | 18  | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| 1,2-Diphenylhydrazine(as Azobenzene) | ND     |           | 120  | 15  | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| 1,2,4-Trichlorobenzene               | ND     |           | 120  | 6.5 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| 4-Chloro-3-methylphenol              | ND     |           | 120  | 11  | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| 4-Nitrophenol                        | ND     |           | 600  | 43  | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| 4,6-Dinitro-2-methylphenol           | ND     |           | 600  | 47  | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Fluoranthene                         | 1400   |           | 23   | 2.5 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Fluorene                             | ND     |           | 23   | 3.1 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Hexachlorobenzene                    | ND     |           | 23   | 2.5 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Hexachlorobutadiene                  | ND     |           | 23   | 2.6 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Hexachlorocyclopentadiene            | ND     |           | 120  | 13  | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Hexachloroethane                     | ND     |           | 120  | 8.4 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Indeno[1,2,3-cd]pyrene               | 310    |           | 23   | 2.4 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Isophorone                           | ND     |           | 120  | 8.8 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Naphthalene                          | 37     |           | 23   | 2.0 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Nitrobenzene                         | ND     |           | 230  | 9.7 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| N-Nitrosodi-n-propylamine            | ND     |           | 23   | 2.7 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |

TestAmerica Pittsburgh

# Client Sample Results

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Client Sample ID: F05-SD  
Date Collected: 04/23/15 16:00  
Date Received: 04/24/15 08:30

Lab Sample ID: 180-43411-2  
Matrix: Sediment  
Percent Solids: 71.3

| Analyte                | Result | Qualifier | RL  | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------------------|--------|-----------|-----|-----|-------|---|----------------|----------------|---------|
| N-Nitrosodimethylamine | ND     |           | 120 | 10  | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| N-Nitrosodiphenylamine | ND     |           | 120 | 11  | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Phenanthrene           | 37     |           | 23  | 3.7 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Pyrene                 | 690    |           | 23  | 2.4 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Pentachlorophenol      | ND     |           | 120 | 10  | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Phenol                 | 20     | J         | 23  | 2.8 | ug/Kg | ☼ | 05/04/15 03:00 | 05/12/15 12:39 | 5       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 2,4,6-Tribromophenol (Surr) | 65        |           | 20 - 113 | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| 2-Fluorobiphenyl            | 71        |           | 38 - 103 | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| 2-Fluorophenol (Surr)       | 72        |           | 34 - 103 | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Nitrobenzene-d5 (Surr)      | 83        |           | 41 - 108 | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Phenol-d5 (Surr)            | 81        |           | 35 - 103 | 05/04/15 03:00 | 05/12/15 12:39 | 5       |
| Terphenyl-d14 (Surr)        | 50        |           | 28 - 109 | 05/04/15 03:00 | 05/12/15 12:39 | 5       |

# Client Sample Results

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: F05-SD

Date Collected: 04/23/15 16:00

Date Received: 04/24/15 08:30

Lab Sample ID: 180-43411-2

Matrix: Sediment

Percent Solids: 71.3

| Analyte  | Result | Qualifier | RL  | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|----------|--------|-----------|-----|------|-------|---|----------------|----------------|---------|
| PCB-1016 | ND     |           | 2.9 | 0.59 | ug/Kg | ☼ | 05/01/15 03:16 | 05/01/15 23:37 | 5       |
| PCB-1221 | ND     |           | 2.9 | 0.72 | ug/Kg | ☼ | 05/01/15 03:16 | 05/01/15 23:37 | 5       |
| PCB-1232 | ND     |           | 2.9 | 1.0  | ug/Kg | ☼ | 05/01/15 03:16 | 05/01/15 23:37 | 5       |
| PCB-1242 | ND     |           | 2.9 | 0.73 | ug/Kg | ☼ | 05/01/15 03:16 | 05/01/15 23:37 | 5       |
| PCB-1248 | ND     |           | 2.9 | 0.72 | ug/Kg | ☼ | 05/01/15 03:16 | 05/01/15 23:37 | 5       |
| PCB-1254 | 38     |           | 2.9 | 0.69 | ug/Kg | ☼ | 05/01/15 03:16 | 05/01/15 23:37 | 5       |
| PCB-1260 | ND     |           | 2.9 | 0.63 | ug/Kg | ☼ | 05/01/15 03:16 | 05/01/15 23:37 | 5       |

| Surrogate                     | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|-----------|-----------|----------|----------------|----------------|---------|
| DCB Decachlorobiphenyl (Surr) | 42        | p         | 20 - 150 | 05/01/15 03:16 | 05/01/15 23:37 | 5       |
| DCB Decachlorobiphenyl (Surr) | 82        |           | 20 - 150 | 05/01/15 03:16 | 05/01/15 23:37 | 5       |
| Tetrachloro-m-xylene (Surr)   | 58        |           | 30 - 150 | 05/01/15 03:16 | 05/01/15 23:37 | 5       |
| Tetrachloro-m-xylene (Surr)   | 56        |           | 30 - 150 | 05/01/15 03:16 | 05/01/15 23:37 | 5       |

# Client Sample Results

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## Method: 6010B - Metals (ICP) - SEM/AVS

Client Sample ID: DE01-SD  
Date Collected: 04/23/15 13:00  
Date Received: 04/24/15 08:30

Lab Sample ID: 180-43411-1  
Matrix: Sediment  
Percent Solids: 72.2

| Analyte     | Result | Qualifier | RL     | MDL      | Unit   | D | Prepared       | Analyzed       | Dil Fac |
|-------------|--------|-----------|--------|----------|--------|---|----------------|----------------|---------|
| Cadmium SEM | 2.5    |           | 0.17   | 0.0057   | mg/Kg  | ☼ | 05/05/15 16:30 | 05/06/15 14:39 | 1       |
| Copper SEM  | 9.1    | B         | 0.86   | 0.077    | mg/Kg  | ☼ | 05/05/15 16:30 | 05/06/15 14:39 | 1       |
| Lead SEM    | 14     |           | 0.35   | 0.068    | mg/Kg  | ☼ | 05/05/15 16:30 | 05/06/15 14:39 | 1       |
| Nickel SEM  | 3.4    | B         | 1.4    | 0.040    | mg/Kg  | ☼ | 05/05/15 16:30 | 05/06/15 14:39 | 1       |
| Zinc SEM    | 420    | B         | 3.5    | 0.26     | mg/Kg  | ☼ | 05/05/15 16:30 | 05/06/15 14:39 | 1       |
| Analyte     | Result | Qualifier | RL     | MDL      | Unit   | D | Prepared       | Analyzed       | Dil Fac |
| Cadmium SEM | 0.022  |           | 0.0015 | 0.000050 | umol/g | ☼ | 05/05/15 16:30 | 05/06/15 14:39 | 1       |
| Copper SEM  | 0.14   | B         | 0.014  | 0.0012   | umol/g | ☼ | 05/05/15 16:30 | 05/06/15 14:39 | 1       |
| Lead SEM    | 0.067  |           | 0.0017 | 0.00033  | umol/g | ☼ | 05/05/15 16:30 | 05/06/15 14:39 | 1       |
| Nickel SEM  | 0.059  | B         | 0.024  | 0.00068  | umol/g | ☼ | 05/05/15 16:30 | 05/06/15 14:39 | 1       |
| Zinc SEM    | 6.4    | B         | 0.053  | 0.0039   | umol/g | ☼ | 05/05/15 16:30 | 05/06/15 14:39 | 1       |

# Client Sample Results

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## Method: 6010B - Metals (ICP) - SEM/AVS

Client Sample ID: F05-SD  
Date Collected: 04/23/15 16:00  
Date Received: 04/24/15 08:30

Lab Sample ID: 180-43411-2  
Matrix: Sediment  
Percent Solids: 71.3

| Analyte     | Result | Qualifier | RL     | MDL      | Unit   | D | Prepared       | Analyzed       | Dil Fac |
|-------------|--------|-----------|--------|----------|--------|---|----------------|----------------|---------|
| Cadmium SEM | 3.0    |           | 0.18   | 0.0058   | mg/Kg  | ☼ | 05/05/15 16:30 | 05/06/15 14:44 | 1       |
| Copper SEM  | 22     | B         | 0.88   | 0.079    | mg/Kg  | ☼ | 05/05/15 16:30 | 05/06/15 14:44 | 1       |
| Lead SEM    | 34     |           | 0.70   | 0.14     | mg/Kg  | ☼ | 05/05/15 16:30 | 05/07/15 08:19 | 2       |
| Nickel SEM  | 17     | B         | 2.8    | 0.081    | mg/Kg  | ☼ | 05/05/15 16:30 | 05/07/15 08:19 | 2       |
| Zinc SEM    | 570    | B         | 3.5    | 0.26     | mg/Kg  | ☼ | 05/05/15 16:30 | 05/06/15 14:44 | 1       |
| Analyte     | Result | Qualifier | RL     | MDL      | Unit   | D | Prepared       | Analyzed       | Dil Fac |
| Cadmium SEM | 0.027  |           | 0.0016 | 0.000051 | umol/g | ☼ | 05/05/15 16:30 | 05/06/15 14:44 | 1       |
| Copper SEM  | 0.34   | B         | 0.014  | 0.0012   | umol/g | ☼ | 05/05/15 16:30 | 05/06/15 14:44 | 1       |
| Lead SEM    | 0.16   |           | 0.0034 | 0.00067  | umol/g | ☼ | 05/05/15 16:30 | 05/07/15 08:19 | 2       |
| Nickel SEM  | 0.28   | B         | 0.048  | 0.0014   | umol/g | ☼ | 05/05/15 16:30 | 05/07/15 08:19 | 2       |
| Zinc SEM    | 8.7    | B         | 0.054  | 0.0040   | umol/g | ☼ | 05/05/15 16:30 | 05/06/15 14:44 | 1       |

# Client Sample Results

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## Method: 6020A - Metals (ICP/MS)

Client Sample ID: DE01-SD  
Date Collected: 04/23/15 13:00  
Date Received: 04/24/15 08:30

Lab Sample ID: 180-43411-1  
Matrix: Sediment  
Percent Solids: 72.2

| Analyte   | Result | Qualifier | RL    | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------|--------|-----------|-------|--------|-------|---|----------------|----------------|---------|
| Arsenic   | 5.0    |           | 0.068 | 0.012  | mg/Kg | ☼ | 04/27/15 14:21 | 05/01/15 18:16 | 1       |
| Cadmium   | 1.8    |           | 0.068 | 0.0048 | mg/Kg | ☼ | 04/27/15 14:21 | 05/01/15 18:16 | 1       |
| Chromium  | 110    |           | 0.14  | 0.0042 | mg/Kg | ☼ | 04/27/15 14:21 | 05/01/15 18:16 | 1       |
| Lead      | 15     |           | 0.068 | 0.0026 | mg/Kg | ☼ | 04/27/15 14:21 | 05/01/15 18:16 | 1       |
| Selenium  | 0.13   | J         | 0.34  | 0.034  | mg/Kg | ☼ | 04/27/15 14:21 | 05/01/15 18:16 | 1       |
| Silver    | 0.073  |           | 0.068 | 0.0027 | mg/Kg | ☼ | 04/27/15 14:21 | 05/01/15 18:16 | 1       |
| Beryllium | 0.10   |           | 0.068 | 0.0051 | mg/Kg | ☼ | 04/27/15 14:21 | 05/01/15 18:16 | 1       |
| Thallium  | 0.032  | J B       | 0.068 | 0.0014 | mg/Kg | ☼ | 04/27/15 14:21 | 05/01/15 18:16 | 1       |
| Antimony  | 0.29   |           | 0.14  | 0.0018 | mg/Kg | ☼ | 04/27/15 14:21 | 05/01/15 18:16 | 1       |
| Nickel    | 4.1    |           | 0.068 | 0.0077 | mg/Kg | ☼ | 04/27/15 14:21 | 05/01/15 18:16 | 1       |
| Zinc      | 290    |           | 0.34  | 0.044  | mg/Kg | ☼ | 04/27/15 14:21 | 05/01/15 18:16 | 1       |
| Copper    | 8.5    |           | 0.14  | 0.023  | mg/Kg | ☼ | 04/27/15 14:21 | 05/01/15 18:16 | 1       |

# Client Sample Results

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## Method: 6020A - Metals (ICP/MS)

Client Sample ID: F05-SD  
Date Collected: 04/23/15 16:00  
Date Received: 04/24/15 08:30

Lab Sample ID: 180-43411-2  
Matrix: Sediment  
Percent Solids: 71.3

| Analyte   | Result | Qualifier | RL    | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------|--------|-----------|-------|--------|-------|---|----------------|----------------|---------|
| Arsenic   | 5.9    |           | 0.068 | 0.012  | mg/Kg | ☼ | 04/27/15 14:21 | 05/01/15 18:21 | 1       |
| Cadmium   | 5.3    |           | 0.068 | 0.0048 | mg/Kg | ☼ | 04/27/15 14:21 | 05/01/15 18:21 | 1       |
| Chromium  | 860    |           | 0.14  | 0.0042 | mg/Kg | ☼ | 04/27/15 14:21 | 05/01/15 18:21 | 1       |
| Lead      | 75     |           | 0.068 | 0.0026 | mg/Kg | ☼ | 04/27/15 14:21 | 05/01/15 18:21 | 1       |
| Selenium  | 0.34   |           | 0.34  | 0.034  | mg/Kg | ☼ | 04/27/15 14:21 | 05/01/15 18:21 | 1       |
| Silver    | 0.80   |           | 0.068 | 0.0027 | mg/Kg | ☼ | 04/27/15 14:21 | 05/01/15 18:21 | 1       |
| Beryllium | 0.10   |           | 0.068 | 0.0051 | mg/Kg | ☼ | 04/27/15 14:21 | 05/01/15 18:21 | 1       |
| Thallium  | 0.093  | B         | 0.068 | 0.0014 | mg/Kg | ☼ | 04/27/15 14:21 | 05/01/15 18:21 | 1       |
| Antimony  | 1.9    |           | 0.14  | 0.0018 | mg/Kg | ☼ | 04/27/15 14:21 | 05/01/15 18:21 | 1       |
| Nickel    | 41     |           | 0.068 | 0.0077 | mg/Kg | ☼ | 04/27/15 14:21 | 05/01/15 18:21 | 1       |
| Zinc      | 1200   |           | 0.34  | 0.044  | mg/Kg | ☼ | 04/27/15 14:21 | 05/01/15 18:21 | 1       |
| Copper    | 66     |           | 0.14  | 0.023  | mg/Kg | ☼ | 04/27/15 14:21 | 05/01/15 18:21 | 1       |



## Client Sample Results

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

### Method: 7471A - Mercury (CVAA)

Client Sample ID: F05-SD  
Date Collected: 04/23/15 16:00  
Date Received: 04/24/15 08:30

Lab Sample ID: 180-43411-2  
Matrix: Sediment  
Percent Solids: 71.3

| Analyte | Result | Qualifier | RL    | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------|--------|-----------|-------|--------|-------|---|----------------|----------------|---------|
| Mercury | 0.088  |           | 0.023 | 0.0077 | mg/Kg | ☼ | 05/08/15 09:24 | 05/08/15 14:34 | 1       |

## Client Sample Results

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

### Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Client Sample ID: DE01-SD  
Date Collected: 04/23/15 13:00  
Date Received: 04/24/15 08:30

Lab Sample ID: 180-43411-1  
Matrix: Sediment

| Analyte       | Result | Qualifier | RL     | MDL    | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------|--------|-----------|--------|--------|------|---|----------|----------------|---------|
| SEM/AVS Ratio | 19     |           | 0.0010 | 0.0010 | NONE | — |          | 05/11/15 12:50 | 1       |

# Client Sample Results

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

Client Sample ID: F05-SD  
Date Collected: 04/23/15 16:00  
Date Received: 04/24/15 08:30

Lab Sample ID: 180-43411-2  
Matrix: Sediment

| Analyte       | Result | Qualifier | RL     | MDL    | Unit | D | Prepared | Analyzed       | Dil Fac |
|---------------|--------|-----------|--------|--------|------|---|----------|----------------|---------|
| SEM/AVS Ratio | 0.28   |           | 0.0010 | 0.0010 | NONE |   |          | 05/13/15 12:40 | 1       |

# Client Sample Results

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## General Chemistry

Client Sample ID: DE01-SD  
Date Collected: 04/23/15 13:00  
Date Received: 04/24/15 08:30

Lab Sample ID: 180-43411-1  
Matrix: Sediment

| Analyte                           | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Percent Moisture                  | 28     |           | 0.10 | 0.10 | %     |   |                | 04/27/15 15:42 | 1       |
| Cyanide, Total                    | 1.6    |           | 0.34 | 0.11 | mg/Kg | ⚠ | 04/28/15 08:30 | 04/28/15 11:47 | 1       |
| Total Organic Carbon - Duplicates | 3200   |           | 1400 | 120  | mg/Kg | ⚠ |                | 05/07/15 08:41 | 1       |

# Client Sample Results

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## General Chemistry

Client Sample ID: F05-SD  
Date Collected: 04/23/15 16:00  
Date Received: 04/24/15 08:30

Lab Sample ID: 180-43411-2  
Matrix: Sediment

| Analyte                           | Result | Qualifier | RL   | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------------|--------|-----------|------|------|-------|---|----------------|----------------|---------|
| Percent Moisture                  | 29     |           | 0.10 | 0.10 | %     |   |                | 04/27/15 15:42 | 1       |
| Cyanide, Total                    | 0.74   |           | 0.35 | 0.11 | mg/Kg | ⚠ | 04/28/15 08:30 | 04/28/15 11:49 | 1       |
| HEM                               | 14000  |           | 1400 | 240  | mg/Kg | ⚠ | 04/27/15 08:29 | 04/27/15 08:29 | 1       |
| Total Organic Carbon - Duplicates | 17000  |           | 1400 | 120  | mg/Kg | ⚠ |                | 05/07/15 08:56 | 1       |

# Client Sample Results

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## General Chemistry - SEM/AVS

Client Sample ID: DE01-SD  
Date Collected: 04/23/15 13:00  
Date Received: 04/24/15 08:30

Lab Sample ID: 180-43411-1  
Matrix: Sediment  
Percent Solids: 72.2

| Analyte                      | Result | Qualifier | RL   | MDL  | Unit   | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------|--------|-----------|------|------|--------|---|----------------|----------------|---------|
| Acid Volatile Sulfides (AVS) | 11     | J         | 21   | 4.1  | mg/Kg  | ☼ | 05/05/15 16:30 | 05/05/15 18:39 | 1       |
| Analyte                      | Result | Qualifier | RL   | MDL  | Unit   | D | Prepared       | Analyzed       | Dil Fac |
| Acid Volatile Sulfides (AVS) | 0.35   | J         | 0.65 | 0.13 | umol/g | ☼ | 05/05/15 16:30 | 05/05/15 18:39 | 1       |

# Client Sample Results

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## General Chemistry - SEM/AVS

Client Sample ID: F05-SD  
Date Collected: 04/23/15 16:00  
Date Received: 04/24/15 08:30

Lab Sample ID: 180-43411-2  
Matrix: Sediment  
Percent Solids: 71.3

| Analyte                      | Result | Qualifier | RL   | MDL  | Unit   | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------|--------|-----------|------|------|--------|---|----------------|----------------|---------|
| Acid Volatile Sulfides (AVS) | 1100   |           | 21   | 4.2  | mg/Kg  | ☼ | 05/05/15 16:30 | 05/05/15 18:41 | 1       |
| Analyte                      | Result | Qualifier | RL   | MDL  | Unit   | D | Prepared       | Analyzed       | Dil Fac |
| Acid Volatile Sulfides (AVS) | 34     |           | 0.66 | 0.13 | umol/g | ☼ | 05/05/15 16:30 | 05/05/15 18:41 | 1       |

## Default Detection Limits

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

### Method: 8260C - Volatile Organic Compounds by GC/MS

| Analyte                   | RL  | MDL  | Units | Method |
|---------------------------|-----|------|-------|--------|
| 1,1,1-Trichloroethane     | 5.0 | 0.49 | ug/Kg | 8260C  |
| 1,1,2,2-Tetrachloroethane | 5.0 | 0.72 | ug/Kg | 8260C  |
| 1,1,2-Trichloroethane     | 5.0 | 0.83 | ug/Kg | 8260C  |
| 1,1-Dichloroethane        | 5.0 | 0.58 | ug/Kg | 8260C  |
| 1,1-Dichloroethene        | 5.0 | 0.85 | ug/Kg | 8260C  |
| 1,2-Dichlorobenzene       | 5.0 | 0.80 | ug/Kg | 8260C  |
| 1,2-Dichloroethane        | 5.0 | 0.61 | ug/Kg | 8260C  |
| 1,2-Dichloropropane       | 5.0 | 0.54 | ug/Kg | 8260C  |
| 1,3-Dichlorobenzene       | 5.0 | 0.66 | ug/Kg | 8260C  |
| 1,4-Dichlorobenzene       | 5.0 | 0.64 | ug/Kg | 8260C  |
| 2-Chloroethyl vinyl ether | 10  | 0.77 | ug/Kg | 8260C  |
| Acrolein                  | 100 | 7.0  | ug/Kg | 8260C  |
| Acrylonitrile             | 100 | 10   | ug/Kg | 8260C  |
| Benzene                   | 5.0 | 0.68 | ug/Kg | 8260C  |
| Bromoform                 | 5.0 | 0.44 | ug/Kg | 8260C  |
| Bromomethane              | 5.0 | 0.74 | ug/Kg | 8260C  |
| Carbon tetrachloride      | 5.0 | 0.45 | ug/Kg | 8260C  |
| Chlorobenzene             | 5.0 | 0.76 | ug/Kg | 8260C  |
| Chlorodibromomethane      | 5.0 | 0.71 | ug/Kg | 8260C  |
| Chloroethane              | 5.0 | 1.5  | ug/Kg | 8260C  |
| Chloroform                | 5.0 | 0.58 | ug/Kg | 8260C  |
| Chloromethane             | 5.0 | 0.85 | ug/Kg | 8260C  |
| cis-1,3-Dichloropropene   | 5.0 | 0.68 | ug/Kg | 8260C  |
| Dichlorobromomethane      | 5.0 | 0.56 | ug/Kg | 8260C  |
| Ethylbenzene              | 5.0 | 0.64 | ug/Kg | 8260C  |
| Methylene Chloride        | 5.0 | 0.67 | ug/Kg | 8260C  |
| Tetrachloroethene         | 5.0 | 0.68 | ug/Kg | 8260C  |
| Toluene                   | 5.0 | 0.73 | ug/Kg | 8260C  |
| trans-1,2-Dichloroethene  | 5.0 | 0.60 | ug/Kg | 8260C  |
| trans-1,3-Dichloropropene | 5.0 | 0.60 | ug/Kg | 8260C  |
| Trichloroethene           | 5.0 | 0.66 | ug/Kg | 8260C  |
| Vinyl chloride            | 5.0 | 0.47 | ug/Kg | 8260C  |

### Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

| Analyte                              | RL  | MDL  | Units | Method   |
|--------------------------------------|-----|------|-------|----------|
| 1,2,4-Trichlorobenzene               | 17  | 0.92 | ug/Kg | 8270D LL |
| 1,2-Diphenylhydrazine(as Azobenzene) | 17  | 2.1  | ug/Kg | 8270D LL |
| 2,2'-oxybis[1-chloropropane]         | 3.4 | 0.36 | ug/Kg | 8270D LL |
| 2,4,6-Trichlorophenol                | 17  | 2.5  | ug/Kg | 8270D LL |
| 2,4-Dichlorophenol                   | 3.4 | 0.33 | ug/Kg | 8270D LL |
| 2,4-Dimethylphenol                   | 17  | 2.6  | ug/Kg | 8270D LL |
| 2,4-Dinitrophenol                    | 85  | 20   | ug/Kg | 8270D LL |
| 2,4-Dinitrotoluene                   | 17  | 1.3  | ug/Kg | 8270D LL |
| 2,6-Dinitrotoluene                   | 17  | 1.7  | ug/Kg | 8270D LL |
| 2-Chloronaphthalene                  | 3.4 | 0.35 | ug/Kg | 8270D LL |
| 2-Chlorophenol                       | 17  | 1.4  | ug/Kg | 8270D LL |
| 2-Nitrophenol                        | 17  | 1.8  | ug/Kg | 8270D LL |
| 3,3'-Dichlorobenzidine               | 17  | 1.8  | ug/Kg | 8270D LL |
| 4,6-Dinitro-2-methylphenol           | 85  | 6.7  | ug/Kg | 8270D LL |
| 4-Bromophenyl phenyl ether           | 17  | 1.5  | ug/Kg | 8270D LL |
| 4-Chloro-3-methylphenol              | 17  | 1.5  | ug/Kg | 8270D LL |



## Default Detection Limits

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

### Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

| Analyte                     | RL  | MDL  | Units | Method   |
|-----------------------------|-----|------|-------|----------|
| 4-Chlorophenyl phenyl ether | 17  | 1.9  | ug/Kg | 8270D LL |
| 4-Nitrophenol               | 85  | 6.1  | ug/Kg | 8270D LL |
| Acenaphthene                | 3.4 | 0.32 | ug/Kg | 8270D LL |
| Acenaphthylene              | 3.4 | 0.38 | ug/Kg | 8270D LL |
| Anthracene                  | 3.4 | 0.33 | ug/Kg | 8270D LL |
| Benzidine                   | 340 | 70   | ug/Kg | 8270D LL |
| Benzo[a]anthracene          | 3.4 | 0.42 | ug/Kg | 8270D LL |
| Benzo[a]pyrene              | 3.4 | 0.33 | ug/Kg | 8270D LL |
| Benzo[b]fluoranthene        | 3.4 | 0.52 | ug/Kg | 8270D LL |
| Benzo[g,h,i]perylene        | 3.4 | 0.33 | ug/Kg | 8270D LL |
| Benzo[k]fluoranthene        | 3.4 | 0.67 | ug/Kg | 8270D LL |
| Benzoic acid                | 85  | 6.9  | ug/Kg | 8270D LL |
| Bis(2-chloroethoxy)methane  | 17  | 1.1  | ug/Kg | 8270D LL |
| Bis(2-chloroethyl)ether     | 3.4 | 0.45 | ug/Kg | 8270D LL |
| Bis(2-ethylhexyl) phthalate | 33  | 2.7  | ug/Kg | 8270D LL |
| Butyl benzyl phthalate      | 17  | 2.3  | ug/Kg | 8270D LL |
| Chrysene                    | 3.4 | 0.40 | ug/Kg | 8270D LL |
| Dibenz(a,h)anthracene       | 3.4 | 0.37 | ug/Kg | 8270D LL |
| Diethyl phthalate           | 17  | 1.8  | ug/Kg | 8270D LL |
| Dimethyl phthalate          | 17  | 1.8  | ug/Kg | 8270D LL |
| Di-n-butyl phthalate        | 17  | 2.1  | ug/Kg | 8270D LL |
| Di-n-octyl phthalate        | 17  | 1.8  | ug/Kg | 8270D LL |
| Fluoranthene                | 3.4 | 0.36 | ug/Kg | 8270D LL |
| Fluorene                    | 3.4 | 0.44 | ug/Kg | 8270D LL |
| Hexachlorobenzene           | 3.4 | 0.36 | ug/Kg | 8270D LL |
| Hexachlorobutadiene         | 3.4 | 0.37 | ug/Kg | 8270D LL |
| Hexachlorocyclopentadiene   | 17  | 1.8  | ug/Kg | 8270D LL |
| Hexachloroethane            | 17  | 1.2  | ug/Kg | 8270D LL |
| Indeno[1,2,3-cd]pyrene      | 3.4 | 0.34 | ug/Kg | 8270D LL |
| Isophorone                  | 17  | 1.3  | ug/Kg | 8270D LL |
| Naphthalene                 | 3.4 | 0.29 | ug/Kg | 8270D LL |
| Nitrobenzene                | 33  | 1.4  | ug/Kg | 8270D LL |
| N-Nitrosodimethylamine      | 17  | 1.4  | ug/Kg | 8270D LL |
| N-Nitrosodi-n-propylamine   | 3.4 | 0.39 | ug/Kg | 8270D LL |
| N-Nitrosodiphenylamine      | 17  | 1.5  | ug/Kg | 8270D LL |
| Pentachlorophenol           | 17  | 1.5  | ug/Kg | 8270D LL |
| Phenanthrene                | 3.4 | 0.53 | ug/Kg | 8270D LL |
| Phenol                      | 3.4 | 0.39 | ug/Kg | 8270D LL |
| Pyrene                      | 3.4 | 0.34 | ug/Kg | 8270D LL |

### Method: 8082A - Polychlorinated Biphenyls (PCBs) (GC)

| Analyte  | RL   | MDL   | Units | Method |
|----------|------|-------|-------|--------|
| PCB-1016 | 0.42 | 0.085 | ug/Kg | 8082A  |
| PCB-1221 | 0.42 | 0.10  | ug/Kg | 8082A  |
| PCB-1232 | 0.42 | 0.14  | ug/Kg | 8082A  |
| PCB-1242 | 0.42 | 0.11  | ug/Kg | 8082A  |
| PCB-1248 | 0.42 | 0.10  | ug/Kg | 8082A  |
| PCB-1254 | 0.42 | 0.099 | ug/Kg | 8082A  |
| PCB-1260 | 0.42 | 0.091 | ug/Kg | 8082A  |

## Default Detection Limits

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

### Method: 6010B - Metals (ICP) - SEM/AVS

| Analyte     | RL     | MDL      | Units  | Method |
|-------------|--------|----------|--------|--------|
| Cadmium SEM | 0.13   | 0.0041   | mg/Kg  | 6010B  |
| Cadmium SEM | 0.0011 | 0.000036 | umol/g | 6010B  |
| Copper SEM  | 0.63   | 0.056    | mg/Kg  | 6010B  |
| Copper SEM  | 0.0098 | 0.00088  | umol/g | 6010B  |
| Lead SEM    | 0.25   | 0.050    | mg/Kg  | 6010B  |
| Lead SEM    | 0.0012 | 0.00024  | umol/g | 6010B  |
| Nickel SEM  | 1.0    | 0.029    | mg/Kg  | 6010B  |
| Nickel SEM  | 0.017  | 0.00049  | umol/g | 6010B  |
| Zinc SEM    | 2.5    | 0.18     | mg/Kg  | 6010B  |
| Zinc SEM    | 0.038  | 0.0028   | umol/g | 6010B  |

### Method: 6020A - Metals (ICP/MS)

| Analyte   | RL    | MDL    | Units | Method |
|-----------|-------|--------|-------|--------|
| Antimony  | 0.10  | 0.0013 | mg/Kg | 6020A  |
| Arsenic   | 0.050 | 0.0091 | mg/Kg | 6020A  |
| Beryllium | 0.050 | 0.0038 | mg/Kg | 6020A  |
| Cadmium   | 0.050 | 0.0035 | mg/Kg | 6020A  |
| Chromium  | 0.10  | 0.0031 | mg/Kg | 6020A  |
| Copper    | 0.10  | 0.017  | mg/Kg | 6020A  |
| Lead      | 0.050 | 0.0019 | mg/Kg | 6020A  |
| Nickel    | 0.050 | 0.0057 | mg/Kg | 6020A  |
| Selenium  | 0.25  | 0.025  | mg/Kg | 6020A  |
| Silver    | 0.050 | 0.0020 | mg/Kg | 6020A  |
| Thallium  | 0.050 | 0.0010 | mg/Kg | 6020A  |
| Zinc      | 0.25  | 0.032  | mg/Kg | 6020A  |

### Method: 7471A - Mercury (CVAA)

| Analyte | RL    | MDL    | Units | Method |
|---------|-------|--------|-------|--------|
| Mercury | 0.017 | 0.0057 | mg/Kg | 7471A  |

### Method: SEM - Metals, Simultaneously Extracted Metals (SEM) - SEM/AVS

| Analyte       | RL     | MDL    | Units | Method |
|---------------|--------|--------|-------|--------|
| SEM/AVS Ratio | 0.0010 | 0.0010 | NONE  | SEM    |

### General Chemistry

| Analyte                           | RL   | MDL   | Units | Method     |
|-----------------------------------|------|-------|-------|------------|
| Percent Moisture                  | 0.10 | 0.10  | %     | 2540G      |
| Cyanide, Total                    | 0.25 | 0.082 | mg/Kg | 9014       |
| HEM                               | 170  | 28    | mg/Kg | 9071B      |
| Total Organic Carbon - Duplicates | 1000 | 89    | mg/Kg | Lloyd Kahn |

### General Chemistry - SEM/AVS

| Analyte                      | RL   | MDL  | Units  | Method |
|------------------------------|------|------|--------|--------|
| Acid Volatile Sulfides (AVS) | 30   | 6.0  | mg/Kg  | 9034   |
| Acid Volatile Sulfides (AVS) | 0.94 | 0.19 | umol/g | 9034   |

## Surrogate Summary

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

### Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Sediment

Prep Type: Total/NA

| Lab Sample ID      | Client Sample ID   | Percent Surrogate Recovery (Acceptance Limits) |                 |                  |                 |
|--------------------|--------------------|--|-----------------|------------------|-----------------|
|                    |                    | 12DCE<br>(52-124)                              | BFB<br>(63-120) | DBFM<br>(68-121) | TOL<br>(72-127) |
| 180-43411-2        | F05-SD             | 96   | 87              | 101              | 110             |
| LCS 180-139703/2-A | Lab Control Sample | 96   | 93              | 91               | 96              |
| MB 180-139703/1-A  | Method Blank       | 101  | 93              | 97               | 100             |

#### Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

### Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Sediment

Prep Type: Total/NA

| Lab Sample ID | Client Sample ID | Percent Surrogate Recovery (Acceptance Limits) |                 |                 |                 |                 |                 |
|---------------|------------------|--|-----------------|-----------------|-----------------|-----------------|-----------------|
|               |                  | NBZ<br>(41-108)                                | FBP<br>(38-103) | TPH<br>(28-109) | TBP<br>(20-113) | 2FP<br>(34-103) | PHL<br>(35-103) |
| 180-43411-1   | DE01-SD          | 75   | 75              | 71              |                 |                 |                 |
| 180-43411-2   | F05-SD           | 83   | 71              | 50              | 65              | 72              | 81              |

#### Surrogate Legend

NBZ = Nitrobenzene-d5 (Surr)

FBP = 2-Fluorobiphenyl

TPH = Terphenyl-d14 (Surr)

TBP = 2,4,6-Tribromophenol (Surr)

2FP = 2-Fluorophenol (Surr)

PHL = Phenol-d5 (Surr)

### Method: 8082A - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Sediment

Prep Type: Total/NA

| Lab Sample ID      | Client Sample ID   | Percent Surrogate Recovery (Acceptance Limits) |                  |                  |                  |
|--------------------|--------------------|--|------------------|------------------|------------------|
|                    |                    | DCB1<br>(20-150)                               | DCB2<br>(20-150) | TCX1<br>(30-150) | TCX2<br>(30-150) |
| 180-43411-2        | F05-SD             | 42 p   | 82               | 58               | 56               |
| LCS 180-140214/2-C | Lab Control Sample | 62   | 63               | 77               | 82               |
| MB 180-140214/1-C  | Method Blank       | 68   | 69               | 75               | 79               |

#### Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

TCX = Tetrachloro-m-xylene (Surr)

# QC Sample Results

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 180-139703/1-A

Matrix: Sediment

Analysis Batch: 139697

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 139703

| Analyte                   | MB<br>Result | MB<br>Qualifier | RL  | MDL  | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------------|--------------|-----------------|-----|------|-------|---|----------------|----------------|---------|
| 1,1,1-Trichloroethane     | ND           |                 | 5.0 | 0.49 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| 1,1,2,2-Tetrachloroethane | ND           |                 | 5.0 | 0.72 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| 1,1,2-Trichloroethane     | ND           |                 | 5.0 | 0.83 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| 1,1-Dichloroethane        | ND           |                 | 5.0 | 0.58 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| 1,1-Dichloroethene        | ND           |                 | 5.0 | 0.85 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| 1,2-Dichlorobenzene       | ND           |                 | 5.0 | 0.80 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| 1,2-Dichloroethane        | ND           |                 | 5.0 | 0.61 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| 1,2-Dichloropropane       | ND           |                 | 5.0 | 0.54 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| 1,3-Dichlorobenzene       | ND           |                 | 5.0 | 0.66 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| 1,4-Dichlorobenzene       | ND           |                 | 5.0 | 0.64 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| 2-Chloroethyl vinyl ether | ND           |                 | 10  | 0.77 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| Acrolein                  | ND           |                 | 100 | 7.0  | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| Acrylonitrile             | ND           |                 | 100 | 10   | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| Benzene                   | ND           |                 | 5.0 | 0.68 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| Bromoform                 | ND           |                 | 5.0 | 0.44 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| Bromomethane              | ND           |                 | 5.0 | 0.74 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| Carbon tetrachloride      | ND           |                 | 5.0 | 0.45 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| Chlorobenzene             | ND           |                 | 5.0 | 0.76 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| Chloroform                | ND           |                 | 5.0 | 0.58 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| Chloromethane             | ND           |                 | 5.0 | 0.85 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| Chlorodibromomethane      | ND           |                 | 5.0 | 0.71 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| cis-1,3-Dichloropropene   | ND           |                 | 5.0 | 0.68 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| Dichlorobromomethane      | ND           |                 | 5.0 | 0.56 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| Ethylbenzene              | ND           |                 | 5.0 | 0.64 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| Methylene Chloride        | 1.53         | J               | 5.0 | 0.67 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| Tetrachloroethene         | ND           |                 | 5.0 | 0.68 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| Toluene                   | 1.03         | J               | 5.0 | 0.73 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| trans-1,2-Dichloroethene  | ND           |                 | 5.0 | 0.60 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| trans-1,3-Dichloropropene | ND           |                 | 5.0 | 0.60 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| Trichloroethene           | ND           |                 | 5.0 | 0.66 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| Vinyl chloride            | ND           |                 | 5.0 | 0.47 | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| Chloroethane              | ND           |                 | 5.0 | 1.5  | ug/Kg |   | 04/27/15 05:33 | 04/27/15 08:11 | 1       |

| Surrogate                    | MB<br>%Recovery | MB<br>Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|------------------------------|-----------------|-----------------|----------|----------------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 101             |                 | 52 - 124 | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| 4-Bromofluorobenzene (Surr)  | 93              |                 | 63 - 120 | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| Dibromofluoromethane (Surr)  | 97              |                 | 68 - 121 | 04/27/15 05:33 | 04/27/15 08:11 | 1       |
| Toluene-d8 (Surr)            | 100             |                 | 72 - 127 | 04/27/15 05:33 | 04/27/15 08:11 | 1       |

Lab Sample ID: LCS 180-139703/2-A

Matrix: Sediment

Analysis Batch: 139697

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 139703

| Analyte                   | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit  | D | %Rec | %Rec.<br>Limits |
|---------------------------|----------------|---------------|------------------|-------|---|------|-----------------|
| 1,1,1-Trichloroethane     | 40.0           | 40.1          |                  | ug/Kg |   | 100  | 67 - 126        |
| 1,1,2,2-Tetrachloroethane | 40.0           | 33.9          |                  | ug/Kg |   | 85   | 60 - 139        |
| 1,1,2-Trichloroethane     | 40.0           | 35.3          |                  | ug/Kg |   | 88   | 70 - 128        |
| 1,1-Dichloroethane        | 40.0           | 40.8          |                  | ug/Kg |   | 102  | 66 - 124        |

TestAmerica Pittsburgh

# QC Sample Results

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 180-139703/2-A

Matrix: Sediment

Analysis Batch: 139697

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 139703

| Analyte                   | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec. Limits |
|---------------------------|-------------|------------|---------------|-------|---|------|--------------|
| 1,1-Dichloroethene        | 40.0        | 38.3       |               | ug/Kg |   | 96   | 59 - 129     |
| 1,2-Dichlorobenzene       | 40.0        | 33.6       |               | ug/Kg |   | 84   | 71 - 124     |
| 1,2-Dichloroethane        | 40.0        | 38.6       |               | ug/Kg |   | 96   | 61 - 127     |
| 1,2-Dichloropropane       | 40.0        | 36.5       |               | ug/Kg |   | 91   | 72 - 122     |
| 1,3-Dichlorobenzene       | 40.0        | 35.3       |               | ug/Kg |   | 88   | 75 - 118     |
| 1,4-Dichlorobenzene       | 40.0        | 35.5       |               | ug/Kg |   | 89   | 77 - 116     |
| Benzene                   | 40.0        | 38.1       |               | ug/Kg |   | 95   | 77 - 120     |
| Bromoform                 | 40.0        | 33.4       |               | ug/Kg |   | 84   | 53 - 140     |
| Bromomethane              | 40.0        | 39.4       |               | ug/Kg |   | 99   | 25 - 150     |
| Carbon tetrachloride      | 40.0        | 40.0       |               | ug/Kg |   | 100  | 69 - 122     |
| Chlorobenzene             | 40.0        | 37.0       |               | ug/Kg |   | 93   | 79 - 120     |
| Chloroform                | 40.0        | 38.7       |               | ug/Kg |   | 97   | 72 - 120     |
| Chloromethane             | 40.0        | 46.4       |               | ug/Kg |   | 116  | 44 - 131     |
| Chlorodibromomethane      | 40.0        | 34.1       |               | ug/Kg |   | 85   | 70 - 132     |
| cis-1,3-Dichloropropene   | 40.0        | 36.5       |               | ug/Kg |   | 91   | 73 - 120     |
| Dichlorobromomethane      | 40.0        | 37.2       |               | ug/Kg |   | 93   | 70 - 125     |
| Ethylbenzene              | 40.0        | 38.4       |               | ug/Kg |   | 96   | 78 - 125     |
| Methylene Chloride        | 40.0        | 35.7       |               | ug/Kg |   | 89   | 58 - 127     |
| Tetrachloroethene         | 40.0        | 37.9       |               | ug/Kg |   | 95   | 78 - 129     |
| Toluene                   | 40.0        | 39.7       |               | ug/Kg |   | 99   | 78 - 124     |
| trans-1,2-Dichloroethene  | 40.0        | 39.4       |               | ug/Kg |   | 99   | 77 - 121     |
| trans-1,3-Dichloropropene | 40.0        | 36.5       |               | ug/Kg |   | 91   | 74 - 129     |
| Trichloroethene           | 40.0        | 37.8       |               | ug/Kg |   | 94   | 76 - 119     |
| Vinyl chloride            | 40.0        | 42.1       |               | ug/Kg |   | 105  | 63 - 124     |
| Chloroethane              | 40.0        | 38.0       |               | ug/Kg |   | 95   | 22 - 150     |

| Surrogate                    | LCS %Recovery | LCS Qualifier | Limits   |
|------------------------------|---------------|---------------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 96            |               | 52 - 124 |
| 4-Bromofluorobenzene (Surr)  | 93            |               | 63 - 120 |
| Dibromofluoromethane (Surr)  | 91            |               | 68 - 121 |
| Toluene-d8 (Surr)            | 96            |               | 72 - 127 |

## Method: 8082A - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 180-140214/1-C

Matrix: Sediment

Analysis Batch: 140301

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 140214

| Analyte  | MB Result | MB Qualifier | RL   | MDL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|----------|-----------|--------------|------|-------|-------|---|----------------|----------------|---------|
| PCB-1016 | ND        |              | 0.42 | 0.085 | ug/Kg |   | 05/01/15 03:16 | 05/01/15 18:20 | 1       |
| PCB-1221 | ND        |              | 0.42 | 0.10  | ug/Kg |   | 05/01/15 03:16 | 05/01/15 18:20 | 1       |
| PCB-1232 | ND        |              | 0.42 | 0.14  | ug/Kg |   | 05/01/15 03:16 | 05/01/15 18:20 | 1       |
| PCB-1242 | ND        |              | 0.42 | 0.11  | ug/Kg |   | 05/01/15 03:16 | 05/01/15 18:20 | 1       |
| PCB-1248 | ND        |              | 0.42 | 0.10  | ug/Kg |   | 05/01/15 03:16 | 05/01/15 18:20 | 1       |
| PCB-1254 | ND        |              | 0.42 | 0.099 | ug/Kg |   | 05/01/15 03:16 | 05/01/15 18:20 | 1       |
| PCB-1260 | ND        |              | 0.42 | 0.091 | ug/Kg |   | 05/01/15 03:16 | 05/01/15 18:20 | 1       |

TestAmerica Pittsburgh

# QC Sample Results

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) (GC) (Continued)

Lab Sample ID: MB 180-140214/1-C  
Matrix: Sediment  
Analysis Batch: 140301

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 140214

| Surrogate                     | MB<br>%Recovery | MB<br>Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|-----------------|-----------------|----------|----------------|----------------|---------|
| DCB Decachlorobiphenyl (Surr) | 68              |                 | 20 - 150 | 05/01/15 03:16 | 05/01/15 18:20 | 1       |
| DCB Decachlorobiphenyl (Surr) | 69              |                 | 20 - 150 | 05/01/15 03:16 | 05/01/15 18:20 | 1       |
| Tetrachloro-m-xylene (Surr)   | 75              |                 | 30 - 150 | 05/01/15 03:16 | 05/01/15 18:20 | 1       |
| Tetrachloro-m-xylene (Surr)   | 79              |                 | 30 - 150 | 05/01/15 03:16 | 05/01/15 18:20 | 1       |

Lab Sample ID: LCS 180-140214/2-C  
Matrix: Sediment  
Analysis Batch: 140301

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 140214  
%Rec.

| Analyte  | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit  | D | %Rec | Limits   |
|----------|----------------|---------------|------------------|-------|---|------|----------|
| PCB-1016 | 33.3           | 21.3          |                  | ug/Kg |   | 64   | 50 - 120 |
| PCB-1260 | 33.3           | 21.2          |                  | ug/Kg |   | 63   | 50 - 120 |

| Surrogate                     | LCS<br>%Recovery | LCS<br>Qualifier | Limits   |
|-------------------------------|------------------|------------------|----------|
| DCB Decachlorobiphenyl (Surr) | 62               |                  | 20 - 150 |
| DCB Decachlorobiphenyl (Surr) | 63               |                  | 20 - 150 |
| Tetrachloro-m-xylene (Surr)   | 77               |                  | 30 - 150 |
| Tetrachloro-m-xylene (Surr)   | 82               |                  | 30 - 150 |

## Method: 6010B - Metals (ICP)

Lab Sample ID: MB 180-140635/1-A  
Matrix: Sediment  
Analysis Batch: 140803

Client Sample ID: Method Blank  
Prep Type: SEM/AVS  
Prep Batch: 140635

| Analyte     | MB<br>Result | MB<br>Qualifier | RL   | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-------------|--------------|-----------------|------|--------|-------|---|----------------|----------------|---------|
| Cadmium SEM | ND           |                 | 0.13 | 0.0041 | mg/Kg |   | 05/05/15 16:30 | 05/06/15 13:33 | 1       |
| Copper SEM  | 0.0665       | J               | 0.63 | 0.056  | mg/Kg |   | 05/05/15 16:30 | 05/06/15 13:33 | 1       |
| Lead SEM    | ND           |                 | 0.25 | 0.050  | mg/Kg |   | 05/05/15 16:30 | 05/06/15 13:33 | 1       |
| Nickel SEM  | 0.0618       | J               | 1.0  | 0.029  | mg/Kg |   | 05/05/15 16:30 | 05/06/15 13:33 | 1       |
| Zinc SEM    | 1.35         | J               | 2.5  | 0.18   | mg/Kg |   | 05/05/15 16:30 | 05/06/15 13:33 | 1       |

| Analyte     | MB<br>Result | MB<br>Qualifier | RL     | MDL      | Unit   | D | Prepared       | Analyzed       | Dil Fac |
|-------------|--------------|-----------------|--------|----------|--------|---|----------------|----------------|---------|
| Cadmium SEM | ND           |                 | 0.0011 | 0.000036 | umol/g |   | 05/05/15 16:30 | 05/06/15 13:33 | 1       |
| Copper SEM  | 0.00105      | J               | 0.0098 | 0.00088  | umol/g |   | 05/05/15 16:30 | 05/06/15 13:33 | 1       |
| Lead SEM    | ND           |                 | 0.0012 | 0.00024  | umol/g |   | 05/05/15 16:30 | 05/06/15 13:33 | 1       |
| Nickel SEM  | 0.00105      | J               | 0.017  | 0.00049  | umol/g |   | 05/05/15 16:30 | 05/06/15 13:33 | 1       |
| Zinc SEM    | 0.0206       | J               | 0.038  | 0.0028   | umol/g |   | 05/05/15 16:30 | 05/06/15 13:33 | 1       |

Lab Sample ID: LCS 180-140635/2-A  
Matrix: Sediment  
Analysis Batch: 140803

Client Sample ID: Lab Control Sample  
Prep Type: SEM/AVS  
Prep Batch: 140635  
%Rec.

| Analyte     | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit  | D | %Rec | Limits   |
|-------------|----------------|---------------|------------------|-------|---|------|----------|
| Cadmium SEM | 1.25           | 1.26          |                  | mg/Kg |   | 101  | 80 - 120 |
| Copper SEM  | 6.25           | 6.41          |                  | mg/Kg |   | 103  | 80 - 120 |
| Lead SEM    | 12.5           | 12.0          |                  | mg/Kg |   | 96   | 80 - 120 |
| Nickel SEM  | 12.5           | 12.0          |                  | mg/Kg |   | 96   | 80 - 120 |

TestAmerica Pittsburgh

# QC Sample Results

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 180-140635/2-A  
Matrix: Sediment  
Analysis Batch: 140803

Client Sample ID: Lab Control Sample  
Prep Type: SEM/AVS  
Prep Batch: 140635

| Analyte     | Spike Added | LCS Result | LCS Qualifier | Unit   | D | %Rec | Limits   |
|-------------|-------------|------------|---------------|--------|---|------|----------|
| Zinc SEM    | 12.5        | 13.6       |               | mg/Kg  |   | 109  | 80 - 120 |
| Analyte     | Spike Added | LCS Result | LCS Qualifier | Unit   | D | %Rec | Limits   |
| Cadmium SEM | 0.011       | 0.0113     |               | umol/g |   | 101  | 80 - 120 |
| Copper SEM  | 0.098       | 0.101      |               | umol/g |   | 103  | 80 - 120 |
| Lead SEM    | 0.060       | 0.0580     |               | umol/g |   | 96   | 80 - 120 |
| Nickel SEM  | 0.21        | 0.205      |               | umol/g |   | 96   | 80 - 120 |
| Zinc SEM    | 0.19        | 0.208      |               | umol/g |   | 109  | 80 - 120 |

## Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 180-139790/1-A  
Matrix: Sediment  
Analysis Batch: 140396

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 139790

| Analyte   | MB Result | MB Qualifier | RL    | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------|-----------|--------------|-------|--------|-------|---|----------------|----------------|---------|
| Arsenic   | ND        |              | 0.050 | 0.0090 | mg/Kg |   | 04/27/15 14:21 | 05/01/15 16:53 | 1       |
| Cadmium   | ND        |              | 0.050 | 0.0035 | mg/Kg |   | 04/27/15 14:21 | 05/01/15 16:53 | 1       |
| Chromium  | ND        |              | 0.10  | 0.0030 | mg/Kg |   | 04/27/15 14:21 | 05/01/15 16:53 | 1       |
| Lead      | ND        |              | 0.050 | 0.0019 | mg/Kg |   | 04/27/15 14:21 | 05/01/15 16:53 | 1       |
| Selenium  | ND        |              | 0.25  | 0.025  | mg/Kg |   | 04/27/15 14:21 | 05/01/15 16:53 | 1       |
| Silver    | ND        |              | 0.050 | 0.0019 | mg/Kg |   | 04/27/15 14:21 | 05/01/15 16:53 | 1       |
| Beryllium | ND        |              | 0.050 | 0.0037 | mg/Kg |   | 04/27/15 14:21 | 05/01/15 16:53 | 1       |
| Thallium  | 0.00129   | J            | 0.050 | 0.0010 | mg/Kg |   | 04/27/15 14:21 | 05/01/15 16:53 | 1       |
| Antimony  | ND        |              | 0.10  | 0.0013 | mg/Kg |   | 04/27/15 14:21 | 05/01/15 16:53 | 1       |
| Nickel    | ND        |              | 0.050 | 0.0056 | mg/Kg |   | 04/27/15 14:21 | 05/01/15 16:53 | 1       |
| Zinc      | ND        |              | 0.25  | 0.032  | mg/Kg |   | 04/27/15 14:21 | 05/01/15 16:53 | 1       |
| Copper    | ND        |              | 0.10  | 0.016  | mg/Kg |   | 04/27/15 14:21 | 05/01/15 16:53 | 1       |

Lab Sample ID: LCS 180-139790/2-A  
Matrix: Sediment  
Analysis Batch: 140396

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 139790

| Analyte   | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | Limits   |
|-----------|-------------|------------|---------------|-------|---|------|----------|
| Arsenic   | 1.99        | 1.96       |               | mg/Kg |   | 99   | 80 - 120 |
| Cadmium   | 2.49        | 2.27       |               | mg/Kg |   | 91   | 80 - 120 |
| Chromium  | 9.95        | 9.64       |               | mg/Kg |   | 97   | 80 - 120 |
| Lead      | 0.995       | 1.04       |               | mg/Kg |   | 104  | 80 - 120 |
| Selenium  | 0.498       | 0.414      |               | mg/Kg |   | 83   | 80 - 120 |
| Silver    | 2.49        | 2.47       |               | mg/Kg |   | 99   | 80 - 120 |
| Beryllium | 2.49        | 2.11       |               | mg/Kg |   | 85   | 80 - 120 |
| Thallium  | 2.49        | 2.49       |               | mg/Kg |   | 100  | 80 - 120 |
| Antimony  | 24.9        | 21.3       |               | mg/Kg |   | 86   | 80 - 120 |
| Nickel    | 24.9        | 24.8       |               | mg/Kg |   | 100  | 80 - 120 |
| Zinc      | 24.9        | 21.3       |               | mg/Kg |   | 85   | 80 - 120 |
| Copper    | 12.4        | 12.8       |               | mg/Kg |   | 103  | 80 - 120 |

# QC Sample Results

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 180-140974/1-A  
Matrix: Sediment  
Analysis Batch: 141156

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 140974

| Analyte | MB<br>Result | MB<br>Qualifier | RL    | MDL    | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------|--------------|-----------------|-------|--------|-------|---|----------------|----------------|---------|
| Mercury | ND           |                 | 0.016 | 0.0055 | mg/Kg |   | 05/08/15 09:24 | 05/08/15 13:51 | 1       |

Lab Sample ID: LCS 180-140974/2-A  
Matrix: Sediment  
Analysis Batch: 141156

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 140974

| Analyte | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit  | D | %Rec | Limits   |
|---------|----------------|---------------|------------------|-------|---|------|----------|
| Mercury | 0.208          | 0.221         |                  | mg/Kg |   | 106  | 80 - 120 |

## Method: 9014 - Cyanide

Lab Sample ID: MB 180-139851/4-A  
Matrix: Sediment  
Analysis Batch: 139911

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 139851

| Analyte        | MB<br>Result | MB<br>Qualifier | RL   | MDL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|----------------|--------------|-----------------|------|-------|-------|---|----------------|----------------|---------|
| Cyanide, Total | ND           |                 | 0.25 | 0.082 | mg/Kg |   | 04/28/15 08:30 | 04/28/15 12:22 | 1       |

Lab Sample ID: HLCS 180-139851/2-A  
Matrix: Sediment  
Analysis Batch: 139911

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 139851

| Analyte        | Spike<br>Added | HLCS<br>Result | HLCS<br>Qualifier | Unit  | D | %Rec | Limits   |
|----------------|----------------|----------------|-------------------|-------|---|------|----------|
| Cyanide, Total | 0.250          | 0.256          |                   | mg/Kg |   | 103  | 90 - 110 |

Lab Sample ID: LCS 180-139851/3-A  
Matrix: Sediment  
Analysis Batch: 139911

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 139851

| Analyte        | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit  | D | %Rec | Limits   |
|----------------|----------------|---------------|------------------|-------|---|------|----------|
| Cyanide, Total | 70.3           | 77.0          |                  | mg/Kg |   | 110  | 38 - 162 |

Lab Sample ID: LLCS 180-139851/1-A  
Matrix: Sediment  
Analysis Batch: 139911

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 139851

| Analyte        | Spike<br>Added | LLCS<br>Result | LLCS<br>Qualifier | Unit  | D | %Rec | Limits   |
|----------------|----------------|----------------|-------------------|-------|---|------|----------|
| Cyanide, Total | 0.0500         | 0.0496         |                   | mg/Kg |   | 99   | 90 - 110 |

## Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 180-140637/1-A  
Matrix: Sediment  
Analysis Batch: 140700

Client Sample ID: Method Blank  
Prep Type: SEM/AVS  
Prep Batch: 140637

| Analyte                      | MB<br>Result | MB<br>Qualifier | RL | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------|--------------|-----------------|----|-----|-------|---|----------------|----------------|---------|
| Acid Volatile Sulfides (AVS) | ND           |                 | 15 | 3.0 | mg/Kg |   | 05/05/15 16:30 | 05/05/15 18:22 | 1       |



# QC Sample Results

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

| Analyte                      | MB<br>Result | MB<br>Qualifier | RL   | MDL   | Unit   | D | Prepared       | Analyzed       | Dil Fac |
|------------------------------|--------------|-----------------|------|-------|--------|---|----------------|----------------|---------|
| Acid Volatile Sulfides (AVS) | ND           |                 | 0.47 | 0.094 | umol/g |   | 05/05/15 16:30 | 05/05/15 18:22 | 1       |

Lab Sample ID: LCS 180-140637/2-A  
Matrix: Sediment  
Analysis Batch: 140700

Client Sample ID: Lab Control Sample  
Prep Type: SEM/AVS  
Prep Batch: 140637

| Analyte                      | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit   | D | %Rec | %Rec.<br>Limits |
|------------------------------|----------------|---------------|------------------|--------|---|------|-----------------|
| Acid Volatile Sulfides (AVS) | 96.1           | 86.5          |                  | mg/Kg  |   | 90   | 85 - 115        |
| Analyte                      | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit   | D | %Rec | %Rec.<br>Limits |
| Acid Volatile Sulfides (AVS) | 3.0            | 2.70          |                  | umol/g |   | 90   | 85 - 115        |

## Method: 9071B - HEM and SGT-HEM

Lab Sample ID: MB 180-139713/1-A  
Matrix: Sediment  
Analysis Batch: 139865

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 139713

| Analyte | MB<br>Result | MB<br>Qualifier | RL  | MDL | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------|--------------|-----------------|-----|-----|-------|---|----------------|----------------|---------|
| HEM     | ND           |                 | 170 | 28  | mg/Kg |   | 04/27/15 08:29 | 04/27/15 08:29 | 1       |

Lab Sample ID: LCS 180-139713/2-A  
Matrix: Sediment  
Analysis Batch: 139865

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 139713

| Analyte | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit  | D | %Rec | %Rec.<br>Limits |
|---------|----------------|---------------|------------------|-------|---|------|-----------------|
| HEM     | 1330           | 1300          |                  | mg/Kg |   | 98   | 78 - 114        |

Lab Sample ID: LCSD 180-139713/3-A  
Matrix: Sediment  
Analysis Batch: 139865

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 139713

| Analyte | Spike<br>Added | LCSD<br>Result | LCSD<br>Qualifier | Unit  | D | %Rec | %Rec.<br>Limits | RPD | RPD<br>Limit |
|---------|----------------|----------------|-------------------|-------|---|------|-----------------|-----|--------------|
| HEM     | 1330           | 1290           |                   | mg/Kg |   | 97   | 78 - 114        | 1   | 18           |

## Method: Lloyd Kahn - Organic Carbon, Total (TOC)

Lab Sample ID: MB 180-141007/3  
Matrix: Sediment  
Analysis Batch: 141007

Client Sample ID: Method Blank  
Prep Type: Total/NA

| Analyte                           | MB<br>Result | MB<br>Qualifier | RL   | MDL | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------|--------------|-----------------|------|-----|-------|---|----------|----------------|---------|
| Total Organic Carbon - Duplicates | ND           |                 | 1000 | 89  | mg/Kg |   |          | 05/07/15 04:11 | 1       |

Lab Sample ID: LCS 180-141007/4  
Matrix: Sediment  
Analysis Batch: 141007

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA

| Analyte                           | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit  | D | %Rec | %Rec.<br>Limits |
|-----------------------------------|----------------|---------------|------------------|-------|---|------|-----------------|
| Total Organic Carbon - Duplicates | 22900          | 22900         |                  | mg/Kg |   | 100  | 75 - 125        |

# QC Association Summary

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## GC/MS VOA

### Analysis Batch: 139697

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix   | Method | Prep Batch |
|--------------------|--------------------|-----------|----------|--------|------------|
| 180-43411-2        | F05-SD             | Total/NA  | Sediment | 8260C  | 139703     |
| LCS 180-139703/2-A | Lab Control Sample | Total/NA  | Sediment | 8260C  | 139703     |
| MB 180-139703/1-A  | Method Blank       | Total/NA  | Sediment | 8260C  | 139703     |

### Prep Batch: 139703

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix   | Method | Prep Batch |
|--------------------|--------------------|-----------|----------|--------|------------|
| 180-43411-2        | F05-SD             | Total/NA  | Sediment | 5030C  |            |
| LCS 180-139703/2-A | Lab Control Sample | Total/NA  | Sediment | 5030C  |            |
| MB 180-139703/1-A  | Method Blank       | Total/NA  | Sediment | 5030C  |            |

## GC/MS Semi VOA

### Prep Batch: 140404

| Lab Sample ID | Client Sample ID | Prep Type | Matrix   | Method | Prep Batch |
|---------------|------------------|-----------|----------|--------|------------|
| 180-43411-1   | DE01-SD          | Total/NA  | Sediment | 3541   |            |
| 180-43411-2   | F05-SD           | Total/NA  | Sediment | 3541   |            |

### Analysis Batch: 141206

| Lab Sample ID | Client Sample ID | Prep Type | Matrix   | Method   | Prep Batch |
|---------------|------------------|-----------|----------|----------|------------|
| 180-43411-1   | DE01-SD          | Total/NA  | Sediment | 8270D LL | 140404     |
| 180-43411-2   | F05-SD           | Total/NA  | Sediment | 8270D LL | 140404     |

## GC Semi VOA

### Prep Batch: 140214

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix   | Method | Prep Batch |
|--------------------|--------------------|-----------|----------|--------|------------|
| 180-43411-2        | F05-SD             | Total/NA  | Sediment | 3541   |            |
| LCS 180-140214/2-C | Lab Control Sample | Total/NA  | Sediment | 3541   |            |
| MB 180-140214/1-C  | Method Blank       | Total/NA  | Sediment | 3541   |            |

### Cleanup Batch: 140296

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix   | Method | Prep Batch |
|--------------------|--------------------|-----------|----------|--------|------------|
| 180-43411-2        | F05-SD             | Total/NA  | Sediment | 3665A  | 140214     |
| LCS 180-140214/2-C | Lab Control Sample | Total/NA  | Sediment | 3665A  | 140214     |
| MB 180-140214/1-C  | Method Blank       | Total/NA  | Sediment | 3665A  | 140214     |

### Cleanup Batch: 140297

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix   | Method | Prep Batch |
|--------------------|--------------------|-----------|----------|--------|------------|
| 180-43411-2        | F05-SD             | Total/NA  | Sediment | 3660B  | 140296     |
| LCS 180-140214/2-C | Lab Control Sample | Total/NA  | Sediment | 3660B  | 140296     |
| MB 180-140214/1-C  | Method Blank       | Total/NA  | Sediment | 3660B  | 140296     |

### Analysis Batch: 140301

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix   | Method | Prep Batch |
|--------------------|--------------------|-----------|----------|--------|------------|
| 180-43411-2        | F05-SD             | Total/NA  | Sediment | 8082A  | 140297     |
| LCS 180-140214/2-C | Lab Control Sample | Total/NA  | Sediment | 8082A  | 140297     |
| MB 180-140214/1-C  | Method Blank       | Total/NA  | Sediment | 8082A  | 140297     |

# QC Association Summary

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## Metals

### Prep Batch: 139790

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix   | Method | Prep Batch |
|--------------------|--------------------|-----------|----------|--------|------------|
| 180-43411-1        | DE01-SD            | Total/NA  | Sediment | 3050B  |            |
| 180-43411-2        | F05-SD             | Total/NA  | Sediment | 3050B  |            |
| LCS 180-139790/2-A | Lab Control Sample | Total/NA  | Sediment | 3050B  |            |
| MB 180-139790/1-A  | Method Blank       | Total/NA  | Sediment | 3050B  |            |

### Analysis Batch: 140396

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix   | Method | Prep Batch |
|--------------------|--------------------|-----------|----------|--------|------------|
| 180-43411-1        | DE01-SD            | Total/NA  | Sediment | 6020A  | 139790     |
| 180-43411-2        | F05-SD             | Total/NA  | Sediment | 6020A  | 139790     |
| CRI 180-140396/48  | DL                 |           | Sediment | 6020A  |            |
| CRI 180-140396/7   | DL                 |           | Sediment | 6020A  |            |
| ICSA 180-140396/8  | ICS                |           | Sediment | 6020A  |            |
| ICSAB 180-140396/9 | ICS                |           | Sediment | 6020A  |            |
| LCS 180-139790/2-A | Lab Control Sample | Total/NA  | Sediment | 6020A  | 139790     |
| MB 180-139790/1-A  | Method Blank       | Total/NA  | Sediment | 6020A  | 139790     |

### Prep Batch: 140635

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix   | Method | Prep Batch |
|--------------------|--------------------|-----------|----------|--------|------------|
| 180-43411-1        | DE01-SD            | SEM/AVS   | Sediment | AVSSEM |            |
| 180-43411-2        | F05-SD             | SEM/AVS   | Sediment | AVSSEM |            |
| LCS 180-140635/2-A | Lab Control Sample | SEM/AVS   | Sediment | AVSSEM |            |
| MB 180-140635/1-A  | Method Blank       | SEM/AVS   | Sediment | AVSSEM |            |

### Analysis Batch: 140803

| Lab Sample ID       | Client Sample ID   | Prep Type | Matrix   | Method | Prep Batch |
|---------------------|--------------------|-----------|----------|--------|------------|
| 180-43411-1         | DE01-SD            | SEM/AVS   | Sediment | 6010B  | 140635     |
| 180-43411-2         | F05-SD             | SEM/AVS   | Sediment | 6010B  | 140635     |
| CRI 180-140803/78   | DL                 |           | Sediment | 6010B  |            |
| CRI 180-140803/9    | DL                 |           | Sediment | 6010B  |            |
| ICSA 180-140803/10  | ICS                |           | Sediment | 6010B  |            |
| ICSAB 180-140803/11 | ICS                |           | Sediment | 6010B  |            |
| LCS 180-140635/2-A  | Lab Control Sample | SEM/AVS   | Sediment | 6010B  | 140635     |
| MB 180-140635/1-A   | Method Blank       | SEM/AVS   | Sediment | 6010B  | 140635     |

### Analysis Batch: 140890

| Lab Sample ID      | Client Sample ID | Prep Type | Matrix   | Method | Prep Batch |
|--------------------|------------------|-----------|----------|--------|------------|
| 180-43411-2        | F05-SD           | SEM/AVS   | Sediment | 6010B  | 140635     |
| CRI 180-140890/6   | DL               |           | Sediment | 6010B  |            |
| ICSA 180-140890/7  | ICS              |           | Sediment | 6010B  |            |
| ICSAB 180-140890/8 | ICS              |           | Sediment | 6010B  |            |

### Prep Batch: 140974

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix   | Method | Prep Batch |
|--------------------|--------------------|-----------|----------|--------|------------|
| 180-43411-2        | F05-SD             | Total/NA  | Sediment | 7471A  |            |
| LCS 180-140974/2-A | Lab Control Sample | Total/NA  | Sediment | 7471A  |            |
| MB 180-140974/1-A  | Method Blank       | Total/NA  | Sediment | 7471A  |            |

### Prep Batch: 141017

| Lab Sample ID      | Client Sample ID | Prep Type | Matrix   | Method | Prep Batch |
|--------------------|------------------|-----------|----------|--------|------------|
| CRA 180-141017/9-A | DL               |           | Sediment | 7470A  |            |

TestAmerica Pittsburgh

# QC Association Summary

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## Metals (Continued)

### Analysis Batch: 141156

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix   | Method | Prep Batch |
|--------------------|--------------------|-----------|----------|--------|------------|
| 180-43411-2        | F05-SD             | Total/NA  | Sediment | 7471A  | 140974     |
| CRA 180-141017/9-A | DL                 |           | Sediment | 7471A  | 141017     |
| LCS 180-140974/2-A | Lab Control Sample | Total/NA  | Sediment | 7471A  | 140974     |
| MB 180-140974/1-A  | Method Blank       | Total/NA  | Sediment | 7471A  | 140974     |

### Analysis Batch: 141190

| Lab Sample ID | Client Sample ID | Prep Type | Matrix   | Method | Prep Batch |
|---------------|------------------|-----------|----------|--------|------------|
| 180-43411-1   | DE01-SD          | SEM/AVS   | Sediment | SEM    |            |

### Analysis Batch: 141450

| Lab Sample ID | Client Sample ID | Prep Type | Matrix   | Method | Prep Batch |
|---------------|------------------|-----------|----------|--------|------------|
| 180-43411-2   | F05-SD           | SEM/AVS   | Sediment | SEM    |            |

## General Chemistry

### Prep Batch: 139713

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix   | Method | Prep Batch |
|---------------------|------------------------|-----------|----------|--------|------------|
| 180-43411-2         | F05-SD                 | Total/NA  | Sediment | 9071B  |            |
| LCS 180-139713/2-A  | Lab Control Sample     | Total/NA  | Sediment | 9071B  |            |
| LCSD 180-139713/3-A | Lab Control Sample Dup | Total/NA  | Sediment | 9071B  |            |
| MB 180-139713/1-A   | Method Blank           | Total/NA  | Sediment | 9071B  |            |

### Analysis Batch: 139811

| Lab Sample ID | Client Sample ID | Prep Type | Matrix   | Method | Prep Batch |
|---------------|------------------|-----------|----------|--------|------------|
| 180-43411-1   | DE01-SD          | Total/NA  | Sediment | 2540G  |            |
| 180-43411-2   | F05-SD           | Total/NA  | Sediment | 2540G  |            |

### Prep Batch: 139851

| Lab Sample ID       | Client Sample ID   | Prep Type | Matrix   | Method | Prep Batch |
|---------------------|--------------------|-----------|----------|--------|------------|
| 180-43411-1         | DE01-SD            | Total/NA  | Sediment | 9010C  |            |
| 180-43411-2         | F05-SD             | Total/NA  | Sediment | 9010C  |            |
| HLCS 180-139851/2-A | Lab Control Sample | Total/NA  | Sediment | 9010C  |            |
| LCS 180-139851/3-A  | Lab Control Sample | Total/NA  | Sediment | 9010C  |            |
| LLCS 180-139851/1-A | Lab Control Sample | Total/NA  | Sediment | 9010C  |            |
| MB 180-139851/4-A   | Method Blank       | Total/NA  | Sediment | 9010C  |            |

### Analysis Batch: 139865

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix   | Method | Prep Batch |
|---------------------|------------------------|-----------|----------|--------|------------|
| 180-43411-2         | F05-SD                 | Total/NA  | Sediment | 9071B  | 139713     |
| LCS 180-139713/2-A  | Lab Control Sample     | Total/NA  | Sediment | 9071B  | 139713     |
| LCSD 180-139713/3-A | Lab Control Sample Dup | Total/NA  | Sediment | 9071B  | 139713     |
| MB 180-139713/1-A   | Method Blank           | Total/NA  | Sediment | 9071B  | 139713     |

### Analysis Batch: 139911

| Lab Sample ID       | Client Sample ID   | Prep Type | Matrix   | Method | Prep Batch |
|---------------------|--------------------|-----------|----------|--------|------------|
| 180-43411-1         | DE01-SD            | Total/NA  | Sediment | 9014   | 139851     |
| 180-43411-2         | F05-SD             | Total/NA  | Sediment | 9014   | 139851     |
| HLCS 180-139851/2-A | Lab Control Sample | Total/NA  | Sediment | 9014   | 139851     |
| LCS 180-139851/3-A  | Lab Control Sample | Total/NA  | Sediment | 9014   | 139851     |
| LLCS 180-139851/1-A | Lab Control Sample | Total/NA  | Sediment | 9014   | 139851     |

TestAmerica Pittsburgh

## QC Association Summary

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

### General Chemistry (Continued)

#### Analysis Batch: 139911 (Continued)

| Lab Sample ID     | Client Sample ID | Prep Type | Matrix   | Method | Prep Batch |
|-------------------|------------------|-----------|----------|--------|------------|
| MB 180-139851/4-A | Method Blank     | Total/NA  | Sediment | 9014   | 139851     |

#### Prep Batch: 140637

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix   | Method | Prep Batch |
|--------------------|--------------------|-----------|----------|--------|------------|
| 180-43411-1        | DE01-SD            | SEM/AVS   | Sediment | AVSSEM |            |
| 180-43411-2        | F05-SD             | SEM/AVS   | Sediment | AVSSEM |            |
| LCS 180-140637/2-A | Lab Control Sample | SEM/AVS   | Sediment | AVSSEM |            |
| MB 180-140637/1-A  | Method Blank       | SEM/AVS   | Sediment | AVSSEM |            |

#### Analysis Batch: 140700

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix   | Method | Prep Batch |
|--------------------|--------------------|-----------|----------|--------|------------|
| 180-43411-1        | DE01-SD            | SEM/AVS   | Sediment | 9034   | 140637     |
| 180-43411-2        | F05-SD             | SEM/AVS   | Sediment | 9034   | 140637     |
| LCS 180-140637/2-A | Lab Control Sample | SEM/AVS   | Sediment | 9034   | 140637     |
| MB 180-140637/1-A  | Method Blank       | SEM/AVS   | Sediment | 9034   | 140637     |

#### Analysis Batch: 141007

| Lab Sample ID    | Client Sample ID   | Prep Type | Matrix   | Method     | Prep Batch |
|------------------|--------------------|-----------|----------|------------|------------|
| 180-43411-1      | DE01-SD            | Total/NA  | Sediment | Lloyd Kahn |            |
| 180-43411-2      | F05-SD             | Total/NA  | Sediment | Lloyd Kahn |            |
| LCS 180-141007/4 | Lab Control Sample | Total/NA  | Sediment | Lloyd Kahn |            |
| MB 180-141007/3  | Method Blank       | Total/NA  | Sediment | Lloyd Kahn |            |

# Lab Chronicle

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

**Client Sample ID: DE01-SD**

**Date Collected: 04/23/15 13:00**

**Date Received: 04/24/15 08:30**

**Lab Sample ID: 180-43411-1**

**Matrix: Sediment**

**Percent Solids: 72.2**

| Prep Type | Batch Type | Batch Method           | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|------------------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3541                   |     |            | 30.1 g         | 0.5 mL       | 140404       | 05/04/15 03:00       | KLG     | TAL PIT |
| Total/NA  | Analysis   | 8270D LL               |     | 5          | 30.1 g         | 0.5 mL       | 141206       | 05/12/15 12:12       | SAB     | TAL PIT |
|           |            | Instrument ID: CH722   |     |            |                |              |              |                      |         |         |
| SEM/AVS   | Prep       | AVSSEM                 |     |            | 10.03 g        | 250 mL       | 140635       | 05/05/15 16:30       | CMR     | TAL PIT |
| SEM/AVS   | Analysis   | 6010B                  |     | 1          | 10.03 g        | 250 mL       | 140803       | 05/06/15 14:39       | RJR     | TAL PIT |
|           |            | Instrument ID: C       |     |            |                |              |              |                      |         |         |
| Total/NA  | Prep       | 3050B                  |     |            | 00002.03 g     | 100 mL       | 139790       | 04/27/15 14:21       | AB1     | TAL PIT |
| Total/NA  | Analysis   | 6020A                  |     | 1          | 00002.03 g     | 100 mL       | 140396       | 05/01/15 18:16       | WTR     | TAL PIT |
|           |            | Instrument ID: X       |     |            |                |              |              |                      |         |         |
| SEM/AVS   | Analysis   | SEM                    |     | 1          |                |              | 141190       | 05/11/15 12:50       | MM1     | TAL PIT |
|           |            | Instrument ID: NOEQUIP |     |            |                |              |              |                      |         |         |
| Total/NA  | Analysis   | 2540G                  |     | 1          |                |              | 139811       | 04/27/15 15:42       | JWS     | TAL PIT |
|           |            | Instrument ID: NOEQUIP |     |            |                |              |              |                      |         |         |
| Total/NA  | Prep       | 9010C                  |     |            | 2.03 g         | 50 mL        | 139851       | 04/28/15 08:30       | PGJ     | TAL PIT |
| Total/NA  | Analysis   | 9014                   |     | 1          | 2.03 g         | 50 mL        | 139911       | 04/28/15 11:47       | PGJ     | TAL PIT |
|           |            | Instrument ID: NOEQUIP |     |            |                |              |              |                      |         |         |
| SEM/AVS   | Prep       | AVSSEM                 |     |            | 10.03 g        | 50 mL        | 140637       | 05/05/15 16:30       | CMR     | TAL PIT |
| SEM/AVS   | Analysis   | 9034                   |     | 1          | 10.03 g        | 50 mL        | 140700       | 05/05/15 18:39       | CMR     | TAL PIT |
|           |            | Instrument ID: NOEQUIP |     |            |                |              |              |                      |         |         |
| Total/NA  | Analysis   | Lloyd Kahn             |     | 1          |                |              | 141007       | 05/07/15 08:41       | JDD     | TAL PIT |
|           |            | Instrument ID: FLASHEA |     |            |                |              |              |                      |         |         |

**Client Sample ID: F05-SD**

**Date Collected: 04/23/15 16:00**

**Date Received: 04/24/15 08:30**

**Lab Sample ID: 180-43411-2**

**Matrix: Sediment**

**Percent Solids: 71.3**

| Prep Type | Batch Type | Batch Method         | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|----------------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 5030C                |     |            | 5.0008 g       | 5 mL         | 139703       | 04/27/15 05:33       | KLG     | TAL PIT |
| Total/NA  | Analysis   | 8260C                |     | 1          | 5.0008 g       | 5 mL         | 139697       | 04/27/15 11:57       | KLG     | TAL PIT |
|           |            | Instrument ID: CHHP3 |     |            |                |              |              |                      |         |         |
| Total/NA  | Prep       | 3541                 |     |            | 30.0 g         | 0.5 mL       | 140404       | 05/04/15 03:00       | KLG     | TAL PIT |
| Total/NA  | Analysis   | 8270D LL             |     | 5          | 30.0 g         | 0.5 mL       | 141206       | 05/12/15 12:39       | SAB     | TAL PIT |
|           |            | Instrument ID: CH722 |     |            |                |              |              |                      |         |         |
| Total/NA  | Prep       | 3541                 |     |            | 30.4 g         | 1.0 mL       | 140214       | 05/01/15 03:16       | BAP     | TAL PIT |
| Total/NA  | Cleanup    | 3665A                |     |            | 2 mL           | 2 mL         | 140296       | 05/01/15 12:37       | AKG     | TAL PIT |
| Total/NA  | Cleanup    | 3660B                |     |            | 2 mL           | 2 mL         | 140297       | 05/01/15 12:39       | AKG     | TAL PIT |
| Total/NA  | Analysis   | 8082A                |     | 5          | 30.4 g         | 1.0 mL       | 140301       | 05/01/15 23:37       | AKG     | TAL PIT |
|           |            | Instrument ID: CHGC8 |     |            |                |              |              |                      |         |         |
| SEM/AVS   | Prep       | AVSSEM               |     |            | 9.95 g         | 250 mL       | 140635       | 05/05/15 16:30       | CMR     | TAL PIT |
| SEM/AVS   | Analysis   | 6010B                |     | 1          | 9.95 g         | 250 mL       | 140803       | 05/06/15 14:44       | RJR     | TAL PIT |
|           |            | Instrument ID: C     |     |            |                |              |              |                      |         |         |
| SEM/AVS   | Prep       | AVSSEM               |     |            | 9.95 g         | 250 mL       | 140635       | 05/05/15 16:30       | CMR     | TAL PIT |
| SEM/AVS   | Analysis   | 6010B                |     | 2          | 9.95 g         | 250 mL       | 140890       | 05/07/15 08:19       | RJR     | TAL PIT |
|           |            | Instrument ID: C     |     |            |                |              |              |                      |         |         |

TestAmerica Pittsburgh

# Lab Chronicle

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

**Client Sample ID: F05-SD**

**Date Collected: 04/23/15 16:00**

**Date Received: 04/24/15 08:30**

**Lab Sample ID: 180-43411-2**

**Matrix: Sediment**

**Percent Solids: 71.3**

| Prep Type | Batch Type | Batch Method           | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|------------------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 3050B                  |     |            | 00002.05 g     | 100 mL       | 139790       | 04/27/15 14:21       | AB1     | TAL PIT |
| Total/NA  | Analysis   | 6020A                  |     | 1          | 00002.05 g     | 100 mL       | 140396       | 05/01/15 18:21       | WTR     | TAL PIT |
|           |            | Instrument ID: X       |     |            |                |              |              |                      |         |         |
| Total/NA  | Prep       | 7471A                  |     |            | 1.23 g         | 100 mL       | 140974       | 05/08/15 09:24       | MLF     | TAL PIT |
| Total/NA  | Analysis   | 7471A                  |     | 1          | 1.23 g         | 100 mL       | 141156       | 05/08/15 14:34       | MLF     | TAL PIT |
|           |            | Instrument ID: K       |     |            |                |              |              |                      |         |         |
| SEM/AVS   | Analysis   | SEM                    |     | 1          |                |              | 141450       | 05/13/15 12:40       | MM1     | TAL PIT |
|           |            | Instrument ID: NOEQUIP |     |            |                |              |              |                      |         |         |
| Total/NA  | Analysis   | 2540G                  |     | 1          |                |              | 139811       | 04/27/15 15:42       | JWS     | TAL PIT |
|           |            | Instrument ID: NOEQUIP |     |            |                |              |              |                      |         |         |
| Total/NA  | Prep       | 9010C                  |     |            | 2.00 g         | 50 mL        | 139851       | 04/28/15 08:30       | PGJ     | TAL PIT |
| Total/NA  | Analysis   | 9014                   |     | 1          | 2.00 g         | 50 mL        | 139911       | 04/28/15 11:49       | PGJ     | TAL PIT |
|           |            | Instrument ID: NOEQUIP |     |            |                |              |              |                      |         |         |
| SEM/AVS   | Prep       | AVSSEM                 |     |            | 9.95 g         | 50 mL        | 140637       | 05/05/15 16:30       | CMR     | TAL PIT |
| SEM/AVS   | Analysis   | 9034                   |     | 1          | 9.95 g         | 50 mL        | 140700       | 05/05/15 18:41       | CMR     | TAL PIT |
|           |            | Instrument ID: NOEQUIP |     |            |                |              |              |                      |         |         |
| Total/NA  | Analysis   | 9071B                  |     | 1          | 5.0 g          | 30.0 g       | 139865       | 04/27/15 08:29       | MTW     | TAL PIT |
|           |            | Instrument ID: NOEQUIP |     |            |                |              |              |                      |         |         |
| Total/NA  | Prep       | 9071B                  |     |            | 5.0 g          | 30.0 g       | 139713       | 04/27/15 08:29       | JPM     | TAL PIT |
| Total/NA  | Analysis   | Lloyd Kahn             |     | 1          |                |              | 141007       | 05/07/15 08:56       | JDD     | TAL PIT |
|           |            | Instrument ID: FLASHEA |     |            |                |              |              |                      |         |         |

## Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

# Lab Chronicle

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## Analyst References:

Lab: TAL PIT

Batch Type: Cleanup

AKG = Ashok Gupta

Batch Type: Prep

AB1 = Ashwin Baikadi

BAP = Brian Pino

CMR = Carl Reagle

JPM = Jeremy Merriman

KLK = Kathy Gordon

MLF = Michele Freeman

PGJ = Paul Johnson

Batch Type: Analysis

AKG = Ashok Gupta

CMR = Carl Reagle

JDD = James DeRubeis

JWS = Jim Swanson

KLK = Kathy Gordon

MLF = Michele Freeman

MM1 = Mary Beth Miller

MTW = Michael Wesoloski

PGJ = Paul Johnson

RJR = Ron Rosenbaum

SAB = Sharon Bacha

WTR = Bill Reinheimer



# Certification Summary

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

## Laboratory: TestAmerica Pittsburgh

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

| Authority              | Program       | EPA Region | Certification ID | Expiration Date |
|------------------------|---------------|------------|------------------|-----------------|
| Arkansas DEQ           | State Program | 6          | 88-0690          | 06-27-15        |
| California             | State Program | 9          | 2891             | 03-31-16        |
| Connecticut            | State Program | 1          | PH-0688          | 09-30-16        |
| Florida                | NELAP         | 4          | E871008          | 06-30-15        |
| Illinois               | NELAP         | 5          | 002602           | 06-30-15        |
| Kansas                 | NELAP         | 7          | E-10350          | 05-31-15 *      |
| Louisiana              | NELAP         | 6          | 04041            | 06-30-15        |
| New Hampshire          | NELAP         | 1          | 203011           | 04-04-16        |
| New Jersey             | NELAP         | 2          | PA005            | 06-30-15        |
| New York               | NELAP         | 2          | 11182            | 03-31-16        |
| North Carolina (WW/SW) | State Program | 4          | 434              | 12-31-15        |
| Pennsylvania           | NELAP         | 3          | 02-00416         | 04-30-16        |
| South Carolina         | State Program | 4          | 89014            | 04-30-15 *      |
| Texas                  | NELAP         | 6          | T104704528       | 03-31-16        |
| US Fish & Wildlife     | Federal       |            | LE94312A-1       | 11-30-15        |
| USDA                   | Federal       |            | P-Soil-01        | 05-23-16        |
| Utah                   | NELAP         | 8          | STLP             | 05-31-15        |
| Virginia               | NELAP         | 3          | 460189           | 09-14-15        |
| West Virginia DEP      | State Program | 3          | 142              | 01-31-16        |
| Wisconsin              | State Program | 5          | 998027800        | 08-31-15        |

\* Certification renewal pending - certification considered valid.

TestAmerica Pittsburgh

## Method Summary

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

| Method     | Method Description                                  | Protocol | Laboratory |
|------------|---|----------|------------|
| 8260C      | Volatile Organic Compounds by GC/MS                 | SW846    | TAL PIT    |
| 8270D LL   | Semivolatile Organic Compounds by GC/MS - Low Level | SW846    | TAL PIT    |
| 8082A      | Polychlorinated Biphenyls (PCBs) (GC)               | SW846    | TAL PIT    |
| 6010B      | Metals (ICP)  | SW846    | TAL PIT    |
| 6020A      | Metals (ICP/MS)                                     | SW846    | TAL PIT    |
| 7471A      | Mercury (CVAA)                                      | SW846    | TAL PIT    |
| SEM        | Metals, Simultaneously Extracted Metals (SEM)       | EPA      | TAL PIT    |
| 2540G      | SM 2540G  | SM22     | TAL PIT    |
| 9014       | Cyanide   | SW846    | TAL PIT    |
| 9034       | Sulfide, Acid soluble and Insoluble (Titrimetric)   | SW846    | TAL PIT    |
| 9071B      | HEM and SGT-HEM                                     | SW846    | TAL PIT    |
| Lloyd Kahn | Organic Carbon, Total (TOC)                         | EPA      | TAL PIT    |

### Protocol References:

EPA = US Environmental Protection Agency

SM22 = SM22

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL PIT = TestAmerica Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

## Sample Summary

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

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| Lab Sample ID | Client Sample ID | Matrix   | Collected      | Received       |
|---------------|------------------|----------|----------------|----------------|
| 180-43411-1   | DE01-SD          | Sediment | 04/23/15 13:00 | 04/24/15 08:30 |
| 180-43411-2   | F05-SD           | Sediment | 04/23/15 16:00 | 04/24/15 08:30 |

## Detection Limit Exceptions Summary

Client: EA Engineering, Science, and Technology  
Project/Site: Sparrows Point Trust Offshore Investigat

TestAmerica Job ID: 180-43411-1

The requested project specific reporting limits listed below were less than laboratory standard quantitation limits (PQL) but great than or equal to the laboratory method detection limits (MDL). It must be noted that results reported below lab standard quantitation limits may result in false positive/false negative values and less accurate quantitation. Routine laboratory procedure do not indicate corrective action for detections below the laboratory's PQL.

| Method   | Matrix   | Analyte                     | Units | Client RL | Lab PQL |
|----------|----------|-----------------------------|-------|-----------|---------|
| 8270D LL | Sediment | Bis(2-ethylhexyl) phthalate | ug/Kg | 33        | 33.35   |
| 8270D LL | Sediment | Nitrobenzene                | ug/Kg | 33        | 33.35   |

## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: CHHP3 Analysis Batch Number: 136245Lab Sample ID: IC 180-136245/3 Client Sample ID: \_\_\_\_\_Date Analyzed: 03/23/15 13:00 Lab File ID: 30323K05.D GC Column: DB-624 ID: 0.18 (mm)

| COMPOUND NAME | RETENTION<br>TIME | MANUAL INTEGRATION  |         |                |
|---------------|-------------------|---------------------|---------|----------------|
|               |                   | REASON              | ANALYST | DATE           |
| Ethanol       | 3.28              | Poor chromatography | gordonk | 03/24/15 03:55 |

Lab Sample ID: IC 180-136245/4 Client Sample ID: \_\_\_\_\_Date Analyzed: 03/23/15 13:26 Lab File ID: 30323K06.D GC Column: DB-624 ID: 0.18 (mm)

| COMPOUND NAME | RETENTION<br>TIME | MANUAL INTEGRATION  |         |                |
|---------------|-------------------|---------------------|---------|----------------|
|               |                   | REASON              | ANALYST | DATE           |
| Ethanol       | 3.31              | Poor chromatography | gordonk | 03/24/15 03:58 |

## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: CHHP3 Analysis Batch Number: 137003Lab Sample ID: IC 180-137003/6 Client Sample ID: \_\_\_\_\_Date Analyzed: 03/31/15 10:54 Lab File ID: 3033107.D GC Column: DB-624 ID: 0.18 (mm)

| COMPOUND NAME                         | RETENTION<br>TIME | MANUAL INTEGRATION  |         |                |
|---------------------------------------|-------------------|---------------------|---------|----------------|
|                                       |                   | REASON              | ANALYST | DATE           |
| Chloroethane                          | 2.63              | Poor chromatography | gordonk | 03/31/15 11:16 |
| Dichlorofluoromethane                 | 2.94              | Poor chromatography | gordonk | 03/31/15 11:16 |
| Trichlorofluoromethane                | 2.99              | Poor chromatography | gordonk | 03/31/15 11:16 |
| Acrolein                              | 3.61              | Poor chromatography | gordonk | 03/31/15 11:16 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 3.84              | Poor chromatography | gordonk | 03/31/15 11:16 |
| Methyl acetate                        | 4.44              | Poor chromatography | gordonk | 03/31/15 11:16 |
| Methylene Chloride                    | 4.56              | Poor chromatography | gordonk | 03/31/15 11:16 |
| Acrylonitrile                         | 4.93              | Poor chromatography | gordonk | 03/31/15 11:16 |

Lab Sample ID: IC 180-137003/7 Client Sample ID: \_\_\_\_\_Date Analyzed: 03/31/15 11:16 Lab File ID: 3033108.D GC Column: DB-624 ID: 0.18 (mm)

| COMPOUND NAME                         | RETENTION<br>TIME | MANUAL INTEGRATION  |         |                |
|---------------------------------------|-------------------|---------------------|---------|----------------|
|                                       |                   | REASON              | ANALYST | DATE           |
| Trichlorofluoromethane                | 2.98              | Poor chromatography | gordonk | 03/31/15 11:38 |
| Acrolein                              | 3.60              | Poor chromatography | gordonk | 03/31/15 11:38 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 3.83              | Poor chromatography | gordonk | 03/31/15 11:38 |

Lab Sample ID: IC 180-137003/9 Client Sample ID: \_\_\_\_\_Date Analyzed: 03/31/15 12:02 Lab File ID: 3033110.D GC Column: DB-624 ID: 0.18 (mm)

| COMPOUND NAME          | RETENTION<br>TIME | MANUAL INTEGRATION  |         |                |
|------------------------|-------------------|---------------------|---------|----------------|
|                        |                   | REASON              | ANALYST | DATE           |
| Trichlorofluoromethane | 2.95              | Poor chromatography | gordonk | 04/01/15 03:53 |
| Acrolein               | 3.61              | Poor chromatography | gordonk | 04/01/15 03:53 |

## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: CHHP3 Analysis Batch Number: 137003Lab Sample ID: IC 180-137003/11 Client Sample ID: \_\_\_\_\_Date Analyzed: 03/31/15 12:55 Lab File ID: 3033112.D GC Column: DB-624 ID: 0.18 (mm)

| COMPOUND NAME | RETENTION<br>TIME | MANUAL INTEGRATION  |         |                |
|---------------|-------------------|---------------------|---------|----------------|
|               |                   | REASON              | ANALYST | DATE           |
| Acrolein      | 3.61              | Poor chromatography | gordonk | 04/01/15 03:59 |
| Iodomethane   | 4.00              | Poor chromatography | gordonk | 04/01/15 03:59 |

Lab Sample ID: IC 180-137003/21 Client Sample ID: \_\_\_\_\_Date Analyzed: 03/31/15 14:29 Lab File ID: 3033116.D GC Column: DB-624 ID: 0.18 (mm)

| COMPOUND NAME                         | RETENTION<br>TIME | MANUAL INTEGRATION  |         |                |
|---------------------------------------|-------------------|---------------------|---------|----------------|
|                                       |                   | REASON              | ANALYST | DATE           |
| Dichlorodifluoromethane               | 1.78              | Poor chromatography | gordonk | 04/01/15 04:30 |
| Trichlorofluoromethane                | 3.06              | Poor chromatography | gordonk | 04/01/15 04:30 |
| Ethyl ether                           | 3.44              | Poor chromatography | gordonk | 04/01/15 04:30 |
| Acrolein                              | 3.61              | Poor chromatography | gordonk | 04/01/15 04:30 |
| 1,1-Dichloroethene                    | 3.76              | Poor chromatography | gordonk | 04/01/15 04:30 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 3.83              | Poor chromatography | gordonk | 04/01/15 04:30 |
| Iodomethane                           | 3.97              | Poor chromatography | gordonk | 04/01/15 04:30 |
| Carbon disulfide                      | 4.06              | Poor chromatography | gordonk | 04/01/15 04:30 |
| Allyl chloride                        | 4.36              | Poor chromatography | gordonk | 04/01/15 04:30 |
| Methylene Chloride                    | 4.55              | Poor chromatography | gordonk | 04/01/15 04:30 |
| Acrylonitrile                         | 4.93              | Poor chromatography | gordonk | 04/01/15 04:30 |
| Carbon tetrachloride                  | 7.09              | Poor chromatography | gordonk | 04/01/15 04:30 |

## GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: CHHP3 Analysis Batch Number: 139697Lab Sample ID: CCVIS 180-139697/3 Client Sample ID: \_\_\_\_\_Date Analyzed: 04/27/15 07:08 Lab File ID: 3042703.D GC Column: DB-624 ID: 0.18 (mm)

| COMPOUND NAME          | RETENTION<br>TIME | MANUAL INTEGRATION  |         |                |
|------------------------|-------------------|---------------------|---------|----------------|
|                        |                   | REASON              | ANALYST | DATE           |
| Trichlorofluoromethane | 2.98              | Poor chromatography | gordonk | 04/27/15 07:30 |
| Iodomethane            | 3.93              | Poor chromatography | gordonk | 04/27/15 07:30 |

Lab Sample ID: MB 180-139703/1-A Client Sample ID: \_\_\_\_\_Date Analyzed: 04/27/15 08:11 Lab File ID: 3042705.D GC Column: DB-624 ID: 0.18 (mm)

| COMPOUND NAME      | RETENTION<br>TIME | MANUAL INTEGRATION  |         |                |
|--------------------|-------------------|---------------------|---------|----------------|
|                    |                   | REASON              | ANALYST | DATE           |
| Methylene Chloride | 4.54              | Poor chromatography | gordonk | 04/27/15 08:52 |

Lab Sample ID: 180-43411-2 Client Sample ID: F05-SDDate Analyzed: 04/27/15 11:57 Lab File ID: 3042715.D GC Column: DB-624 ID: 0.18 (mm)

| COMPOUND NAME      | RETENTION<br>TIME | MANUAL INTEGRATION  |         |                |
|--------------------|-------------------|---------------------|---------|----------------|
|                    |                   | REASON              | ANALYST | DATE           |
| Methylene Chloride | 4.53              | Poor chromatography | gordonk | 04/27/15 12:15 |



## GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: CH722 Analysis Batch Number: 136451Lab Sample ID: IC 180-136451/2 Client Sample ID: \_\_\_\_\_Date Analyzed: 03/24/15 23:35 Lab File ID: F03240C1.D GC Column: Rxi-5SilMS ID: 0.32 (mm)

| COMPOUND NAME                | RETENTION<br>TIME | MANUAL INTEGRATION  |          |                |
|------------------------------|-------------------|---------------------|----------|----------------|
|                              |                   | REASON              | ANALYST  | DATE           |
| 1,4-Dioxane                  | 1.64              | Poor chromatography | bungardf | 03/25/15 00:52 |
| N-Nitrosodimethylamine       | 2.17              | Poor chromatography | bungardf | 03/25/15 00:52 |
| Pyridine                     | 2.28              | Poor chromatography | bungardf | 03/25/15 00:52 |
| Methyl methanesulfonate      | 4.41              | Poor chromatography | bungardf | 03/25/15 00:52 |
| 2,2'-oxybis[1-chloropropane] | 6.32              | Poor chromatography | bungardf | 03/25/15 00:52 |
| Nitrobenzene                 | 6.61              | Poor chromatography | bungardf | 03/25/15 00:52 |
| Isophorone                   | 6.84              | Poor chromatography | bungardf | 03/25/15 00:52 |
| 2-Nitrophenol                | 6.92              | Poor chromatography | bungardf | 03/25/15 00:52 |
| Bis (2-chloroethoxy)methane  | 7.05              | Poor chromatography | bungardf | 03/25/15 00:52 |
| Caprolactam                  | 7.65              | Poor chromatography | bungardf | 03/25/15 00:52 |
| Dimethyl phthalate           | 8.69              | Poor chromatography | bungardf | 03/25/15 00:52 |
| 3-Nitroaniline               | 8.92              | Poor chromatography | bungardf | 03/25/15 00:52 |
| 2,4-Dinitrophenol            | 8.99              | Poor chromatography | bungardf | 03/25/15 00:52 |
| 4-Nitrophenol                | 9.06              | Poor chromatography | bungardf | 03/25/15 00:52 |
| 2,4-Dinitrotoluene           | 9.13              | Poor chromatography | bungardf | 03/25/15 00:52 |
| 2,3,5,6-Tetrachlorophenol    | 9.25              | Poor chromatography | bungardf | 03/25/15 00:52 |
| 2,3,4,6-Tetrachlorophenol    | 9.29              | Poor chromatography | bungardf | 03/25/15 00:52 |
| 4-Nitroaniline               | 9.49              | Poor chromatography | bungardf | 03/25/15 00:52 |
| 4,6-Dinitro-2-methylphenol   | 9.53              | Poor chromatography | bungardf | 03/25/15 00:52 |
| 2,4,6-Tribromophenol (Surr)  | 9.73              | Poor chromatography | bungardf | 03/25/15 00:52 |
| Atrazine                     | 10.09             | Poor chromatography | bungardf | 03/25/15 00:52 |
| Di-n-butyl phthalate         | 10.96             | Poor chromatography | bungardf | 03/25/15 00:52 |
| Benzidine                    | 11.91             | Poor chromatography | bungardf | 03/25/15 00:52 |
| 3,3'-Dichlorobenzidine       | 14.02             | Poor chromatography | bungardf | 03/25/15 00:52 |
| Bis(2-ethylhexyl) phthalate  | 14.13             | Poor chromatography | bungardf | 03/25/15 00:52 |
| Di-n-octyl phthalate         | 15.52             | Poor chromatography | bungardf | 03/25/15 00:52 |
| Benzo[e]pyrene               | 16.92             | Poor chromatography | bungardf | 03/25/15 00:52 |
| Benzo[a]pyrene               | 17.02             | Poor chromatography | bungardf | 03/25/15 00:52 |
| Indeno[1,2,3-cd]pyrene       | 19.50             | Poor chromatography | bungardf | 03/25/15 00:52 |
| Benzo[g,h,i]perylene         | 20.14             | Poor chromatography | bungardf | 03/25/15 00:52 |

## GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: CH722 Analysis Batch Number: 136451Lab Sample ID: IC 180-136451/3 Client Sample ID: \_\_\_\_\_Date Analyzed: 03/25/15 00:04 Lab File ID: F03240C2.D GC Column: Rxi-5SilMS ID: 0.32 (mm)

| COMPOUND NAME          | RETENTION<br>TIME | MANUAL INTEGRATION  |          |                |
|------------------------|-------------------|---------------------|----------|----------------|
|                        |                   | REASON              | ANALYST  | DATE           |
| Indeno[1,2,3-cd]pyrene | 19.52             | Poor chromatography | bungardf | 03/25/15 01:16 |
| Dibenz(a,h)anthracene  | 19.58             | Poor chromatography | bungardf | 03/25/15 01:16 |

Lab Sample ID: IC 180-136451/4 Client Sample ID: \_\_\_\_\_Date Analyzed: 03/25/15 00:33 Lab File ID: F03240C3.D GC Column: Rxi-5SilMS ID: 0.32 (mm)

| COMPOUND NAME          | RETENTION<br>TIME | MANUAL INTEGRATION  |          |                |
|------------------------|-------------------|---------------------|----------|----------------|
|                        |                   | REASON              | ANALYST  | DATE           |
| Benzoic acid           | 6.99              | Poor chromatography | bungardf | 03/25/15 02:06 |
| Indeno[1,2,3-cd]pyrene | 19.48             | Poor chromatography | bungardf | 03/25/15 02:06 |

Lab Sample ID: ICIS 180-136451/5 Client Sample ID: \_\_\_\_\_Date Analyzed: 03/25/15 01:02 Lab File ID: F03240C4.D GC Column: Rxi-5SilMS ID: 0.32 (mm)

| COMPOUND NAME | RETENTION<br>TIME | MANUAL INTEGRATION  |          |                |
|---------------|-------------------|---------------------|----------|----------------|
|               |                   | REASON              | ANALYST  | DATE           |
| Benzoic acid  | 7.01              | Poor chromatography | bungardf | 03/25/15 02:31 |

Lab Sample ID: IC 180-136451/6 Client Sample ID: \_\_\_\_\_Date Analyzed: 03/25/15 01:31 Lab File ID: F03240C5.D GC Column: Rxi-5SilMS ID: 0.32 (mm)

| COMPOUND NAME | RETENTION<br>TIME | MANUAL INTEGRATION  |          |                |
|---------------|-------------------|---------------------|----------|----------------|
|               |                   | REASON              | ANALYST  | DATE           |
| Benzoic acid  | 7.02              | Poor chromatography | bungardf | 03/25/15 02:47 |

Lab Sample ID: IC 180-136451/8 Client Sample ID: \_\_\_\_\_Date Analyzed: 03/25/15 02:28 Lab File ID: F03240C7.D GC Column: Rxi-5SilMS ID: 0.32 (mm)

| COMPOUND NAME          | RETENTION<br>TIME | MANUAL INTEGRATION  |          |                |
|------------------------|-------------------|---------------------|----------|----------------|
|                        |                   | REASON              | ANALYST  | DATE           |
| Indeno[1,2,3-cd]pyrene | 19.52             | Poor chromatography | bungardf | 03/25/15 03:43 |

## GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: CH722 Analysis Batch Number: 136451Lab Sample ID: IC 180-136451/9 Client Sample ID: \_\_\_\_\_Date Analyzed: 03/25/15 02:57 Lab File ID: F03240C8.D GC Column: Rxi-5SilMS ID: 0.32 (mm)

| COMPOUND NAME          | RETENTION<br>TIME | MANUAL INTEGRATION  |          |                |
|------------------------|-------------------|---------------------|----------|----------------|
|                        |                   | REASON              | ANALYST  | DATE           |
| Indeno[1,2,3-cd]pyrene | 19.49             | Poor chromatography | bungardf | 03/25/15 04:39 |

## GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: CH722 Analysis Batch Number: 141206Lab Sample ID: CCVIS 180-141206/2 Client Sample ID: \_\_\_\_\_Date Analyzed: 05/12/15 04:49 Lab File ID: F05110C1.D GC Column: Rxi-5SilMS ID: 0.32 (mm)

| COMPOUND NAME | RETENTION<br>TIME | MANUAL INTEGRATION |         |                |
|---------------|-------------------|--------------------|---------|----------------|
|               |                   | REASON             | ANALYST | DATE           |
| Benzoic acid  | 6.88              | Baseline           | bachas  | 05/12/15 07:44 |

Lab Sample ID: 180-43411-2 Client Sample ID: F05-SDDate Analyzed: 05/12/15 12:39 Lab File ID: F0511016.D GC Column: Rxi-5SilMS ID: 0.32 (mm)

| COMPOUND NAME          | RETENTION<br>TIME | MANUAL INTEGRATION |         |                |
|------------------------|-------------------|--------------------|---------|----------------|
|                        |                   | REASON             | ANALYST | DATE           |
| Benzo[b]fluoranthene   | 16.14             | Baseline           | bachas  | 05/12/15 14:18 |
| Benzo[k]fluoranthene   | 16.17             | Baseline           | bachas  | 05/12/15 14:18 |
| Indeno[1,2,3-cd]pyrene | 19.28             | Baseline           | bachas  | 05/12/15 14:18 |
| Dibenz(a,h)anthracene  | 19.32             | Baseline           | bachas  | 05/12/15 14:18 |

## GC SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 Analysis Batch Number: 138696Lab Sample ID: IC 180-138696/3 Client Sample ID: \_\_\_\_\_Date Analyzed: 04/16/15 10:51 Lab File ID: 00450780.D GC Column: RTX-CLP1 ID: 0.53 (mm)

| COMPOUND NAME   | RETENTION<br>TIME | MANUAL INTEGRATION |         |                |
|-----------------|-------------------|--------------------|---------|----------------|
|                 |                   | REASON             | ANALYST | DATE           |
| PCB-1221 Peak 1 | 3.24              | Instrument noise   | guptaa  | 04/17/15 07:20 |
| PCB-1221 Peak 2 | 3.34              | Instrument noise   | guptaa  | 04/17/15 07:33 |
| PCB-1221 Peak 3 | 3.40              | Instrument noise   | guptaa  | 04/17/15 07:20 |
| PCB-1254 Peak 1 | 5.35              | Instrument noise   | guptaa  | 04/17/15 07:22 |
| PCB-1254 Peak 2 | 5.79              | Instrument noise   | guptaa  | 04/17/15 07:22 |
| PCB-1254 Peak 3 | 6.09              | Instrument noise   | guptaa  | 04/17/15 07:22 |
| PCB-1254 Peak 4 | 6.83              | Instrument noise   | guptaa  | 04/17/15 07:22 |
| PCB-1254 Peak 5 | 7.33              | Instrument noise   | guptaa  | 04/17/15 07:22 |

Lab Sample ID: IC 180-138696/3 Client Sample ID: \_\_\_\_\_Date Analyzed: 04/16/15 10:51 Lab File ID: 00450780.D GC Column: RTX-CLP2 ID: 0.53 (mm)

| COMPOUND NAME   | RETENTION<br>TIME | MANUAL INTEGRATION |         |                |
|-----------------|-------------------|--------------------|---------|----------------|
|                 |                   | REASON             | ANALYST | DATE           |
| PCB-1221 Peak 1 | 3.85              | Instrument noise   | guptaa  | 04/17/15 07:20 |
| PCB-1221 Peak 2 | 4.00              | Instrument noise   | guptaa  | 04/17/15 07:20 |
| PCB-1221 Peak 3 | 4.07              | Instrument noise   | guptaa  | 04/17/15 07:20 |
| PCB-1254 Peak 1 | 6.11              | Instrument noise   | guptaa  | 04/17/15 07:24 |
| PCB-1254 Peak 2 | 6.77              | Instrument noise   | guptaa  | 04/17/15 07:24 |
| PCB-1254 Peak 3 | 7.90              | Instrument noise   | guptaa  | 04/17/15 07:24 |
| PCB-1254 Peak 4 | 8.59              | Instrument noise   | guptaa  | 04/17/15 07:24 |
| PCB-1254 Peak 5 | 8.92              | Instrument noise   | guptaa  | 04/17/15 07:24 |

## GC SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 Analysis Batch Number: 138696Lab Sample ID: IC 180-138696/4 Client Sample ID: \_\_\_\_\_Date Analyzed: 04/16/15 11:11 Lab File ID: 00450781.D GC Column: RTX-CLP1 ID: 0.53 (mm)

| COMPOUND NAME   | RETENTION<br>TIME | MANUAL INTEGRATION |         |                |
|-----------------|-------------------|--------------------|---------|----------------|
|                 |                   | REASON             | ANALYST | DATE           |
| PCB-1254 Peak 1 | 5.35              | Instrument noise   | guptaa  | 04/17/15 07:22 |
| PCB-1254 Peak 2 | 5.79              | Instrument noise   | guptaa  | 04/17/15 07:22 |
| PCB-1254 Peak 3 | 6.09              | Instrument noise   | guptaa  | 04/17/15 07:22 |
| PCB-1254 Peak 4 | 6.84              | Instrument noise   | guptaa  | 04/17/15 07:22 |
| PCB-1254 Peak 5 | 7.33              | Instrument noise   | guptaa  | 04/17/15 07:22 |

Lab Sample ID: IC 180-138696/4 Client Sample ID: \_\_\_\_\_Date Analyzed: 04/16/15 11:11 Lab File ID: 00450781.D GC Column: RTX-CLP2 ID: 0.53 (mm)

| COMPOUND NAME   | RETENTION<br>TIME | MANUAL INTEGRATION |         |                |
|-----------------|-------------------|--------------------|---------|----------------|
|                 |                   | REASON             | ANALYST | DATE           |
| PCB-1254 Peak 1 | 6.11              | Instrument noise   | guptaa  | 04/17/15 07:24 |
| PCB-1254 Peak 2 | 6.77              | Instrument noise   | guptaa  | 04/17/15 07:24 |
| PCB-1254 Peak 3 | 7.90              | Instrument noise   | guptaa  | 04/17/15 07:24 |
| PCB-1254 Peak 4 | 8.59              | Instrument noise   | guptaa  | 04/17/15 07:24 |
| PCB-1254 Peak 5 | 8.92              | Instrument noise   | guptaa  | 04/17/15 07:24 |

Lab Sample ID: IC 180-138696/5 Client Sample ID: \_\_\_\_\_Date Analyzed: 04/16/15 11:31 Lab File ID: 00450782.D GC Column: RTX-CLP1 ID: 0.53 (mm)

| COMPOUND NAME   | RETENTION<br>TIME | MANUAL INTEGRATION |         |                |
|-----------------|-------------------|--------------------|---------|----------------|
|                 |                   | REASON             | ANALYST | DATE           |
| PCB-1221 Peak 1 | 3.24              | Instrument noise   | guptaa  | 04/17/15 07:34 |
| PCB-1221 Peak 2 | 3.37              | Instrument noise   | guptaa  | 04/17/15 07:34 |
| PCB-1221 Peak 3 | 3.40              | Instrument noise   | guptaa  | 04/17/15 07:34 |

## GC SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 Analysis Batch Number: 138696Lab Sample ID: IC 180-138696/7 Client Sample ID: \_\_\_\_\_Date Analyzed: 04/16/15 12:10 Lab File ID: O0450784.D GC Column: RTX-CLP2 ID: 0.53 (mm)

| COMPOUND NAME   | RETENTION<br>TIME | MANUAL INTEGRATION |         |                |
|-----------------|-------------------|--------------------|---------|----------------|
|                 |                   | REASON             | ANALYST | DATE           |
| PCB-1221 Peak 1 | 3.85              | Instrument noise   | guptaa  | 04/17/15 07:28 |
| PCB-1221 Peak 2 | 4.00              | Instrument noise   | guptaa  | 04/17/15 07:28 |
| PCB-1221 Peak 3 | 4.07              | Instrument noise   | guptaa  | 04/17/15 07:28 |

## GC SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 Analysis Batch Number: 140301Lab Sample ID: 180-43411-2 Client Sample ID: F05-SDDate Analyzed: 05/01/15 23:37 Lab File ID: 00501042.D GC Column: RTX-CLP1 ID: 0.53 (mm)

| COMPOUND NAME   | RETENTION<br>TIME | MANUAL INTEGRATION |         |                |
|-----------------|-------------------|--------------------|---------|----------------|
|                 |                   | REASON             | ANALYST | DATE           |
| PCB-1254 Peak 2 | 0.00              | Instrument noise   | guptaa  | 05/04/15 09:32 |
| PCB-1254 Peak 3 | 0.00              | Instrument noise   | guptaa  | 05/04/15 09:32 |
| PCB-1254 Peak 1 | 5.36              | Instrument noise   | guptaa  | 05/04/15 09:32 |
| PCB-1254 Peak 4 | 6.85              | Instrument noise   | guptaa  | 05/04/15 09:32 |
| PCB-1254 Peak 5 | 7.34              | Instrument noise   | guptaa  | 05/04/15 09:32 |

Lab Sample ID: LCS 180-140214/2-C Client Sample ID: \_\_\_\_\_Date Analyzed: 05/02/15 00:36 Lab File ID: 00501045.D GC Column: RTX-CLP1 ID: 0.53 (mm)

| COMPOUND NAME   | RETENTION<br>TIME | MANUAL INTEGRATION |         |                |
|-----------------|-------------------|--------------------|---------|----------------|
|                 |                   | REASON             | ANALYST | DATE           |
| PCB-1016 Peak 1 | 3.40              | Instrument noise   | guptaa  | 05/04/15 09:09 |
| PCB-1016 Peak 2 | 3.73              | Instrument noise   | guptaa  | 05/04/15 09:09 |
| PCB-1016 Peak 3 | 4.36              | Instrument noise   | guptaa  | 05/04/15 09:09 |
| PCB-1016 Peak 4 | 4.43              | Instrument noise   | guptaa  | 05/04/15 09:09 |
| PCB-1016 Peak 5 | 4.84              | Instrument noise   | guptaa  | 05/04/15 09:09 |
| PCB-1260 Peak 1 | 6.66              | Instrument noise   | guptaa  | 05/04/15 09:09 |
| PCB-1260 Peak 2 | 7.16              | Instrument noise   | guptaa  | 05/04/15 09:09 |
| PCB-1260 Peak 3 | 7.70              | Instrument noise   | guptaa  | 05/04/15 09:09 |
| PCB-1260 Peak 4 | 8.42              | Instrument noise   | guptaa  | 05/04/15 09:09 |
| PCB-1260 Peak 5 | 9.01              | Instrument noise   | guptaa  | 05/04/15 09:09 |



## GC SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 Analysis Batch Number: 140301Lab Sample ID: CCV 180-140301/23 Client Sample ID: \_\_\_\_\_Date Analyzed: 05/02/15 00:56 Lab File ID: O0501046.D GC Column: RTX-CLP1 ID: 0.53 (mm)

| COMPOUND NAME   | RETENTION<br>TIME | MANUAL INTEGRATION |         |                |
|-----------------|-------------------|--------------------|---------|----------------|
|                 |                   | REASON             | ANALYST | DATE           |
| PCB-1016 Peak 1 | 3.40              | Instrument noise   | guptaa  | 05/04/15 12:24 |
| PCB-1016 Peak 2 | 3.73              | Instrument noise   | guptaa  | 05/04/15 12:24 |
| PCB-1016 Peak 3 | 4.36              | Instrument noise   | guptaa  | 05/04/15 12:24 |
| PCB-1016 Peak 4 | 4.43              | Instrument noise   | guptaa  | 05/04/15 12:24 |
| PCB-1016 Peak 5 | 4.85              | Instrument noise   | guptaa  | 05/04/15 12:24 |

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID                 | Exp Date | Prep Date           | Dilutant Used       | Reagent Final Volume | Parent Reagent      |              | Analyte                       | Concentration |
|----------------------------|----------|---------------------|---------------------|----------------------|---------------------|--------------|-------------------------------|---------------|
|                            |          |                     |                     |                      | Reagent ID          | Volume Added |                               |               |
| <b>GCAR1248CALL4_00010</b> | 08/15/15 | 02/05/15            | Hexane, Lot 1448530 | 100 mL               | GCPCBI1248STD_00003 | 0.05 mL      | PCB-1248 Peak 1               | 0.5 ug/mL     |
|                            |          |                     |                     |                      |                     |              | PCB-1248 Peak 2               | 0.5 ug/mL     |
|                            |          |                     |                     |                      |                     |              | PCB-1248 Peak 3               | 0.5 ug/mL     |
|                            |          |                     |                     |                      |                     |              | PCB-1248 Peak 4               | 0.5 ug/mL     |
|                            |          |                     |                     |                      |                     |              | PCB-1248 Peak 5               | 0.5 ug/mL     |
| .GCPCBI1248STD_00003       | 04/30/19 | RESTEK, Lot A092864 |                     |                      | (Purchased Reagent) |              | PCB-1248 Peak 1               | 1000 ug/mL    |
|                            |          |                     |                     |                      |                     |              | PCB-1248 Peak 2               | 1000 ug/mL    |
|                            |          |                     |                     |                      |                     |              | PCB-1248 Peak 3               | 1000 ug/mL    |
|                            |          |                     |                     |                      |                     |              | PCB-1248 Peak 4               | 1000 ug/mL    |
|                            |          |                     |                     |                      |                     |              | PCB-1248 Peak 5               | 1000 ug/mL    |
| <b>GCAR1660CALL1_00015</b> | 08/31/15 | 02/25/15            | HEXANE, Lot 1448530 | 200 mL               | GC1660WORKS_00012   | 0.02 mL      | PCB-1016 Peak 1               | 0.01 ug/mL    |
|                            |          |                     |                     |                      |                     |              | PCB-1016 Peak 2               | 0.01 ug/mL    |
|                            |          |                     |                     |                      |                     |              | PCB-1016 Peak 3               | 0.01 ug/mL    |
|                            |          |                     |                     |                      |                     |              | PCB-1016 Peak 4               | 0.01 ug/mL    |
|                            |          |                     |                     |                      |                     |              | PCB-1016 Peak 5               | 0.01 ug/mL    |
|                            |          |                     |                     |                      |                     |              | PCB-1260 Peak 1               | 0.01 ug/mL    |
|                            |          |                     |                     |                      |                     |              | PCB-1260 Peak 2               | 0.01 ug/mL    |
|                            |          |                     |                     |                      |                     |              | PCB-1260 Peak 3               | 0.01 ug/mL    |
|                            |          |                     |                     |                      |                     |              | PCB-1260 Peak 4               | 0.01 ug/mL    |
|                            |          |                     |                     |                      |                     |              | PCB-1260 Peak 5               | 0.01 ug/mL    |
|                            |          |                     |                     |                      |                     |              | DCB Decachlorobiphenyl (Surr) | 0.0005 ug/mL  |
|                            |          |                     |                     |                      |                     |              | Tetrachloro-m-xylene (Surr)   | 0.0005 ug/mL  |
| .GC1660WORKS_00012         | 08/31/15 | 02/25/15            | HEXANE, Lot 1448530 | 20 mL                | GCPCBICAL STD_00001 | 2 mL         | PCB-1016 Peak 1               | 100 ug/mL     |
|                            |          |                     |                     |                      |                     |              | PCB-1016 Peak 2               | 100 ug/mL     |
|                            |          |                     |                     |                      |                     |              | PCB-1016 Peak 3               | 100 ug/mL     |
|                            |          |                     |                     |                      |                     |              | PCB-1016 Peak 4               | 100 ug/mL     |
|                            |          |                     |                     |                      |                     |              | PCB-1016 Peak 5               | 100 ug/mL     |
|                            |          |                     |                     |                      |                     |              | PCB-1260 Peak 1               | 100 ug/mL     |
|                            |          |                     |                     |                      |                     |              | PCB-1260 Peak 2               | 100 ug/mL     |
|                            |          |                     |                     |                      |                     |              | PCB-1260 Peak 3               | 100 ug/mL     |
|                            |          |                     |                     |                      |                     |              | PCB-1260 Peak 4               | 100 ug/mL     |
|                            |          |                     |                     |                      |                     |              | PCB-1260 Peak 5               | 100 ug/mL     |
|                            |          |                     |                     |                      | GCPEST(SURR)S_00005 | 0.5 mL       | DCB Decachlorobiphenyl (Surr) | 5 ug/mL       |
|                            |          |                     |                     |                      |                     |              | Tetrachloro-m-xylene (Surr)   | 5 ug/mL       |
| ..GCPCBICAL STD_00001      | 04/30/19 | RESTEK, Lot A092844 |                     |                      | (Purchased Reagent) |              | PCB-1016 Peak 1               | 1000 ug/mL    |
|                            |          |                     |                     |                      |                     |              | PCB-1016 Peak 2               | 1000 ug/mL    |
|                            |          |                     |                     |                      |                     |              | PCB-1016 Peak 3               | 1000 ug/mL    |
|                            |          |                     |                     |                      |                     |              | PCB-1016 Peak 4               | 1000 ug/mL    |
|                            |          |                     |                     |                      |                     |              | PCB-1016 Peak 5               | 1000 ug/mL    |
|                            |          |                     |                     |                      |                     |              | PCB-1260 Peak 1               | 1000 ug/mL    |
|                            |          |                     |                     |                      |                     |              | PCB-1260 Peak 2               | 1000 ug/mL    |
|                            |          |                     |                     |                      |                     |              | PCB-1260 Peak 3               | 1000 ug/mL    |
|                            |          |                     |                     |                      |                     |              | PCB-1260 Peak 4               | 1000 ug/mL    |
|                            |          |                     |                     |                      |                     |              | PCB-1260 Peak 5               | 1000 ug/mL    |
| ..GCPEST(SURR)S_00005      | 03/20/19 | RESTEK, Lot a092633 |                     |                      | (Purchased Reagent) |              | DCB Decachlorobiphenyl (Surr) | 200 ug/mL     |
|                            |          |                     |                     |                      |                     |              | Tetrachloro-m-xylene (Surr)   | 200 ug/mL     |
| <b>GCAR1660CALL2_00010</b> | 08/31/15 | 02/25/15            | HEXANE, Lot 1448530 | 200 mL               | GC1660WORKS_00012   | 0.1 mL       | PCB-1016 Peak 1               | 0.05 ug/mL    |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID              | Exp Date | Prep Date | Dilutant Used       | Reagent Final Volume | Parent Reagent        |              | Analyte                       | Concentration |
|-------------------------|----------|-----------|---------------------|----------------------|-----------------------|--------------|-------------------------------|---------------|
|                         |          |           |                     |                      | Reagent ID            | Volume Added |                               |               |
|                         |          |           |                     |                      |                       |              | PCB-1016 Peak 2               | 0.05 ug/mL    |
|                         |          |           |                     |                      |                       |              | PCB-1016 Peak 3               | 0.05 ug/mL    |
|                         |          |           |                     |                      |                       |              | PCB-1016 Peak 4               | 0.05 ug/mL    |
|                         |          |           |                     |                      |                       |              | PCB-1016 Peak 5               | 0.05 ug/mL    |
|                         |          |           |                     |                      |                       |              | PCB-1260 Peak 1               | 0.05 ug/mL    |
|                         |          |           |                     |                      |                       |              | PCB-1260 Peak 2               | 0.05 ug/mL    |
|                         |          |           |                     |                      |                       |              | PCB-1260 Peak 3               | 0.05 ug/mL    |
|                         |          |           |                     |                      |                       |              | PCB-1260 Peak 4               | 0.05 ug/mL    |
|                         |          |           |                     |                      |                       |              | PCB-1260 Peak 5               | 0.05 ug/mL    |
|                         |          |           |                     |                      |                       |              | DCB Decachlorobiphenyl (Surr) | 0.0025 ug/mL  |
|                         |          |           |                     |                      |                       |              | Tetrachloro-m-xylene (Surr)   | 0.0025 ug/mL  |
| .GC1660WORKS_00012      | 08/31/15 | 02/25/15  | HEXANE, Lot 1448530 | 20 mL                | GCPCBICAL STD_00001   | 2 mL         | PCB-1016 Peak 1               | 100 ug/mL     |
|                         |          |           |                     |                      |                       |              | PCB-1016 Peak 2               | 100 ug/mL     |
|                         |          |           |                     |                      |                       |              | PCB-1016 Peak 3               | 100 ug/mL     |
|                         |          |           |                     |                      |                       |              | PCB-1016 Peak 4               | 100 ug/mL     |
|                         |          |           |                     |                      |                       |              | PCB-1016 Peak 5               | 100 ug/mL     |
|                         |          |           |                     |                      |                       |              | PCB-1260 Peak 1               | 100 ug/mL     |
|                         |          |           |                     |                      |                       |              | PCB-1260 Peak 2               | 100 ug/mL     |
|                         |          |           |                     |                      |                       |              | PCB-1260 Peak 3               | 100 ug/mL     |
|                         |          |           |                     |                      |                       |              | PCB-1260 Peak 4               | 100 ug/mL     |
|                         |          |           |                     |                      |                       |              | PCB-1260 Peak 5               | 100 ug/mL     |
|                         |          |           |                     |                      | GCPEST (SURRE)S_00005 | 0.5 mL       | DCB Decachlorobiphenyl (Surr) | 5 ug/mL       |
|                         |          |           |                     |                      |                       |              | Tetrachloro-m-xylene (Surr)   | 5 ug/mL       |
| ..GCPCBICAL STD_00001   | 04/30/19 |           | RESTEK, Lot A092844 |                      | (Purchased Reagent)   |              | PCB-1016 Peak 1               | 1000 ug/mL    |
|                         |          |           |                     |                      |                       |              | PCB-1016 Peak 2               | 1000 ug/mL    |
|                         |          |           |                     |                      |                       |              | PCB-1016 Peak 3               | 1000 ug/mL    |
|                         |          |           |                     |                      |                       |              | PCB-1016 Peak 4               | 1000 ug/mL    |
|                         |          |           |                     |                      |                       |              | PCB-1016 Peak 5               | 1000 ug/mL    |
|                         |          |           |                     |                      |                       |              | PCB-1260 Peak 1               | 1000 ug/mL    |
|                         |          |           |                     |                      |                       |              | PCB-1260 Peak 2               | 1000 ug/mL    |
|                         |          |           |                     |                      |                       |              | PCB-1260 Peak 3               | 1000 ug/mL    |
|                         |          |           |                     |                      |                       |              | PCB-1260 Peak 4               | 1000 ug/mL    |
|                         |          |           |                     |                      |                       |              | PCB-1260 Peak 5               | 1000 ug/mL    |
| ..GCPEST (SURRE)S_00005 | 03/20/19 |           | RESTEK, Lot a092633 |                      | (Purchased Reagent)   |              | DCB Decachlorobiphenyl (Surr) | 200 ug/mL     |
|                         |          |           |                     |                      |                       |              | Tetrachloro-m-xylene (Surr)   | 200 ug/mL     |
| GCAR1660CALL3_00009     | 08/31/15 | 02/25/15  | HEXANE, Lot 1448530 | 200 mL               | GC1660WORKS_00012     | 0.4 mL       | PCB-1016 Peak 1               | 0.2 ug/mL     |
|                         |          |           |                     |                      |                       |              | PCB-1016 Peak 2               | 0.2 ug/mL     |
|                         |          |           |                     |                      |                       |              | PCB-1016 Peak 3               | 0.2 ug/mL     |
|                         |          |           |                     |                      |                       |              | PCB-1016 Peak 4               | 0.2 ug/mL     |
|                         |          |           |                     |                      |                       |              | PCB-1016 Peak 5               | 0.2 ug/mL     |
|                         |          |           |                     |                      |                       |              | PCB-1260 Peak 1               | 0.2 ug/mL     |
|                         |          |           |                     |                      |                       |              | PCB-1260 Peak 2               | 0.2 ug/mL     |
|                         |          |           |                     |                      |                       |              | PCB-1260 Peak 3               | 0.2 ug/mL     |
|                         |          |           |                     |                      |                       |              | PCB-1260 Peak 4               | 0.2 ug/mL     |
|                         |          |           |                     |                      |                       |              | PCB-1260 Peak 5               | 0.2 ug/mL     |
|                         |          |           |                     |                      |                       |              | DCB Decachlorobiphenyl (Surr) | 0.01 ug/mL    |
|                         |          |           |                     |                      |                       |              | Tetrachloro-m-xylene (Surr)   | 0.01 ug/mL    |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID            | Exp Date            | Prep Date                   | Dilutant Used                 | Reagent Final Volume | Parent Reagent      |                     | Analyte                       | Concentration                 |         |
|-----------------------|---------------------|-----------------------------|-------------------------------|----------------------|---------------------|---------------------|-------------------------------|-------------------------------|---------|
|                       |                     |                             |                               |                      | Reagent ID          | Volume Added        |                               |                               |         |
| .GC1660WORKS_00012    | 08/31/15            | 02/25/15                    | HEXANE, Lot 1448530           | 20 mL                | GCPCBICAL STD_00001 | 2 mL                | PCB-1016 Peak 1               | 100 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1016 Peak 2               | 100 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1016 Peak 3               | 100 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1016 Peak 4               | 100 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1016 Peak 5               | 100 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1260 Peak 1               | 100 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1260 Peak 2               | 100 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1260 Peak 3               | 100 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1260 Peak 4               | 100 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1260 Peak 5               | 100 ug/mL                     |         |
|                       | GCPEST(SURR)S_00005 | 0.5 mL                      | DCB Decachlorobiphenyl (Surr) | 5 ug/mL              |                     |                     |                               |                               |         |
|                       |                     | Tetrachloro-m-xylene (Surr) | 5 ug/mL                       |                      |                     |                     |                               |                               |         |
| ..GCPCBICAL STD_00001 | 04/30/19            |                             | RESTEK, Lot A092844           |                      | (Purchased Reagent) |                     | PCB-1016 Peak 1               | 1000 ug/mL                    |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1016 Peak 2               | 1000 ug/mL                    |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1016 Peak 3               | 1000 ug/mL                    |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1016 Peak 4               | 1000 ug/mL                    |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1016 Peak 5               | 1000 ug/mL                    |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1260 Peak 1               | 1000 ug/mL                    |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1260 Peak 2               | 1000 ug/mL                    |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1260 Peak 3               | 1000 ug/mL                    |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1260 Peak 4               | 1000 ug/mL                    |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1260 Peak 5               | 1000 ug/mL                    |         |
| ..GCPEST(SURR)S_00005 | 03/20/19            |                             | RESTEK, Lot a092633           |                      | (Purchased Reagent) |                     | DCB Decachlorobiphenyl (Surr) | 200 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | Tetrachloro-m-xylene (Surr)   | 200 ug/mL                     |         |
| GCAR1660CALL4_00009   | 08/31/15            | 02/25/15                    | HEAXANE, Lot 1448530          | 400 mL               | GC1660WORKS_00012   | 2 mL                | PCB-1016 Peak 1               | 0.5 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1016 Peak 2               | 0.5 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1016 Peak 3               | 0.5 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1016 Peak 4               | 0.5 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1016 Peak 5               | 0.5 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1260 Peak 1               | 0.5 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1260 Peak 2               | 0.5 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1260 Peak 3               | 0.5 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1260 Peak 4               | 0.5 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1260 Peak 5               | 0.5 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | DCB Decachlorobiphenyl (Surr) | 0.025 ug/mL                   |         |
|                       |                     |                             |                               |                      |                     |                     | Tetrachloro-m-xylene (Surr)   | 0.025 ug/mL                   |         |
|                       |                     |                             |                               |                      |                     |                     |                               |                               |         |
| .GC1660WORKS_00012    | 08/31/15            | 02/25/15                    | HEXANE, Lot 1448530           | 20 mL                | GCPCBICAL STD_00001 | 2 mL                | PCB-1016 Peak 1               | 100 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1016 Peak 2               | 100 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1016 Peak 3               | 100 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1016 Peak 4               | 100 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1016 Peak 5               | 100 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1260 Peak 1               | 100 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1260 Peak 2               | 100 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1260 Peak 3               | 100 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1260 Peak 4               | 100 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     |                     | PCB-1260 Peak 5               | 100 ug/mL                     |         |
|                       |                     |                             |                               |                      |                     | GCPEST(SURR)S_00005 | 0.5 mL                        | DCB Decachlorobiphenyl (Surr) | 5 ug/mL |
|                       |                     |                             |                               |                      |                     |                     |                               |                               |         |
|                       |                     |                             |                               |                      |                     |                     |                               |                               |         |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID            | Exp Date | Prep Date | Dilutant Used       | Reagent Final Volume | Parent Reagent      |              | Analyte                       | Concentration |
|-----------------------|----------|-----------|---------------------|----------------------|---------------------|--------------|-------------------------------|---------------|
|                       |          |           |                     |                      | Reagent ID          | Volume Added |                               |               |
| ..GCPCBICAL STD_00001 | 04/30/19 |           | RESTEK, Lot A092844 |                      | (Purchased Reagent) |              | Tetrachloro-m-xylene (Surr)   | 5 ug/mL       |
|                       |          |           |                     |                      |                     |              | PCB-1016 Peak 1               | 1000 ug/mL    |
|                       |          |           |                     |                      |                     |              | PCB-1016 Peak 2               | 1000 ug/mL    |
|                       |          |           |                     |                      |                     |              | PCB-1016 Peak 3               | 1000 ug/mL    |
|                       |          |           |                     |                      |                     |              | PCB-1016 Peak 4               | 1000 ug/mL    |
|                       |          |           |                     |                      |                     |              | PCB-1016 Peak 5               | 1000 ug/mL    |
|                       |          |           |                     |                      |                     |              | PCB-1260 Peak 1               | 1000 ug/mL    |
|                       |          |           |                     |                      |                     |              | PCB-1260 Peak 2               | 1000 ug/mL    |
|                       |          |           |                     |                      |                     |              | PCB-1260 Peak 3               | 1000 ug/mL    |
|                       |          |           |                     |                      |                     |              | PCB-1260 Peak 4               | 1000 ug/mL    |
| ..GCPEST(SURR)S_00005 | 03/20/19 |           | RESTEK, Lot a092633 |                      | (Purchased Reagent) |              | DCB Decachlorobiphenyl (Surr) | 200 ug/mL     |
|                       |          |           |                     |                      |                     |              | Tetrachloro-m-xylene (Surr)   | 200 ug/mL     |
| GCAR1660CALL5_00010   | 08/31/15 | 02/25/15  | HEAXNE, Lot 1305300 | 400 mL               | GC1660WORKS_00012   | 4 mL         | PCB-1016 Peak 1               | 1 ug/mL       |
|                       |          |           |                     |                      |                     |              | PCB-1016 Peak 2               | 1 ug/mL       |
|                       |          |           |                     |                      |                     |              | PCB-1016 Peak 3               | 1 ug/mL       |
|                       |          |           |                     |                      |                     |              | PCB-1016 Peak 4               | 1 ug/mL       |
|                       |          |           |                     |                      |                     |              | PCB-1016 Peak 5               | 1 ug/mL       |
|                       |          |           |                     |                      |                     |              | PCB-1260 Peak 1               | 1 ug/mL       |
|                       |          |           |                     |                      |                     |              | PCB-1260 Peak 2               | 1 ug/mL       |
|                       |          |           |                     |                      |                     |              | PCB-1260 Peak 3               | 1 ug/mL       |
|                       |          |           |                     |                      |                     |              | PCB-1260 Peak 4               | 1 ug/mL       |
|                       |          |           |                     |                      |                     |              | PCB-1260 Peak 5               | 1 ug/mL       |
|                       |          |           |                     |                      |                     |              | DCB Decachlorobiphenyl (Surr) | 0.05 ug/mL    |
|                       |          |           |                     |                      |                     |              | Tetrachloro-m-xylene (Surr)   | 0.05 ug/mL    |
| .GC1660WORKS_00012    | 08/31/15 | 02/25/15  | HEXANE, Lot 1448530 | 20 mL                | GCPCBICAL STD_00001 | 2 mL         | PCB-1016 Peak 1               | 100 ug/mL     |
|                       |          |           |                     |                      |                     |              | PCB-1016 Peak 2               | 100 ug/mL     |
|                       |          |           |                     |                      |                     |              | PCB-1016 Peak 3               | 100 ug/mL     |
|                       |          |           |                     |                      |                     |              | PCB-1016 Peak 4               | 100 ug/mL     |
|                       |          |           |                     |                      |                     |              | PCB-1016 Peak 5               | 100 ug/mL     |
|                       |          |           |                     |                      |                     |              | PCB-1260 Peak 1               | 100 ug/mL     |
|                       |          |           |                     |                      |                     |              | PCB-1260 Peak 2               | 100 ug/mL     |
|                       |          |           |                     |                      |                     |              | PCB-1260 Peak 3               | 100 ug/mL     |
|                       |          |           |                     |                      |                     |              | PCB-1260 Peak 4               | 100 ug/mL     |
|                       |          |           |                     |                      |                     |              | PCB-1260 Peak 5               | 100 ug/mL     |
|                       |          |           |                     |                      | GCPEST(SURR)S_00005 | 0.5 mL       | DCB Decachlorobiphenyl (Surr) | 5 ug/mL       |
|                       |          |           |                     |                      |                     |              | Tetrachloro-m-xylene (Surr)   | 5 ug/mL       |
| ..GCPCBICAL STD_00001 | 04/30/19 |           | RESTEK, Lot A092844 |                      | (Purchased Reagent) |              | PCB-1016 Peak 1               | 1000 ug/mL    |
|                       |          |           |                     |                      |                     |              | PCB-1016 Peak 2               | 1000 ug/mL    |
|                       |          |           |                     |                      |                     |              | PCB-1016 Peak 3               | 1000 ug/mL    |
|                       |          |           |                     |                      |                     |              | PCB-1016 Peak 4               | 1000 ug/mL    |
|                       |          |           |                     |                      |                     |              | PCB-1016 Peak 5               | 1000 ug/mL    |
|                       |          |           |                     |                      |                     |              | PCB-1260 Peak 1               | 1000 ug/mL    |
|                       |          |           |                     |                      |                     |              | PCB-1260 Peak 2               | 1000 ug/mL    |
|                       |          |           |                     |                      |                     |              | PCB-1260 Peak 3               | 1000 ug/mL    |
|                       |          |           |                     |                      |                     |              | PCB-1260 Peak 4               | 1000 ug/mL    |
|                       |          |           |                     |                      |                     |              | PCB-1260 Peak 5               | 1000 ug/mL    |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID                 | Exp Date | Prep Date | Dilutant Used       | Reagent Final Volume | Parent Reagent      |              | Analyte                       | Concentration |
|----------------------------|----------|-----------|---------------------|----------------------|---------------------|--------------|-------------------------------|---------------|
|                            |          |           |                     |                      | Reagent ID          | Volume Added |                               |               |
| ..GCPEST(SURR)S_00005      | 03/20/19 |           | RESTEK, Lot a092633 |                      | (Purchased Reagent) |              | DCB Decachlorobiphenyl (Surr) | 200 ug/mL     |
|                            |          |           |                     |                      |                     |              | Tetrachloro-m-xylene (Surr)   | 200 ug/mL     |
| <b>GCAR1660CALL5_00010</b> | 08/31/15 | 02/25/15  | HEAXNE, Lot 1305300 | 400 mL               | GC1660WORKS_00012   | 4 mL         | PCB-1016                      | 1 ug/mL       |
|                            |          |           |                     |                      |                     |              | PCB-1260                      | 1 ug/mL       |
| .GC1660WORKS_00012         | 08/31/15 | 02/25/15  | HEXANE, Lot 1448530 | 20 mL                | GCPCBICAL STD_00001 | 2 mL         | PCB-1016                      | 100 ug/mL     |
|                            |          |           |                     |                      |                     |              | PCB-1260                      | 100 ug/mL     |
| ..GCPCBICAL STD_00001      | 04/30/19 |           | RESTEK, Lot A092844 |                      | (Purchased Reagent) |              | PCB-1016                      | 1000 ug/mL    |
|                            |          |           |                     |                      |                     |              | PCB-1260                      | 1000 ug/mL    |
| <b>GCAR1660CALL6_00008</b> | 08/31/15 | 02/25/15  | Hexane, Lot 1448530 | 200 mL               | GC1660WORKS_00012   | 4 mL         | PCB-1016 Peak 1               | 2 ug/mL       |
|                            |          |           |                     |                      |                     |              | PCB-1016 Peak 2               | 2 ug/mL       |
|                            |          |           |                     |                      |                     |              | PCB-1016 Peak 3               | 2 ug/mL       |
|                            |          |           |                     |                      |                     |              | PCB-1016 Peak 4               | 2 ug/mL       |
|                            |          |           |                     |                      |                     |              | PCB-1016 Peak 5               | 2 ug/mL       |
|                            |          |           |                     |                      |                     |              | PCB-1260 Peak 1               | 2 ug/mL       |
|                            |          |           |                     |                      |                     |              | PCB-1260 Peak 2               | 2 ug/mL       |
|                            |          |           |                     |                      |                     |              | PCB-1260 Peak 3               | 2 ug/mL       |
|                            |          |           |                     |                      |                     |              | PCB-1260 Peak 4               | 2 ug/mL       |
|                            |          |           |                     |                      |                     |              | PCB-1260 Peak 5               | 2 ug/mL       |
|                            |          |           |                     |                      |                     |              | DCB Decachlorobiphenyl (Surr) | 0.1 ug/mL     |
|                            |          |           |                     |                      |                     |              | Tetrachloro-m-xylene (Surr)   | 0.1 ug/mL     |
| .GC1660WORKS_00012         | 08/31/15 | 02/25/15  | HEXANE, Lot 1448530 | 20 mL                | GCPCBICAL STD_00001 | 2 mL         | PCB-1016 Peak 1               | 100 ug/mL     |
|                            |          |           |                     |                      |                     |              | PCB-1016 Peak 2               | 100 ug/mL     |
|                            |          |           |                     |                      |                     |              | PCB-1016 Peak 3               | 100 ug/mL     |
|                            |          |           |                     |                      |                     |              | PCB-1016 Peak 4               | 100 ug/mL     |
|                            |          |           |                     |                      |                     |              | PCB-1016 Peak 5               | 100 ug/mL     |
|                            |          |           |                     |                      |                     |              | PCB-1260 Peak 1               | 100 ug/mL     |
|                            |          |           |                     |                      |                     |              | PCB-1260 Peak 2               | 100 ug/mL     |
|                            |          |           |                     |                      |                     |              | PCB-1260 Peak 3               | 100 ug/mL     |
|                            |          |           |                     |                      |                     |              | PCB-1260 Peak 4               | 100 ug/mL     |
|                            |          |           |                     |                      |                     |              | PCB-1260 Peak 5               | 100 ug/mL     |
|                            |          |           |                     |                      | GCPEST(SURR)S_00005 | 0.5 mL       | DCB Decachlorobiphenyl (Surr) | 5 ug/mL       |
|                            |          |           |                     |                      |                     |              | Tetrachloro-m-xylene (Surr)   | 5 ug/mL       |
| ..GCPCBICAL STD_00001      | 04/30/19 |           | RESTEK, Lot A092844 |                      | (Purchased Reagent) |              | PCB-1016 Peak 1               | 1000 ug/mL    |
|                            |          |           |                     |                      |                     |              | PCB-1016 Peak 2               | 1000 ug/mL    |
|                            |          |           |                     |                      |                     |              | PCB-1016 Peak 3               | 1000 ug/mL    |
|                            |          |           |                     |                      |                     |              | PCB-1016 Peak 4               | 1000 ug/mL    |
|                            |          |           |                     |                      |                     |              | PCB-1016 Peak 5               | 1000 ug/mL    |
|                            |          |           |                     |                      |                     |              | PCB-1260 Peak 1               | 1000 ug/mL    |
|                            |          |           |                     |                      |                     |              | PCB-1260 Peak 2               | 1000 ug/mL    |
|                            |          |           |                     |                      |                     |              | PCB-1260 Peak 3               | 1000 ug/mL    |
|                            |          |           |                     |                      |                     |              | PCB-1260 Peak 4               | 1000 ug/mL    |
|                            |          |           |                     |                      |                     |              | PCB-1260 Peak 5               | 1000 ug/mL    |
| ..GCPEST(SURR)S_00005      | 03/20/19 |           | RESTEK, Lot a092633 |                      | (Purchased Reagent) |              | DCB Decachlorobiphenyl (Surr) | 200 ug/mL     |
|                            |          |           |                     |                      |                     |              | Tetrachloro-m-xylene (Surr)   | 200 ug/mL     |
| <b>GCAR1660CALL7_00009</b> | 08/31/15 | 02/25/15  | HEXANE, Lot 1448530 | 200 mL               | GC1660WORKS_00012   | 8 mL         | PCB-1016 Peak 1               | 4 ug/mL       |
|                            |          |           |                     |                      |                     |              | PCB-1016 Peak 2               | 4 ug/mL       |
|                            |          |           |                     |                      |                     |              | PCB-1016 Peak 3               | 4 ug/mL       |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID            | Exp Date | Prep Date           | Dilutant Used       | Reagent Final Volume        | Parent Reagent       |                     | Analyte                       | Concentration                 |                     |                 |
|-----------------------|----------|---------------------|---------------------|-----------------------------|----------------------|---------------------|-------------------------------|-------------------------------|---------------------|-----------------|
|                       |          |                     |                     |                             | Reagent ID           | Volume Added        |                               |                               |                     |                 |
|                       |          |                     | HEXANE, Lot 1448530 | 20 mL                       | GCPCBICAL STD_00001  | 2 mL                | PCB-1016 Peak 4               | 4 ug/mL                       |                     |                 |
|                       |          |                     |                     |                             |                      |                     | PCB-1016 Peak 5               | 4 ug/mL                       |                     |                 |
|                       |          |                     |                     |                             |                      |                     | PCB-1260 Peak 1               | 4 ug/mL                       |                     |                 |
|                       |          |                     |                     |                             |                      |                     | PCB-1260 Peak 2               | 4 ug/mL                       |                     |                 |
|                       |          |                     |                     |                             |                      |                     | PCB-1260 Peak 3               | 4 ug/mL                       |                     |                 |
|                       |          |                     |                     |                             |                      |                     | PCB-1260 Peak 4               | 4 ug/mL                       |                     |                 |
|                       |          |                     |                     |                             |                      |                     | PCB-1260 Peak 5               | 4 ug/mL                       |                     |                 |
|                       |          |                     |                     |                             |                      |                     | DCB Decachlorobiphenyl (Surr) | 0.2 ug/mL                     |                     |                 |
| .GC1660WORKS_00012    | 08/31/15 | 02/25/15            | HEXANE, Lot 1448530 | 20 mL                       | GCPCBICAL STD_00001  | 2 mL                | Tetrachloro-m-xylene (Surr)   | 0.2 ug/mL                     |                     |                 |
|                       |          |                     |                     |                             |                      |                     | PCB-1016 Peak 1               | 100 ug/mL                     |                     |                 |
|                       |          |                     |                     |                             |                      |                     | PCB-1016 Peak 2               | 100 ug/mL                     |                     |                 |
|                       |          |                     |                     |                             |                      |                     | PCB-1016 Peak 3               | 100 ug/mL                     |                     |                 |
|                       |          |                     |                     |                             |                      |                     | PCB-1016 Peak 4               | 100 ug/mL                     |                     |                 |
|                       |          |                     |                     |                             |                      |                     | PCB-1016 Peak 5               | 100 ug/mL                     |                     |                 |
|                       |          |                     |                     |                             |                      |                     | PCB-1260 Peak 1               | 100 ug/mL                     |                     |                 |
|                       |          |                     |                     |                             |                      |                     | PCB-1260 Peak 2               | 100 ug/mL                     |                     |                 |
|                       |          |                     |                     |                             |                      |                     | PCB-1260 Peak 3               | 100 ug/mL                     |                     |                 |
|                       |          |                     |                     |                             |                      |                     | PCB-1260 Peak 4               | 100 ug/mL                     |                     |                 |
|                       |          |                     |                     |                             | PCB-1260 Peak 5      | 100 ug/mL           |                               |                               |                     |                 |
|                       |          |                     |                     |                             | GCPEST (SURR)S_00005 | 0.5 mL              | DCB Decachlorobiphenyl (Surr) | 5 ug/mL                       |                     |                 |
| ..GCPCBICAL STD_00001 | 04/30/19 | RESTEK, Lot A092844 | (Purchased Reagent) | Tetrachloro-m-xylene (Surr) | 5 ug/mL              |                     |                               |                               |                     |                 |
|                       |          |                     |                     | PCB-1016 Peak 1             | 1000 ug/mL           |                     |                               |                               |                     |                 |
|                       |          |                     |                     | PCB-1016 Peak 2             | 1000 ug/mL           |                     |                               |                               |                     |                 |
|                       |          |                     |                     | PCB-1016 Peak 3             | 1000 ug/mL           |                     |                               |                               |                     |                 |
|                       |          |                     |                     | PCB-1016 Peak 4             | 1000 ug/mL           |                     |                               |                               |                     |                 |
|                       |          |                     |                     | PCB-1016 Peak 5             | 1000 ug/mL           |                     |                               |                               |                     |                 |
|                       |          |                     |                     | PCB-1260 Peak 1             | 1000 ug/mL           |                     |                               |                               |                     |                 |
|                       |          |                     |                     | PCB-1260 Peak 2             | 1000 ug/mL           |                     |                               |                               |                     |                 |
|                       |          |                     |                     | PCB-1260 Peak 3             | 1000 ug/mL           |                     |                               |                               |                     |                 |
|                       |          |                     |                     | PCB-1260 Peak 4             | 1000 ug/mL           |                     |                               |                               |                     |                 |
|                       |          |                     |                     | PCB-1260 Peak 5             | 1000 ug/mL           |                     |                               |                               |                     |                 |
|                       |          |                     |                     | ..GCPEST (SURR)S_00005      | 03/20/19             | RESTEK, Lot a092633 | (Purchased Reagent)           | DCB Decachlorobiphenyl (Surr) | 200 ug/mL           |                 |
| GCAR2154CALL1_00011   | 08/15/15 | 02/05/15            | Hexane, Lot 1448530 | 100 mL                      | GCPCBI1221STD_00002  | 0.001 mL            | Tetrachloro-m-xylene (Surr)   | 200 ug/mL                     |                     |                 |
|                       |          |                     |                     |                             |                      |                     | PCB-1221 Peak 1               | 0.01 ug/mL                    |                     |                 |
|                       |          |                     |                     |                             |                      |                     | PCB-1221 Peak 2               | 0.01 ug/mL                    |                     |                 |
|                       |          |                     |                     |                             |                      |                     | PCB-1221 Peak 3               | 0.01 ug/mL                    |                     |                 |
|                       |          |                     |                     |                             |                      |                     | GCPCBI1254STD_00003           | 0.001 mL                      | PCB-1254 Peak 1     | 0.01 ug/mL      |
|                       |          |                     |                     |                             |                      |                     | PCB-1254 Peak 2               |                               | 0.01 ug/mL          |                 |
|                       |          |                     |                     |                             | PCB-1254 Peak 3      | 0.01 ug/mL          |                               |                               |                     |                 |
|                       |          |                     |                     |                             | PCB-1254 Peak 4      | 0.01 ug/mL          |                               |                               |                     |                 |
|                       |          |                     |                     |                             | PCB-1254 Peak 5      | 0.01 ug/mL          |                               |                               |                     |                 |
|                       |          |                     |                     |                             | .GCPCBI1221STD_00002 | 12/30/18            | RESTEK, Lot a090667           |                               | (Purchased Reagent) | PCB-1221 Peak 1 |
|                       |          |                     |                     |                             |                      |                     |                               | PCB-1221 Peak 2               |                     | 1000 ug/mL      |
|                       |          |                     |                     |                             |                      |                     |                               | PCB-1221 Peak 3               |                     | 1000 ug/mL      |
| .GCPCBI1254STD_00003  | 02/28/19 | RESTEK, Lot A092005 | (Purchased Reagent) | PCB-1254 Peak 1             | 1000 ug/mL           |                     |                               |                               |                     |                 |
|                       |          |                     |                     | PCB-1254 Peak 2             | 1000 ug/mL           |                     |                               |                               |                     |                 |
|                       |          |                     |                     | PCB-1254 Peak 3             | 1000 ug/mL           |                     |                               |                               |                     |                 |

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID           | Exp Date | Prep Date           | Dilutant Used       | Reagent Final Volume | Parent Reagent      |                 | Analyte         | Concentration |
|----------------------|----------|---------------------|---------------------|----------------------|---------------------|-----------------|-----------------|---------------|
|                      |          |                     |                     |                      | Reagent ID          | Volume Added    |                 |               |
|                      |          |                     |                     |                      |                     |                 | PCB-1254 Peak 4 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |                 | PCB-1254 Peak 5 | 1000 ug/mL    |
| GCAR2154CALL2_00008  | 08/15/15 | 02/05/15            | Hexane, Lot 1448530 | 100 mL               | GCPCBI1221STD_00002 | 0.01 mL         | PCB-1221 Peak 1 | 0.1 ug/mL     |
|                      |          |                     |                     |                      |                     |                 | PCB-1221 Peak 2 | 0.1 ug/mL     |
|                      |          |                     |                     |                      |                     |                 | PCB-1221 Peak 3 | 0.1 ug/mL     |
|                      |          |                     |                     |                      | GCPCBI1254STD_00003 | 0.01 mL         | PCB-1254 Peak 1 | 0.1 ug/mL     |
|                      |          |                     |                     |                      |                     |                 | PCB-1254 Peak 2 | 0.1 ug/mL     |
|                      |          |                     |                     |                      |                     |                 | PCB-1254 Peak 3 | 0.1 ug/mL     |
|                      |          |                     |                     |                      |                     |                 | PCB-1254 Peak 4 | 0.1 ug/mL     |
|                      |          |                     |                     |                      |                     |                 | PCB-1254 Peak 5 | 0.1 ug/mL     |
| .GCPCBI1221STD_00002 | 12/30/18 | RESTEK, Lot a090667 |                     | (Purchased Reagent)  |                     | PCB-1221 Peak 1 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1221 Peak 2 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1221 Peak 3 | 1000 ug/mL      |               |
| .GCPCBI1254STD_00003 | 02/28/19 | RESTEK, Lot A092005 |                     | (Purchased Reagent)  |                     | PCB-1254 Peak 1 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1254 Peak 2 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1254 Peak 3 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1254 Peak 4 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1254 Peak 5 | 1000 ug/mL      |               |
| GCAR2154CALL3_00008  | 08/15/15 | 02/05/15            | Hexane, Lot 1448530 | 100 mL               | GCPCBI1221STD_00002 | 0.025 mL        | PCB-1221 Peak 1 | 0.25 ug/mL    |
|                      |          |                     |                     |                      |                     |                 | PCB-1221 Peak 2 | 0.25 ug/mL    |
|                      |          |                     |                     |                      |                     |                 | PCB-1221 Peak 3 | 0.25 ug/mL    |
|                      |          |                     |                     |                      | GCPCBI1254STD_00003 | 0.025 mL        | PCB-1254 Peak 1 | 0.25 ug/mL    |
|                      |          |                     |                     |                      |                     |                 | PCB-1254 Peak 2 | 0.25 ug/mL    |
|                      |          |                     |                     |                      |                     |                 | PCB-1254 Peak 3 | 0.25 ug/mL    |
|                      |          |                     |                     |                      |                     |                 | PCB-1254 Peak 4 | 0.25 ug/mL    |
|                      |          |                     |                     |                      |                     |                 | PCB-1254 Peak 5 | 0.25 ug/mL    |
| .GCPCBI1221STD_00002 | 12/30/18 | RESTEK, Lot a090667 |                     | (Purchased Reagent)  |                     | PCB-1221 Peak 1 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1221 Peak 2 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1221 Peak 3 | 1000 ug/mL      |               |
| .GCPCBI1254STD_00003 | 02/28/19 | RESTEK, Lot A092005 |                     | (Purchased Reagent)  |                     | PCB-1254 Peak 1 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1254 Peak 2 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1254 Peak 3 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1254 Peak 4 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1254 Peak 5 | 1000 ug/mL      |               |
| GCAR2154CALL4_00008  | 08/15/15 | 02/05/15            | Hexane, Lot 1448530 | 100 mL               | GCPCBI1221STD_00002 | 0.05 mL         | PCB-1221 Peak 1 | 0.5 ug/mL     |
|                      |          |                     |                     |                      |                     |                 | PCB-1221 Peak 2 | 0.5 ug/mL     |
|                      |          |                     |                     |                      |                     |                 | PCB-1221 Peak 3 | 0.5 ug/mL     |
|                      |          |                     |                     |                      | GCPCBI1254STD_00003 | 0.05 mL         | PCB-1254 Peak 1 | 0.5 ug/mL     |
|                      |          |                     |                     |                      |                     |                 | PCB-1254 Peak 2 | 0.5 ug/mL     |
|                      |          |                     |                     |                      |                     |                 | PCB-1254 Peak 3 | 0.5 ug/mL     |
|                      |          |                     |                     |                      |                     |                 | PCB-1254 Peak 4 | 0.5 ug/mL     |
|                      |          |                     |                     |                      |                     |                 | PCB-1254 Peak 5 | 0.5 ug/mL     |
| .GCPCBI1221STD_00002 | 12/30/18 | RESTEK, Lot a090667 |                     | (Purchased Reagent)  |                     | PCB-1221 Peak 1 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1221 Peak 2 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1221 Peak 3 | 1000 ug/mL      |               |
| .GCPCBI1254STD_00003 | 02/28/19 | RESTEK, Lot A092005 |                     | (Purchased Reagent)  |                     | PCB-1254 Peak 1 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1254 Peak 2 | 1000 ug/mL      |               |



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID           | Exp Date | Prep Date           | Dilutant Used       | Reagent Final Volume | Parent Reagent      |                 | Analyte         | Concentration |
|----------------------|----------|---------------------|---------------------|----------------------|---------------------|-----------------|-----------------|---------------|
|                      |          |                     |                     |                      | Reagent ID          | Volume Added    |                 |               |
|                      |          |                     |                     |                      |                     |                 | PCB-1254 Peak 3 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |                 | PCB-1254 Peak 4 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |                 | PCB-1254 Peak 5 | 1000 ug/mL    |
| GCAR2154CALL5_00008  | 08/15/15 | 02/05/15            | Hexane, Lot 1448530 | 250 mL               | GCPCBI1221STD_00002 | 0.25 mL         | PCB-1221 Peak 1 | 1 ug/mL       |
|                      |          |                     |                     |                      |                     |                 | PCB-1221 Peak 2 | 1 ug/mL       |
|                      |          |                     |                     |                      |                     |                 | PCB-1221 Peak 3 | 1 ug/mL       |
|                      |          |                     |                     |                      | GCPCBI1254STD_00003 | 0.25 mL         | PCB-1254 Peak 1 | 1 ug/mL       |
|                      |          |                     |                     |                      |                     |                 | PCB-1254 Peak 2 | 1 ug/mL       |
|                      |          |                     |                     |                      |                     |                 | PCB-1254 Peak 3 | 1 ug/mL       |
|                      |          |                     |                     |                      |                     |                 | PCB-1254 Peak 4 | 1 ug/mL       |
|                      |          |                     |                     |                      |                     |                 | PCB-1254 Peak 5 | 1 ug/mL       |
| .GCPCBI1221STD_00002 | 12/30/18 | RESTEK, Lot a090667 |                     | (Purchased Reagent)  |                     | PCB-1221 Peak 1 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1221 Peak 2 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1221 Peak 3 | 1000 ug/mL      |               |
| .GCPCBI1254STD_00003 | 02/28/19 | RESTEK, Lot A092005 |                     | (Purchased Reagent)  |                     | PCB-1254 Peak 1 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1254 Peak 2 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1254 Peak 3 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1254 Peak 4 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1254 Peak 5 | 1000 ug/mL      |               |
| GCAR3262CALL4_00001  | 08/15/15 | 02/05/15            | Hexane, Lot 1448530 | 250 mL               | GCPCBI1232STD_00003 | 0.125 mL        | PCB-1232 Peak 1 | 0.5 ug/mL     |
|                      |          |                     |                     |                      |                     |                 | PCB-1232 Peak 2 | 0.5 ug/mL     |
|                      |          |                     |                     |                      |                     |                 | PCB-1232 Peak 3 | 0.5 ug/mL     |
|                      |          |                     |                     |                      |                     |                 | PCB-1232 Peak 4 | 0.5 ug/mL     |
|                      |          |                     |                     |                      |                     |                 | PCB-1232 Peak 5 | 0.5 ug/mL     |
|                      |          |                     |                     |                      | GCPCBI1262STD_00003 | 0.125 mL        | PCB-1262 Peak 1 | 0.5 ug/mL     |
|                      |          |                     |                     |                      |                     |                 | PCB-1262 Peak 2 | 0.5 ug/mL     |
|                      |          |                     |                     |                      |                     |                 | PCB-1262 Peak 3 | 0.5 ug/mL     |
| .GCPCBI1232STD_00003 | 11/30/18 | RESTEK, Lot A090290 |                     | (Purchased Reagent)  |                     | PCB-1262 Peak 4 | 0.5 ug/mL       |               |
|                      |          |                     |                     |                      |                     | PCB-1262 Peak 5 | 0.5 ug/mL       |               |
|                      |          |                     |                     |                      |                     | PCB-1232 Peak 1 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1232 Peak 2 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1232 Peak 3 | 1000 ug/mL      |               |
| .GCPCBI1262STD_00003 | 08/30/19 | RESTEK, Lot A094073 |                     | (Purchased Reagent)  |                     | PCB-1232 Peak 4 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1232 Peak 5 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1262 Peak 1 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1262 Peak 2 | 1000 ug/mL      |               |
|                      |          |                     |                     |                      |                     | PCB-1262 Peak 3 | 1000 ug/mL      |               |
| GCAR4268CALL1_00001  | 08/15/15 | 02/12/15            | Hexane, Lot 1448530 | 100 mL               | GCPCBI1242STD_00003 | 0.001 mL        | PCB-1242 Peak 4 | 0.01 ug/mL    |
|                      |          |                     |                     |                      |                     |                 | PCB-1242 Peak 5 | 0.01 ug/mL    |
|                      |          |                     |                     |                      |                     |                 | PCB-1268 Peak 1 | 0.01 ug/mL    |
|                      |          |                     |                     |                      |                     |                 | PCB-1268 Peak 2 | 0.01 ug/mL    |
|                      |          |                     |                     |                      |                     |                 | PCB-1268 Peak 3 | 0.01 ug/mL    |

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID           | Exp Date | Prep Date           | Dilutant Used       | Reagent Final Volume | Parent Reagent      |              | Analyte         | Concentration |
|----------------------|----------|---------------------|---------------------|----------------------|---------------------|--------------|-----------------|---------------|
|                      |          |                     |                     |                      | Reagent ID          | Volume Added |                 |               |
|                      |          |                     |                     |                      |                     |              | PCB-1268 Peak 4 | 0.01 ug/mL    |
| .GCPCBI1242STD_00003 | 11/30/18 | RESTEK, Lot A090182 |                     |                      | (Purchased Reagent) |              | PCB-1242 Peak 1 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1242 Peak 2 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1242 Peak 3 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1242 Peak 4 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1242 Peak 5 | 1000 ug/mL    |
| .GCPCBI1268STD_00003 | 01/30/19 | RESTEK, Lot A091468 |                     |                      | (Purchased Reagent) |              | PCB-1268 Peak 1 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1268 Peak 2 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1268 Peak 3 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1268 Peak 4 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |              |                 |               |
| GCAR4268CALL2_00001  | 08/15/15 | 02/12/15            | Hexane, Lot 1448530 | 100 mL               | GCPCBI1242STD_00003 | 0.01 mL      | PCB-1242 Peak 1 | 0.1 ug/mL     |
|                      |          |                     |                     |                      |                     |              | PCB-1242 Peak 2 | 0.1 ug/mL     |
|                      |          |                     |                     |                      |                     |              | PCB-1242 Peak 3 | 0.1 ug/mL     |
|                      |          |                     |                     |                      |                     |              | PCB-1242 Peak 4 | 0.1 ug/mL     |
|                      |          |                     |                     |                      |                     |              | PCB-1242 Peak 5 | 0.1 ug/mL     |
|                      |          |                     |                     |                      | GCPCBI1268STD_00003 | 0.01 mL      | PCB-1268 Peak 1 | 0.1 ug/mL     |
|                      |          |                     |                     |                      |                     |              | PCB-1268 Peak 2 | 0.1 ug/mL     |
|                      |          |                     |                     |                      |                     |              | PCB-1268 Peak 3 | 0.1 ug/mL     |
|                      |          |                     |                     |                      |                     |              | PCB-1268 Peak 4 | 0.1 ug/mL     |
|                      |          |                     |                     |                      |                     |              |                 |               |
| .GCPCBI1242STD_00003 | 11/30/18 | RESTEK, Lot A090182 |                     |                      | (Purchased Reagent) |              | PCB-1242 Peak 1 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1242 Peak 2 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1242 Peak 3 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1242 Peak 4 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1242 Peak 5 | 1000 ug/mL    |
| .GCPCBI1268STD_00003 | 01/30/19 | RESTEK, Lot A091468 |                     |                      | (Purchased Reagent) |              | PCB-1268 Peak 1 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1268 Peak 2 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1268 Peak 3 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1268 Peak 4 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |              |                 |               |
| GCAR4268CALL3_00001  | 08/15/15 | 02/12/15            | Hexane, Lot 1448530 | 100 mL               | GCPCBI1242STD_00003 | 0.025 mL     | PCB-1242 Peak 1 | 0.25 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1242 Peak 2 | 0.25 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1242 Peak 3 | 0.25 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1242 Peak 4 | 0.25 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1242 Peak 5 | 0.25 ug/mL    |
|                      |          |                     |                     |                      | GCPCBI1268STD_00003 | 0.025 mL     | PCB-1268 Peak 1 | 0.25 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1268 Peak 2 | 0.25 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1268 Peak 3 | 0.25 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1268 Peak 4 | 0.25 ug/mL    |
|                      |          |                     |                     |                      |                     |              |                 |               |
| .GCPCBI1242STD_00003 | 11/30/18 | RESTEK, Lot A090182 |                     |                      | (Purchased Reagent) |              | PCB-1242 Peak 1 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1242 Peak 2 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1242 Peak 3 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1242 Peak 4 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1242 Peak 5 | 1000 ug/mL    |
| .GCPCBI1268STD_00003 | 01/30/19 | RESTEK, Lot A091468 |                     |                      | (Purchased Reagent) |              | PCB-1268 Peak 1 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1268 Peak 2 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1268 Peak 3 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |              | PCB-1268 Peak 4 | 1000 ug/mL    |
|                      |          |                     |                     |                      |                     |              |                 |               |
| GCAR4268CALL4_00001  | 08/15/15 | 02/05/15            | Hexane, Lot 1448530 | 100 mL               | GCPCBI1242STD_00003 | 0.05 mL      | PCB-1242 Peak 1 | 0.5 ug/mL     |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID           | Exp Date | Prep Date | Dilutant Used                 | Reagent Final Volume | Parent Reagent      |              | Analyte                             | Concentration |
|----------------------|----------|-----------|-------------------------------|----------------------|---------------------|--------------|-------------------------------------|---------------|
|                      |          |           |                               |                      | Reagent ID          | Volume Added |                                     |               |
|                      |          |           |                               |                      |                     |              | PCB-1242 Peak 2                     | 0.5 ug/mL     |
|                      |          |           |                               |                      |                     |              | PCB-1242 Peak 3                     | 0.5 ug/mL     |
|                      |          |           |                               |                      |                     |              | PCB-1242 Peak 4                     | 0.5 ug/mL     |
|                      |          |           |                               |                      |                     |              | PCB-1242 Peak 5                     | 0.5 ug/mL     |
|                      |          |           |                               |                      | GCPCBI1268STD_00003 | 0.05 mL      | PCB-1268 Peak 1                     | 0.5 ug/mL     |
|                      |          |           |                               |                      |                     |              | PCB-1268 Peak 2                     | 0.5 ug/mL     |
|                      |          |           |                               |                      |                     |              | PCB-1268 Peak 3                     | 0.5 ug/mL     |
|                      |          |           |                               |                      |                     |              | PCB-1268 Peak 4                     | 0.5 ug/mL     |
| .GCPCBI1242STD_00003 | 11/30/18 |           | RESTEK, Lot A090182           |                      | (Purchased Reagent) |              | PCB-1242 Peak 1                     | 1000 ug/mL    |
|                      |          |           |                               |                      |                     |              | PCB-1242 Peak 2                     | 1000 ug/mL    |
|                      |          |           |                               |                      |                     |              | PCB-1242 Peak 3                     | 1000 ug/mL    |
|                      |          |           |                               |                      |                     |              | PCB-1242 Peak 4                     | 1000 ug/mL    |
|                      |          |           |                               |                      |                     |              | PCB-1242 Peak 5                     | 1000 ug/mL    |
| .GCPCBI1268STD_00003 | 01/30/19 |           | RESTEK, Lot A091468           |                      | (Purchased Reagent) |              | PCB-1268 Peak 1                     | 1000 ug/mL    |
|                      |          |           |                               |                      |                     |              | PCB-1268 Peak 2                     | 1000 ug/mL    |
|                      |          |           |                               |                      |                     |              | PCB-1268 Peak 3                     | 1000 ug/mL    |
|                      |          |           |                               |                      |                     |              | PCB-1268 Peak 4                     | 1000 ug/mL    |
| GCAR4268CALL5_00001  | 08/15/15 | 02/12/15  | Hexane, Lot 1448530           | 50 mL                | GCPCBI1242STD_00003 | 0.05 mL      | PCB-1242 Peak 1                     | 1 ug/mL       |
|                      |          |           |                               |                      |                     |              | PCB-1242 Peak 2                     | 1 ug/mL       |
|                      |          |           |                               |                      |                     |              | PCB-1242 Peak 3                     | 1 ug/mL       |
|                      |          |           |                               |                      |                     |              | PCB-1242 Peak 4                     | 1 ug/mL       |
|                      |          |           |                               |                      |                     |              | PCB-1242 Peak 5                     | 1 ug/mL       |
|                      |          |           |                               |                      | GCPCBI1268STD_00003 | 0.05 mL      | PCB-1268 Peak 1                     | 1 ug/mL       |
|                      |          |           |                               |                      |                     |              | PCB-1268 Peak 2                     | 1 ug/mL       |
|                      |          |           |                               |                      |                     |              | PCB-1268 Peak 3                     | 1 ug/mL       |
|                      |          |           |                               |                      |                     |              | PCB-1268 Peak 4                     | 1 ug/mL       |
| .GCPCBI1242STD_00003 | 11/30/18 |           | RESTEK, Lot A090182           |                      | (Purchased Reagent) |              | PCB-1242 Peak 1                     | 1000 ug/mL    |
|                      |          |           |                               |                      |                     |              | PCB-1242 Peak 2                     | 1000 ug/mL    |
|                      |          |           |                               |                      |                     |              | PCB-1242 Peak 3                     | 1000 ug/mL    |
|                      |          |           |                               |                      |                     |              | PCB-1242 Peak 4                     | 1000 ug/mL    |
|                      |          |           |                               |                      |                     |              | PCB-1242 Peak 5                     | 1000 ug/mL    |
| .GCPCBI1268STD_00003 | 01/30/19 |           | RESTEK, Lot A091468           |                      | (Purchased Reagent) |              | PCB-1268 Peak 1                     | 1000 ug/mL    |
|                      |          |           |                               |                      |                     |              | PCB-1268 Peak 2                     | 1000 ug/mL    |
|                      |          |           |                               |                      |                     |              | PCB-1268 Peak 3                     | 1000 ug/mL    |
|                      |          |           |                               |                      |                     |              | PCB-1268 Peak 4                     | 1000 ug/mL    |
| GCMATRIXWORKS_00012  | 08/31/15 | 02/17/15  | ACETONE, Lot 1078945/JT BAKER | 250 mL               | GCMATRIXSPK_00001   | 1 mL         | PCB-1016                            | 40 ug/mL      |
|                      |          |           |                               |                      |                     |              | PCB-1260                            | 40 ug/mL      |
| .GCMATRIXSPK_00001   | 09/30/17 |           | RESTEK, Lot A076606           |                      | (Purchased Reagent) |              | PCB-1016                            | 10000 ug/mL   |
|                      |          |           |                               |                      |                     |              | PCB-1260                            | 10000 ug/mL   |
| GCTBASOLUTION_00027  | 04/20/16 | 04/20/15  | DI Water, Lot NONE            | 2000 g               | GCNa2SO3_00004      | 500 g        | Sodium Sulfite                      | 247750 ug/mL  |
|                      |          |           |                               |                      | GCTBA98.0_00002     | 67.8 g       | Tetrabutylammonium Hydrogen Sulfate | 33222 ug/mL   |
| .GCNa2SO3_00004      | 07/01/18 |           | Fisher, Lot 132468            |                      | (Purchased Reagent) |              | Sodium Sulfite                      | 99.1 %        |
| .GCTBA98.0_00002     | 12/27/20 |           | JT BAKER, Lot J42621          |                      | (Purchased Reagent) |              | Tetrabutylammonium Hydrogen Sulfate | 98 %          |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID           | Exp Date | Prep Date                            | Dilutant Used                      | Reagent Final Volume | Parent Reagent      |              | Analyte                              | Concentration       |
|----------------------|----------|--------------------------------------|------------------------------------|----------------------|---------------------|--------------|--------------------------------------|---------------------|
|                      |          |                                      |                                    |                      | Reagent ID          | Volume Added |                                      |                     |
| LKTOCKHPL1_00012     | 08/03/15 | 02/03/15                             | DI Water, Lot J10595               | 100 mL               | LKTOCKHP_00010      | 2.128 g      | Total Organic Carbon - Duplicates    | 10022.9 mg/L        |
| .LKTOCKHP_00010      | 11/02/15 | JT Baker, Lot J10595                 |                                    |                      | (Purchased Reagent) |              | Total Organic Carbon - Duplicates    | 47.1 %              |
| LKTOCSR_00016        | 01/12/16 | Santis Ananalytical AG, Lot 231546   |                                    |                      | (Purchased Reagent) |              | Total Organic Carbon - Duplicates    | 22900 mg/Kg         |
| MCCV1_00152          | 07/28/15 | 04/28/15                             | 5%HNO3 - 5%HCL, Lot 104740 - 86340 | 1000 mL              | MTAPITTCALTRA_00006 | 10 mL        | Cadmium                              | 0.5 ppm             |
|                      |          |                                      |                                    |                      | MTAPITTCALTRC_00006 | 10 mL        | Lead                                 | 0.5 ppm             |
|                      |          |                                      |                                    |                      |                     |              | Copper                               | 2 ppm               |
|                      |          |                                      |                                    |                      |                     |              | Nickel                               | 2 ppm               |
|                      |          |                                      |                                    |                      |                     |              | Zinc                                 | 2 ppm               |
| .MTAPITTCALTRA_00006 | 08/01/15 | Inorganic Ventures, Lot H2-MEB538053 |                                    |                      | (Purchased Reagent) |              | Cadmium                              | 50 ppm              |
| .MTAPITTCALTRC_00006 | 08/01/15 | Inorganic Ventures, Lot H2-MEB538055 | (Purchased Reagent)                | Cadmium              | 50 ppm              |              |                                      |                     |
|                      |          |                                      |                                    | Copper               | 200 ppm             |              |                                      |                     |
|                      |          |                                      |                                    | Nickel               | 200 ppm             |              |                                      |                     |
| MCCV1X_00074         | 05/01/15 | 04/14/15                             | 2% Nitric Acid, Lot 1241747        | 500 mL               | MCALSPECAREV_00005  | 10 mL        | Arsenic                              | 0.1 ppm             |
|                      |          |                                      |                                    |                      |                     |              | Beryllium                            | 0.1 ppm             |
|                      |          |                                      |                                    |                      |                     |              | Cadmium                              | 0.1 ppm             |
|                      |          |                                      |                                    |                      |                     |              | Chromium                             | 0.1 ppm             |
|                      |          |                                      |                                    |                      |                     |              | Copper                               | 0.1 ppm             |
|                      |          |                                      |                                    |                      |                     |              | Lead                                 | 0.1 ppm             |
|                      |          |                                      |                                    |                      |                     |              | Nickel                               | 0.1 ppm             |
|                      |          |                                      |                                    |                      |                     |              | Selenium                             | 0.1 ppm             |
|                      |          |                                      |                                    |                      |                     |              | Silver                               | 0.1 ppm             |
|                      |          |                                      |                                    |                      |                     |              | Thallium                             | 0.1 ppm             |
|                      |          |                                      |                                    |                      |                     |              | Zinc                                 | 0.1 ppm             |
|                      |          |                                      |                                    |                      |                     |              | MCALSPECB_00007                      | 10 mL               |
|                      |          |                                      |                                    |                      | .MCALSPECAREV_00005 | 05/01/15     | Inorganic Ventures, Lot F2-MEB524026 | (Purchased Reagent) |
| Beryllium            | 5 ppm    |                                      |                                    |                      |                     |              |                                      |                     |
| Cadmium              | 5 ppm    |                                      |                                    |                      |                     |              |                                      |                     |
| Chromium             | 5 ppm    |                                      |                                    |                      |                     |              |                                      |                     |
| Copper               | 5 ppm    |                                      |                                    |                      |                     |              |                                      |                     |
| Lead                 | 5 ppm    |                                      |                                    |                      |                     |              |                                      |                     |
| Nickel               | 5 ppm    |                                      |                                    |                      |                     |              |                                      |                     |
| Selenium             | 5 ppm    |                                      |                                    |                      |                     |              |                                      |                     |
| Silver               | 5 ppm    |                                      |                                    |                      |                     |              |                                      |                     |
| Thallium             | 5 ppm    |                                      |                                    |                      |                     |              |                                      |                     |
| .MCALSPECB_00007     | 05/01/15 | Inorganic Ventures, Lot F2-MEB524027 | (Purchased Reagent)                | Zinc                 | 5 ppm               |              |                                      |                     |
|                      |          |                                      |                                    | Antimony             | 5 ppm               |              |                                      |                     |
| MCRA/RLV_00066       | 06/01/15 | 04/27/15                             | 5%HNO3 - 5%HCL, Lot 93717 - 86340  | 1000 mL              | MTAPITTCRA1DO_00003 | 10 mL        | Cadmium                              | 0.005 ppm           |
|                      |          |                                      |                                    |                      |                     |              | Copper                               | 0.025 ppm           |
|                      |          |                                      |                                    |                      |                     |              | Lead                                 | 0.01 ppm            |
|                      |          |                                      |                                    |                      |                     |              | Nickel                               | 0.04 ppm            |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID           | Exp Date | Prep Date | Dilutant Used                        | Reagent Final Volume | Parent Reagent      |              | Analyte   | Concentration |
|----------------------|----------|-----------|--------------------------------------|----------------------|---------------------|--------------|-----------|---------------|
|                      |          |           |                                      |                      | Reagent ID          | Volume Added |           |               |
| .MTAPITTCRA1DO_00003 | 06/01/15 |           | Inorganic Ventures, Lot H2-MEB526045 |                      | (Purchased Reagent) |              | Zinc      | 0.02 ppm      |
|                      |          |           |                                      |                      |                     |              | Cadmium   | 0.5 ppm       |
|                      |          |           |                                      |                      |                     |              | Copper    | 2.5 ppm       |
|                      |          |           |                                      |                      |                     |              | Lead      | 1 ppm         |
|                      |          |           |                                      |                      |                     |              | Nickel    | 4 ppm         |
|                      |          |           |                                      |                      |                     |              | Zinc      | 2 ppm         |
| MCRIX_00065          | 05/07/15 | 04/07/15  | HNO3, Lot 1191081                    | 250 mL               | MMSCRI-1B_00005     | 1 mL         | Arsenic   | 0.001 ppm     |
|                      |          |           |                                      |                      |                     |              | Beryllium | 0.001 ppm     |
|                      |          |           |                                      |                      |                     |              | Cadmium   | 0.001 ppm     |
|                      |          |           |                                      |                      |                     |              | Chromium  | 0.002 ppm     |
|                      |          |           |                                      |                      |                     |              | Copper    | 0.002 ppm     |
|                      |          |           |                                      |                      |                     |              | Lead      | 0.001 ppm     |
|                      |          |           |                                      |                      |                     |              | Nickel    | 0.001 ppm     |
|                      |          |           |                                      |                      |                     |              | Selenium  | 0.005 ppm     |
|                      |          |           |                                      |                      |                     |              | Silver    | 0.001 ppm     |
|                      |          |           |                                      |                      |                     |              | Thallium  | 0.001 ppm     |
|                      |          |           |                                      |                      |                     |              | Zinc      | 0.005 ppm     |
|                      |          |           |                                      |                      | MMSCRI-2_00007      | 1 mL         | Antimony  | 0.002 ppm     |
|                      |          |           |                                      |                      | (Purchased Reagent) |              |           |               |
| .MMSCRI-1B_00005     | 04/01/16 |           | Inorganic Ventures, Lot J2-MEB572092 |                      | (Purchased Reagent) |              | Arsenic   | 0.25 ppm      |
|                      |          |           |                                      |                      |                     |              | Beryllium | 0.25 ppm      |
|                      |          |           |                                      |                      |                     |              | Cadmium   | 0.25 ppm      |
|                      |          |           |                                      |                      |                     |              | Chromium  | 0.5 ppm       |
|                      |          |           |                                      |                      |                     |              | Copper    | 0.5 ppm       |
|                      |          |           |                                      |                      |                     |              | Lead      | 0.25 ppm      |
|                      |          |           |                                      |                      |                     |              | Nickel    | 0.25 ppm      |
|                      |          |           |                                      |                      |                     |              | Selenium  | 1.25 ppm      |
|                      |          |           |                                      |                      |                     |              | Silver    | 0.25 ppm      |
|                      |          |           |                                      |                      |                     |              | Thallium  | 0.25 ppm      |
| .MMSCRI-2_00007      | 04/01/16 |           | Inorganic Ventures, Lot J2-MEB572093 |                      | (Purchased Reagent) |              | Antimony  | 0.5 ppm       |
| MCRIX_00066          | 05/29/15 | 04/29/15  | HNO3, Lot 1191081                    | 250 mL               | MMSCRI-1B_00005     | 1 mL         | Arsenic   | 0.001 ppm     |
|                      |          |           |                                      |                      |                     |              | Beryllium | 0.001 ppm     |
|                      |          |           |                                      |                      |                     |              | Cadmium   | 0.001 ppm     |
|                      |          |           |                                      |                      |                     |              | Chromium  | 0.002 ppm     |
|                      |          |           |                                      |                      |                     |              | Copper    | 0.002 ppm     |
|                      |          |           |                                      |                      |                     |              | Lead      | 0.001 ppm     |
|                      |          |           |                                      |                      |                     |              | Nickel    | 0.001 ppm     |
|                      |          |           |                                      |                      |                     |              | Selenium  | 0.005 ppm     |
|                      |          |           |                                      |                      |                     |              | Silver    | 0.001 ppm     |
|                      |          |           |                                      |                      |                     |              | Thallium  | 0.001 ppm     |
|                      |          |           |                                      |                      |                     |              | Zinc      | 0.005 ppm     |
|                      |          |           |                                      |                      | MMSCRI-2_00007      | 1 mL         | Antimony  | 0.002 ppm     |
|                      |          |           |                                      |                      | (Purchased Reagent) |              |           |               |
| .MMSCRI-1B_00005     | 04/01/16 |           | Inorganic Ventures, Lot J2-MEB572092 |                      | (Purchased Reagent) |              | Arsenic   | 0.25 ppm      |
|                      |          |           |                                      |                      |                     |              | Beryllium | 0.25 ppm      |
|                      |          |           |                                      |                      |                     |              | Cadmium   | 0.25 ppm      |
|                      |          |           |                                      |                      |                     |              | Chromium  | 0.5 ppm       |
|                      |          |           |                                      |                      |                     |              | Copper    | 0.5 ppm       |

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID                 | Exp Date | Prep Date | Dilutant Used                        | Reagent Final Volume | Parent Reagent      |              | Analyte  | Concentration |
|----------------------------|----------|-----------|--------------------------------------|----------------------|---------------------|--------------|----------|---------------|
|                            |          |           |                                      |                      | Reagent ID          | Volume Added |          |               |
|                            |          |           |                                      |                      |                     |              | Lead     | 0.25 ppm      |
|                            |          |           |                                      |                      |                     |              | Nickel   | 0.25 ppm      |
|                            |          |           |                                      |                      |                     |              | Selenium | 1.25 ppm      |
|                            |          |           |                                      |                      |                     |              | Silver   | 0.25 ppm      |
|                            |          |           |                                      |                      |                     |              | Thallium | 0.25 ppm      |
|                            |          |           |                                      |                      |                     |              | Zinc     | 1.25 ppm      |
| .MMSCRI-2_00007            | 04/01/16 |           | Inorganic Ventures, Lot J2-MEB572093 |                      | (Purchased Reagent) |              | Antimony | 0.5 ppm       |
| <b>MHgworkingCal_01040</b> | 05/09/15 | 05/08/15  | 2% Nitric Acid, Lot 0000102057       | 100 mL               | MHgIntcal_00119     | 1 mL         | Mercury  | 100 ppb       |
| .MHgIntcal_00119           | 05/09/15 | 05/08/15  | 2% Nitric Acid, Lot 0000102057       | 100 mL               | MCGHG1-1_00009      | 1 mL         | Mercury  | 10 ppm        |
| ..MCGHG1-1_00009           | 02/01/16 |           | inorganic ventures, Lot H2-HG02128   |                      | (Purchased Reagent) |              | Mercury  | 1000 ppm      |
| <b>MHgWorkingicv_01011</b> | 05/09/15 | 05/08/15  | 2% Nitric Acid, Lot 0000102057       | 100 mL               | MHgIntICV_00099     | 1 mL         | Mercury  | 100 ppb       |
| .MHgIntICV_00099           | 05/09/15 | 05/08/15  | 2% Nitric Acid, Lot 0000102057       | 100 mL               | MHGICV-1_00005      | 1 mL         | Mercury  | 10 ppm        |
| ..MHGICV-1_00005           | 07/31/15 |           | ULTRA SCIENTIFIC, Lot T00602         |                      | (Purchased Reagent) |              | Mercury  | 1000 ppm      |
| <b>MICSAB_00053</b>        | 07/09/15 | 04/09/15  | 5%HNO3 - 5%HCL, Lot 93717 - 86340    | 1000 mL              | MTAPITTICSB_00007   | 100 mL       | Arsenic  | 1 ppm         |
|                            |          |           |                                      |                      |                     |              | Cadmium  | 1 ppm         |
|                            |          |           |                                      |                      |                     |              | Chromium | 0.5 ppm       |
|                            |          |           |                                      |                      |                     |              | Copper   | 0.5 ppm       |
|                            |          |           |                                      |                      |                     |              | Lead     | 1 ppm         |
|                            |          |           |                                      |                      |                     |              | Nickel   | 1 ppm         |
|                            |          |           |                                      |                      |                     |              | Silver   | 1 ppm         |
|                            |          |           |                                      |                      |                     |              | Zinc     | 1 ppm         |
| .MTAPITTICSB_00007         | 12/01/15 |           | Inorganic Ventures, Lot H2-MEB551141 |                      | (Purchased Reagent) |              | Arsenic  | 10 ppm        |
|                            |          |           |                                      |                      |                     |              | Cadmium  | 10 ppm        |
|                            |          |           |                                      |                      |                     |              | Chromium | 5 ppm         |
|                            |          |           |                                      |                      |                     |              | Copper   | 5 ppm         |
|                            |          |           |                                      |                      |                     |              | Lead     | 10 ppm        |
|                            |          |           |                                      |                      |                     |              | Nickel   | 10 ppm        |
|                            |          |           |                                      |                      |                     |              | Silver   | 10 ppm        |
|                            |          |           |                                      |                      |                     |              | Zinc     | 10 ppm        |
| <b>MICSABX_00069</b>       | 05/01/15 | 04/14/15  | 2% Nitric Acid, Lot J38N82           | 100 mL               | M6020ICS-0A_00005   | 10 mL        | Al       | 100 ppm       |
|                            |          |           |                                      |                      |                     |              | Ca       | 100 ppm       |
|                            |          |           |                                      |                      |                     |              | Fe       | 100 ppm       |
|                            |          |           |                                      |                      |                     |              | K        | 100 ppm       |
|                            |          |           |                                      |                      |                     |              | Mg       | 100 ppm       |
|                            |          |           |                                      |                      |                     |              | Mo       | 2 ppm         |
|                            |          |           |                                      |                      |                     |              | Na       | 100 ppm       |
|                            |          |           |                                      |                      |                     |              | Ti       | 2 ppm         |
|                            |          |           |                                      |                      | M6020ICS-0B_00006   | 1 mL         | Arsenic  | 0.02 ppm      |
|                            |          |           |                                      |                      |                     |              | Cadmium  | 0.02 ppm      |
|                            |          |           |                                      |                      |                     |              | Chromium | 0.02 ppm      |
|                            |          |           |                                      |                      |                     |              | Co       | 0.02 ppm      |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID         | Exp Date | Prep Date                               | Dilutant Used        | Reagent Final Volume | Parent Reagent    |              | Analyte   | Concentration |
|--------------------|----------|---|----------------------|----------------------|-------------------|--------------|-----------|---------------|
|                    |          |   |                      |                      | Reagent ID        | Volume Added |           |               |
|                    |          |   |                      |                      |                   |              | Copper    | 0.02 ppm      |
|                    |          |   |                      |                      |                   |              | Mn        | 0.0225 ppm    |
|                    |          |   |                      |                      |                   |              | Nickel    | 0.02 ppm      |
|                    |          |   |                      |                      |                   |              | Silver    | 0.02 ppm      |
|                    |          |   |                      |                      |                   |              | Zinc      | 0.025 ppm     |
|                    |          |   |                      |                      | MMSICSAB-1_00007  | 0.2 mL       | Ba        | 0.02 ppm      |
|                    |          |   |                      |                      |                   |              | Beryllium | 0.02 ppm      |
|                    |          |   |                      |                      |                   |              | Lead      | 0.02 ppm      |
|                    |          |   |                      |                      |                   |              | Sr        | 0.025 ppm     |
|                    |          |   |                      |                      |                   |              | Thallium  | 0.02 ppm      |
|                    |          |   |                      |                      | MMSICSAB-2_00006  | 0.2 mL       | V         | 0.02 ppm      |
|                    |          |   |                      |                      |                   |              | Antimony  | 0.02 ppm      |
|                    |          |   |                      |                      |                   |              | B         | 0.05 ppm      |
|                    |          |   |                      |                      |                   |              | Selenium  | 0.05 ppm      |
|                    |          |   |                      |                      |                   |              | Si        | 0.5 ppm       |
|                    |          |   |                      |                      |                   |              | Sn        | 0.1 ppm       |
| .M6020ICS-0A_00005 | 09/01/15 | Inorganic Ventures, Lot G2-MEB476152MCA |                      | (Purchased Reagent)  | Al                | 1000 ppm     |           |               |
|                    |          |   |                      |                      | Ca                | 1000 ppm     |           |               |
|                    |          |   |                      |                      | Fe                | 1000 ppm     |           |               |
|                    |          |   |                      |                      | K                 | 1000 ppm     |           |               |
|                    |          |   |                      |                      | Mg                | 1000 ppm     |           |               |
|                    |          |   |                      |                      | Mo                | 20 ppm       |           |               |
|                    |          |   |                      |                      | Na                | 1000 ppm     |           |               |
|                    |          |   |                      |                      | Ti                | 20 ppm       |           |               |
| .M6020ICS-0B_00006 | 09/01/15 | Inorganic Ventures, Lot G2-MEB463151    |                      | (Purchased Reagent)  | Arsenic           | 2 ppm        |           |               |
|                    |          |   |                      |                      | Cadmium           | 2 ppm        |           |               |
|                    |          |   |                      |                      | Chromium          | 2 ppm        |           |               |
|                    |          |   |                      |                      | Co                | 2 ppm        |           |               |
|                    |          |   |                      |                      | Copper            | 2 ppm        |           |               |
|                    |          |   |                      |                      | Mn                | 2.25 ppm     |           |               |
|                    |          |   |                      |                      | Nickel            | 2 ppm        |           |               |
|                    |          |   |                      |                      | Silver            | 2 ppm        |           |               |
| .MMSICSAB-1_00007  | 05/01/15 | Inorganic Ventures, Lot F2-MEB524028    |                      | (Purchased Reagent)  | Zinc              | 2.5 ppm      |           |               |
|                    |          |   |                      |                      | Ba                | 10 ppm       |           |               |
|                    |          |   |                      |                      | Beryllium         | 10 ppm       |           |               |
|                    |          |   |                      |                      | Lead              | 10 ppm       |           |               |
|                    |          |   |                      |                      | Sr                | 12.5 ppm     |           |               |
| .MMSICSAB-2_00006  | 05/01/15 | Inorganic Ventures, Lot G2-MEB467043    |                      | (Purchased Reagent)  | Thallium          | 10 ppm       |           |               |
|                    |          |   |                      |                      | V                 | 10 ppm       |           |               |
|                    |          |   |                      |                      | Antimony          | 10 ppm       |           |               |
|                    |          |   |                      |                      | B                 | 25 ppm       |           |               |
|                    |          |   |                      |                      | Selenium          | 25 ppm       |           |               |
|                    |          |   |                      |                      | Si                | 250 ppm      |           |               |
|                    |          |   |                      |                      | Sn                | 50 ppm       |           |               |
|                    |          |   |                      |                      |                   |              |           |               |
|                    |          |   |                      |                      |                   |              |           |               |
| MICSAX_00065       | 05/14/15 | 04/14/15                                | DI Water, Lot J38N82 | 100 mL               | M6020ICS-0A_00005 | 10 mL        | Al        | 100 ppm       |
|                    |          |   |                      |                      |                   |              | Ca        | 100 ppm       |
|                    |          |   |                      |                      |                   |              | Fe        | 100 ppm       |
|                    |          |   |                      |                      |                   |              |           |               |

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID           | Exp Date | Prep Date | Dilutant Used                           | Reagent Final Volume | Parent Reagent      |              | Analyte   | Concentration |
|----------------------|----------|-----------|---|----------------------|---------------------|--------------|-----------|---------------|
|                      |          |           |   |                      | Reagent ID          | Volume Added |           |               |
|                      |          |           |   |                      |                     |              | K         | 100 ppm       |
|                      |          |           |   |                      |                     |              | Mg        | 100 ppm       |
|                      |          |           |   |                      |                     |              | Mo        | 2 ppm         |
|                      |          |           |   |                      |                     |              | Na        | 100 ppm       |
|                      |          |           |   |                      |                     |              | Ti        | 2 ppm         |
| .M6020ICS-0A_00005   | 09/01/15 |           | Inorganic Ventures, Lot G2-MEB476152MCA |                      | (Purchased Reagent) |              | Al        | 1000 ppm      |
|                      |          |           |   |                      |                     |              | Ca        | 1000 ppm      |
|                      |          |           |   |                      |                     |              | Fe        | 1000 ppm      |
|                      |          |           |   |                      |                     |              | K         | 1000 ppm      |
|                      |          |           |   |                      |                     |              | Mg        | 1000 ppm      |
|                      |          |           |   |                      |                     |              | Mo        | 20 ppm        |
|                      |          |           |   |                      |                     |              | Na        | 1000 ppm      |
|                      |          |           |   |                      |                     |              | Ti        | 20 ppm        |
| MICV1_00052          | 08/01/15 | 05/01/15  | 5%HNO3 - 5%HCL, Lot 104740- 86340       | 1000 mL              | MTAPITTICPICV_00007 | 20 mL        | Cadmium   | 0.25 ppm      |
|                      |          |           |   |                      |                     |              | Copper    | 1 ppm         |
|                      |          |           |   |                      |                     |              | Lead      | 0.25 ppm      |
|                      |          |           |   |                      |                     |              | Nickel    | 1 ppm         |
|                      |          |           |   |                      |                     |              | Zinc      | 1 ppm         |
| .MTAPITTICPICV_00007 | 01/30/16 |           | SPEX, Lot 28-185CR                      |                      | (Purchased Reagent) |              | Cadmium   | 12.5 ppm      |
|                      |          |           |   |                      |                     |              | Copper    | 50 ppm        |
|                      |          |           |   |                      |                     |              | Lead      | 12.5 ppm      |
|                      |          |           |   |                      |                     |              | Nickel    | 50 ppm        |
|                      |          |           |   |                      |                     |              | Zinc      | 50 ppm        |
| MICVX_00031          | 05/09/15 | 04/09/15  | 2% Nitric Acid, Lot 25106               | 250 mg/L             | MICPMSICV_00018     | 10 mg/L      | Antimony  | 0.08 mg/L     |
|                      |          |           |   |                      |                     |              | Arsenic   | 0.08 mg/L     |
|                      |          |           |   |                      |                     |              | Beryllium | 0.08 mg/L     |
|                      |          |           |   |                      |                     |              | Cadmium   | 0.08 mg/L     |
|                      |          |           |   |                      |                     |              | Chromium  | 0.08 mg/L     |
|                      |          |           |   |                      |                     |              | Copper    | 0.08 mg/L     |
|                      |          |           |   |                      |                     |              | Lead      | 0.08 mg/L     |
|                      |          |           |   |                      |                     |              | Nickel    | 0.08 mg/L     |
|                      |          |           |   |                      |                     |              | Selenium  | 0.08 mg/L     |
|                      |          |           |   |                      |                     |              | Silver    | 0.08 mg/L     |
|                      |          |           |   |                      |                     |              | Thallium  | 0.08 mg/L     |
|                      |          |           |   |                      |                     |              | Zinc      | 0.08 mg/L     |
| .MICPMSICV_00018     | 11/30/15 |           | SPEX CertiPrep, Lot 7-230WL             |                      | (Purchased Reagent) |              | Antimony  | 2 ppm         |
|                      |          |           |   |                      |                     |              | Arsenic   | 2 ppm         |
|                      |          |           |   |                      |                     |              | Beryllium | 2 ppm         |
|                      |          |           |   |                      |                     |              | Cadmium   | 2 ppm         |
|                      |          |           |   |                      |                     |              | Chromium  | 2 ppm         |
|                      |          |           |   |                      |                     |              | Copper    | 2 ppm         |
|                      |          |           |   |                      |                     |              | Lead      | 2 ppm         |
|                      |          |           |   |                      |                     |              | Nickel    | 2 ppm         |
|                      |          |           |   |                      |                     |              | Selenium  | 2 ppm         |
|                      |          |           |   |                      |                     |              | Silver    | 2 ppm         |



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID                | Exp Date | Prep Date                            | Dilutant Used               | Reagent Final Volume | Parent Reagent      |              | Analyte   | Concentration |
|---------------------------|----------|--------------------------------------|-----------------------------|----------------------|---------------------|--------------|-----------|---------------|
|                           |          |                                      |                             |                      | Reagent ID          | Volume Added |           |               |
|                           |          |                                      |                             |                      |                     |              | Thallium  | 2 ppm         |
|                           |          |                                      |                             |                      |                     |              | Zinc      | 2 ppm         |
| <b>MSTD2X_00043</b>       | 05/01/15 | 04/14/15                             | DI Water, Lot 1241717       | 250 mL               | MCALSPECAREV_00005  | 10 mg/L      | Arsenic   | 0.2 ppm       |
|                           |          |                                      |                             |                      |                     |              | Beryllium | 0.2 ppm       |
|                           |          |                                      |                             |                      |                     |              | Cadmium   | 0.2 ppm       |
|                           |          |                                      |                             |                      |                     |              | Chromium  | 0.2 ppm       |
|                           |          |                                      |                             |                      |                     |              | Copper    | 0.2 ppm       |
|                           |          |                                      |                             |                      |                     |              | Lead      | 0.2 ppm       |
|                           |          |                                      |                             |                      |                     |              | Nickel    | 0.2 ppm       |
|                           |          |                                      |                             |                      |                     |              | Selenium  | 0.2 ppm       |
|                           |          |                                      |                             |                      |                     |              | Silver    | 0.2 ppm       |
|                           |          |                                      |                             |                      |                     |              | Thallium  | 0.2 ppm       |
|                           |          |                                      |                             |                      |                     |              | Zinc      | 0.2 ppm       |
| .MCALSPECAREV_00005       | 05/01/15 | Inorganic Ventures, Lot F2-MEB524026 |                             |                      | (Purchased Reagent) |              | Arsenic   | 5 ppm         |
|                           |          |                                      |                             |                      |                     |              | Beryllium | 5 ppm         |
|                           |          |                                      |                             |                      |                     |              | Cadmium   | 5 ppm         |
|                           |          |                                      |                             |                      |                     |              | Chromium  | 5 ppm         |
|                           |          |                                      |                             |                      |                     |              | Copper    | 5 ppm         |
|                           |          |                                      |                             |                      |                     |              | Lead      | 5 ppm         |
|                           |          |                                      |                             |                      |                     |              | Nickel    | 5 ppm         |
|                           |          |                                      |                             |                      |                     |              | Selenium  | 5 ppm         |
|                           |          |                                      |                             |                      |                     |              | Silver    | 5 ppm         |
|                           |          |                                      |                             |                      |                     |              | Thallium  | 5 ppm         |
|                           |          |                                      |                             |                      |                     |              | Zinc      | 5 ppm         |
| <b>MSTD3X_00044</b>       | 05/01/15 | 04/14/15                             | 2% Nitric Acid, Lot 1241747 | 250 mL               | MCALSPECB_00007     | 10 mg/L      | Antimony  | 0.2 ppm       |
| .MCALSPECB_00007          | 05/01/15 | Inorganic Ventures, Lot F2-MEB524027 |                             |                      | (Purchased Reagent) |              | Antimony  | 5 ppm         |
| <b>MTAPITTICPMS_00020</b> | 07/01/15 | INORGANIC VENTURES, Lot H2-MEB532047 |                             |                      | (Purchased Reagent) |              | Al        | 200 ug/mL     |
|                           |          |                                      |                             |                      |                     |              | Arsenic   | 4 ug/mL       |
|                           |          |                                      |                             |                      |                     |              | B         | 100 ug/mL     |
|                           |          |                                      |                             |                      |                     |              | Ba        | 200 ug/mL     |
|                           |          |                                      |                             |                      |                     |              | Beryllium | 5 ug/mL       |
|                           |          |                                      |                             |                      |                     |              | Cadmium   | 5 ug/mL       |
|                           |          |                                      |                             |                      |                     |              | Chromium  | 20 ug/mL      |
|                           |          |                                      |                             |                      |                     |              | Co        | 50 ug/mL      |
|                           |          |                                      |                             |                      |                     |              | Copper    | 25 ug/mL      |
|                           |          |                                      |                             |                      |                     |              | Fe        | 100 ug/mL     |
|                           |          |                                      |                             |                      |                     |              | Lead      | 2 ug/mL       |
|                           |          |                                      |                             |                      |                     |              | Mn        | 50 ug/mL      |
|                           |          |                                      |                             |                      |                     |              | Nickel    | 50 ug/mL      |
|                           |          |                                      |                             |                      |                     |              | Selenium  | 1 ug/mL       |
|                           |          |                                      |                             |                      |                     |              | Silver    | 5 ug/mL       |
|                           |          |                                      |                             |                      |                     |              | Sr        | 100 ug/mL     |
|                           |          |                                      |                             |                      |                     |              | Thallium  | 5 ug/mL       |
|                           |          |                                      |                             |                      |                     |              | V         | 50 ug/mL      |
|                           |          |                                      |                             |                      |                     |              | Zinc      | 50 ug/mL      |
| <b>MTAPITTMSA_00023</b>   | 12/01/15 | INORGANIC VENTURES, Lot H2-MEB532044 |                             |                      | (Purchased Reagent) |              | Ca        | 5000 ug/mL    |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID          | Exp Date | Prep Date | Dilutant Used                        | Reagent Final Volume | Parent Reagent      |              | Analyte                       | Concentration |
|---------------------|----------|-----------|--------------------------------------|----------------------|---------------------|--------------|-------------------------------|---------------|
|                     |          |           |                                      |                      | Reagent ID          | Volume Added |                               |               |
|                     |          |           |                                      |                      |                     |              | K                             | 5000 ug/mL    |
|                     |          |           |                                      |                      |                     |              | Mg                            | 5000 ug/mL    |
|                     |          |           |                                      |                      |                     |              | Na                            | 5000 ug/mL    |
| MTAPITMSBREV_00014  | 12/01/15 |           | INORGANIC VENTURES, Lot H2-MEB532045 |                      | (Purchased Reagent) |              | Al                            | 200 ug/mL     |
|                     |          |           |                                      |                      |                     |              | Arsenic                       | 50 ug/mL      |
|                     |          |           |                                      |                      |                     |              | B                             | 100 ug/mL     |
|                     |          |           |                                      |                      |                     |              | Ba                            | 200 ug/mL     |
|                     |          |           |                                      |                      |                     |              | Beryllium                     | 5 ug/mL       |
|                     |          |           |                                      |                      |                     |              | Cadmium                       | 5 ug/mL       |
|                     |          |           |                                      |                      |                     |              | Chromium                      | 20 ug/mL      |
|                     |          |           |                                      |                      |                     |              | Co                            | 50 ug/mL      |
|                     |          |           |                                      |                      |                     |              | Copper                        | 25 ug/mL      |
|                     |          |           |                                      |                      |                     |              | Fe                            | 100 ug/mL     |
|                     |          |           |                                      |                      |                     |              | Lead                          | 50 ug/mL      |
|                     |          |           |                                      |                      |                     |              | Li                            | 100 ug/mL     |
|                     |          |           |                                      |                      |                     |              | Mn                            | 50 ug/mL      |
|                     |          |           |                                      |                      |                     |              | Nickel                        | 50 ug/mL      |
|                     |          |           |                                      |                      |                     |              | Selenium                      | 50 ug/mL      |
|                     |          |           |                                      |                      |                     |              | Silver                        | 5 ug/mL       |
|                     |          |           |                                      |                      |                     |              | Sr                            | 100 ug/mL     |
|                     |          |           |                                      |                      |                     |              | Thallium                      | 50 ug/mL      |
|                     |          |           |                                      |                      |                     |              | V                             | 50 ug/mL      |
|                     |          |           |                                      |                      |                     |              | Zinc                          | 50 ug/mL      |
| MTAPITMSC_00029     | 12/01/15 |           | Inorganic Ventures, Lot H2-MEB532046 |                      | (Purchased Reagent) |              | Antimony                      | 50 ug/mL      |
|                     |          |           |                                      |                      |                     |              | Mo                            | 100 ug/mL     |
|                     |          |           |                                      |                      |                     |              | Si                            | 1000 ug/mL    |
|                     |          |           |                                      |                      |                     |              | SiO2                          | 2140 ug/mL    |
|                     |          |           |                                      |                      |                     |              | Sn                            | 200 ug/mL     |
|                     |          |           |                                      |                      |                     |              | Ti                            | 100 ug/mL     |
| OP/PESTPCBRTS_00002 | 12/31/16 |           | RESTEK, Lot A0100240                 |                      | (Purchased Reagent) |              | DCB Decachlorobiphenyl        | 0.2 ug/mL     |
|                     |          |           |                                      |                      |                     |              | DCB Decachlorobiphenyl (Surr) | 0.2 ug/mL     |
|                     |          |           |                                      |                      |                     |              | Tetrachloro-m-xylene (Surr)   | 0.2 ug/mL     |
| OPQL8270SURI_00029  | 11/08/15 | 04/08/15  | Methanol, Lot b#0000049909           | 500 mL               | SVLVSURRSPK_00011   | 20 mL        | 2,4,6-Tribromophenol (Surr)   | 200 ug/mL     |
|                     |          |           |                                      |                      |                     |              | 2-Fluorobiphenyl              | 200 ug/mL     |
|                     |          |           |                                      |                      |                     |              | 2-Fluorophenol (Surr)         | 200 ug/mL     |
|                     |          |           |                                      |                      |                     |              | Nitrobenzene-d5 (Surr)        | 200 ug/mL     |
|                     |          |           |                                      |                      |                     |              | Phenol-d5 (Surr)              | 200 ug/mL     |
|                     |          |           |                                      |                      |                     |              | Terphenyl-d14 (Surr)          | 200 ug/mL     |
| .SVLVSURRSPK_00011  | 05/31/19 |           | Restek, Lot A0103615                 |                      | (Purchased Reagent) |              | 2,4,6-Tribromophenol (Surr)   | 5000 ug/mL    |
|                     |          |           |                                      |                      |                     |              | 2-Fluorobiphenyl              | 5000 ug/mL    |
|                     |          |           |                                      |                      |                     |              | 2-Fluorophenol (Surr)         | 5000 ug/mL    |
|                     |          |           |                                      |                      |                     |              | Nitrobenzene-d5 (Surr)        | 5000 ug/mL    |
|                     |          |           |                                      |                      |                     |              | Phenol-d5 (Surr)              | 5000 ug/mL    |
|                     |          |           |                                      |                      |                     |              | Terphenyl-d14 (Surr)          | 5000 ug/mL    |
| SVTAPSTD0.4i_00008  | 04/30/15 | 02/23/15  | MeCl2, Lot 1053215                   | 1 mL                 | SVTAPITINTRNi_00005 | 10 uL        | 1,4-Dichlorobenzene-d4        | 4 ug/mL       |

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent     |              | Analyte                               | Concentration |
|------------|----------|-----------|---------------|----------------------|--------------------|--------------|---------------------------------------|---------------|
|            |          |           |               |                      | Reagent ID         | Volume Added |                                       |               |
|            |          |           |               |                      | SVTAPITSTCKi_00005 | 5 uL         | Acenaphthene-d10                      | 4 ug/mL       |
|            |          |           |               |                      |                    |              | Chrysene-d12                          | 4 ug/mL       |
|            |          |           |               |                      |                    |              | Naphthalene-d8                        | 4 ug/mL       |
|            |          |           |               |                      |                    |              | Perylene-d12                          | 4 ug/mL       |
|            |          |           |               |                      |                    |              | Phenanthrene-d10                      | 4 ug/mL       |
|            |          |           |               |                      |                    |              | Benzo[e]pyrene                        | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 2-Naphthylamine                       | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 2,3,5,6-Tetrachlorophenol             | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 2,6-Dichlorophenol                    | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 7,12-Dimethylbenz(a)anthracene        | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | Methyl methanesulfonate               | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 1,1'-Biphenyl                         | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 1,2,4,5-Tetrachlorobenzene            | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 1,2,4-Trichlorobenzene                | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 1,2-Dichlorobenzene                   | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 1,2-Diphenylhydrazine (as Azobenzene) | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 1,3-Dichlorobenzene                   | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 1,3-Dinitrobenzene                    | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 1,4-Dichlorobenzene                   | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 1,4-Dioxane                           | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 1-Methylnaphthalene                   | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 2,2'-oxybis[1-chloropropane]          | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 2,3,4,6-Tetrachlorophenol             | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 2,4,5-Trichlorophenol                 | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 2,4,6-Trichlorophenol                 | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 2,4-Dichlorophenol                    | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 2,4-Dimethylphenol                    | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 2,4-Dinitrophenol                     | 0.4 ug/mL     |
|            |          |           |               |                      |                    |              | 2,4-Dinitrotoluene                    | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 2,6-Dinitrotoluene                    | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 2-Chloronaphthalene                   | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 2-Chlorophenol                        | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 2-Methylnaphthalene                   | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 2-Methylphenol                        | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 2-Nitroaniline                        | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 2-Nitrophenol                         | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 3-Nitroaniline                        | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 4,6-Dinitro-2-methylphenol            | 0.4 ug/mL     |
|            |          |           |               |                      |                    |              | 4-Bromophenyl phenyl ether            | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 4-Chloro-3-methylphenol               | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 4-Chloroaniline                       | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 4-Chlorophenyl phenyl ether           | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 4-Methylphenol                        | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 4-Nitroaniline                        | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | 4-Nitrophenol                         | 0.4 ug/mL     |
|            |          |           |               |                      |                    |              | Acenaphthene                          | 0.2 ug/mL     |
|            |          |           |               |                      |                    |              | Acenaphthylene                        | 0.2 ug/mL     |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent |              | Analyte                      | Concentration |
|------------|----------|-----------|---------------|----------------------|----------------|--------------|------------------------------|---------------|
|            |          |           |               |                      | Reagent ID     | Volume Added |                              |               |
|            |          |           |               |                      |                |              | Acetophenone                 | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Aniline                      | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Anthracene                   | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Benzo[a]anthracene           | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Benzo[a]pyrene               | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Benzo[b]fluoranthene         | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Benzo[g,h,i]perylene         | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Benzo[k]fluoranthene         | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Benzyl alcohol               | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Bis (2-chloroethoxy)methane  | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Bis (2-chloroethyl) ether    | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Bis (2-ethylhexyl) phthalate | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Butyl benzyl phthalate       | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Carbazole                    | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Chrysene                     | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Di-n-butyl phthalate         | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Di-n-octyl phthalate         | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Dibenz (a,h) anthracene      | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Dibenzofuran                 | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Diethyl phthalate            | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Dimethyl phthalate           | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Fluoranthene                 | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Fluorene                     | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Hexachlorobenzene            | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Hexachlorobutadiene          | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Hexachlorocyclopentadiene    | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Hexachloroethane             | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Hexadecane                   | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Indeno[1,2,3-cd]pyrene       | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Isophorone                   | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | n-Decane                     | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | N-Nitrosodi-n-propylamine    | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | N-Nitrosodimethylamine       | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | n-Octadecane                 | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Naphthalene                  | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Nitrobenzene                 | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Pentachlorophenol            | 0.4 ug/mL     |
|            |          |           |               |                      |                |              | Phenanthrene                 | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Phenol                       | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Pyrene                       | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Pyridine                     | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | 3,3'-Dichlorobenzidine       | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Atrazine                     | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Benzidine                    | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Caprolactam                  | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | N-Nitrosodiphenylamine       | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Benzaldehyde                 | 0.2 ug/mL     |
|            |          |           |               |                      |                |              | Benzoic acid                 | 0.2 ug/mL     |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID           | Exp Date | Prep Date | Dilutant Used       | Reagent Final Volume | Parent Reagent      |              | Analyte                               | Concentration |
|----------------------|----------|-----------|---------------------|----------------------|---------------------|--------------|---------------------------------------|---------------|
|                      |          |           |                     |                      | Reagent ID          | Volume Added |                                       |               |
|                      |          |           |                     |                      |                     |              | Indene                                | 0.2 ug/mL     |
|                      |          |           |                     |                      |                     |              | 2,4,6-Tribromophenol (Surr)           | 0.2 ug/mL     |
|                      |          |           |                     |                      |                     |              | 2-Fluorobiphenyl                      | 0.2 ug/mL     |
|                      |          |           |                     |                      |                     |              | 2-Fluorophenol (Surr)                 | 0.2 ug/mL     |
|                      |          |           |                     |                      |                     |              | Nitrobenzene-d5 (Surr)                | 0.2 ug/mL     |
|                      |          |           |                     |                      |                     |              | Phenol-d5 (Surr)                      | 0.2 ug/mL     |
|                      |          |           |                     |                      |                     |              | Terphenyl-d14 (Surr)                  | 0.2 ug/mL     |
|                      |          |           |                     |                      |                     |              | N-Nitrosopyrrolidine                  | 0.2 ug/mL     |
| .SVTAPITINTRNi_00005 | 05/07/15 | 05/07/14  | MeCl2, Lot 1000447  | 25 mL                | SVLVIntstd_00007    | 5000 uL      | 1,4-Dichlorobenzene-d4                | 400 ug/mL     |
|                      |          |           |                     |                      |                     |              | Acenaphthene-d10                      | 400 ug/mL     |
|                      |          |           |                     |                      |                     |              | Chrysene-d12                          | 400 ug/mL     |
|                      |          |           |                     |                      |                     |              | Naphthalene-d8                        | 400 ug/mL     |
|                      |          |           |                     |                      |                     |              | Perylene-d12                          | 400 ug/mL     |
|                      |          |           |                     |                      |                     |              | Phenanthrene-d10                      | 400 ug/mL     |
| ..SVLVIntstd_00007   | 02/28/18 |           | Restek, Lot A093676 |                      | (Purchased Reagent) |              | 1,4-Dichlorobenzene-d4                | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Acenaphthene-d10                      | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Chrysene-d12                          | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Naphthalene-d8                        | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Perylene-d12                          | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Phenanthrene-d10                      | 2000 ug/mL    |
| .SVTAPITSTCKi_00005  | 04/30/15 | 02/17/15  | MeCl2, Lot 1417620  | 20 mL                | sv benzoepyre 00001 | 800 uL       | Benzo[e]pyrene                        | 40 ug/mL      |
|                      |          |           |                     |                      | SV2NAPAMINES_00002  | 800 uL       | 2-Naphthylamine                       | 40 ug/mL      |
|                      |          |           |                     |                      | SVLVlist12_00002    | 800 uL       | 2,3,5,6-Tetrachlorophenol             | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,6-Dichlorophenol                    | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 7,12-Dimethylbenz(a)anthracene        | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | Methyl methanesulfonate               | 40 ug/mL      |
|                      |          |           |                     |                      | SVLVstd1_00026      | 800 uL       | 1,1'-Biphenyl                         | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,2,4,5-Tetrachlorobenzene            | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,2,4-Trichlorobenzene                | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,2-Dichlorobenzene                   | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,2-Diphenylhydrazine (as Azobenzene) | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,3-Dichlorobenzene                   | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,3-Dinitrobenzene                    | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,4-Dichlorobenzene                   | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,4-Dioxane                           | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1-Methylnaphthalene                   | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,2'-oxybis[1-chloropropane]          | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,3,4,6-Tetrachlorophenol             | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,4,5-Trichlorophenol                 | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,4,6-Trichlorophenol                 | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,4-Dichlorophenol                    | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,4-Dimethylphenol                    | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,4-Dinitrophenol                     | 80 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,4-Dinitrotoluene                    | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,6-Dinitrotoluene                    | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2-Chloronaphthalene                   | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2-Chlorophenol                        | 40 ug/mL      |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent |              | Analyte                      | Concentration |
|------------|----------|-----------|---------------|----------------------|----------------|--------------|------------------------------|---------------|
|            |          |           |               |                      | Reagent ID     | Volume Added |                              |               |
|            |          |           |               |                      |                |              | 2-Methylnaphthalene          | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2-Methylphenol               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2-Nitroaniline               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2-Nitrophenol                | 40 ug/mL      |
|            |          |           |               |                      |                |              | 3-Nitroaniline               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4,6-Dinitro-2-methylphenol   | 80 ug/mL      |
|            |          |           |               |                      |                |              | 4-Bromophenyl phenyl ether   | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chloro-3-methylphenol      | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chloroaniline              | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chlorophenyl phenyl ether  | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Methylphenol               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Nitroaniline               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Nitrophenol                | 80 ug/mL      |
|            |          |           |               |                      |                |              | Acenaphthene                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Acenaphthylene               | 40 ug/mL      |
|            |          |           |               |                      |                |              | Acetophenone                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Aniline                      | 40 ug/mL      |
|            |          |           |               |                      |                |              | Anthracene                   | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[a]anthracene           | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[a]pyrene               | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[b]fluoranthene         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[g,h,i]perylene         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[k]fluoranthene         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzyl alcohol               | 40 ug/mL      |
|            |          |           |               |                      |                |              | Bis (2-chloroethoxy)methane  | 40 ug/mL      |
|            |          |           |               |                      |                |              | Bis (2-chloroethyl) ether    | 40 ug/mL      |
|            |          |           |               |                      |                |              | Bis (2-ethylhexyl) phthalate | 40 ug/mL      |
|            |          |           |               |                      |                |              | Butyl benzyl phthalate       | 40 ug/mL      |
|            |          |           |               |                      |                |              | Carbazole                    | 40 ug/mL      |
|            |          |           |               |                      |                |              | Chrysene                     | 40 ug/mL      |
|            |          |           |               |                      |                |              | Di-n-butyl phthalate         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Di-n-octyl phthalate         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Dibenz (a,h) anthracene      | 40 ug/mL      |
|            |          |           |               |                      |                |              | Dibenzofuran                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Diethyl phthalate            | 40 ug/mL      |
|            |          |           |               |                      |                |              | Dimethyl phthalate           | 40 ug/mL      |
|            |          |           |               |                      |                |              | Fluoranthene                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Fluorene                     | 40 ug/mL      |
|            |          |           |               |                      |                |              | Hexachlorobenzene            | 40 ug/mL      |
|            |          |           |               |                      |                |              | Hexachlorobutadiene          | 40 ug/mL      |
|            |          |           |               |                      |                |              | Hexachlorocyclopentadiene    | 40 ug/mL      |
|            |          |           |               |                      |                |              | Hexachloroethane             | 40 ug/mL      |
|            |          |           |               |                      |                |              | Hexadecane                   | 40 ug/mL      |
|            |          |           |               |                      |                |              | Indeno[1,2,3-cd]pyrene       | 40 ug/mL      |
|            |          |           |               |                      |                |              | Isophorone                   | 40 ug/mL      |
|            |          |           |               |                      |                |              | n-Decane                     | 40 ug/mL      |
|            |          |           |               |                      |                |              | N-Nitrosodi-n-propylamine    | 40 ug/mL      |
|            |          |           |               |                      |                |              | N-Nitrosodimethylamine       | 40 ug/mL      |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID            | Exp Date | Prep Date | Dilutant Used                 | Reagent Final Volume | Parent Reagent      |              | Analyte                               | Concentration |
|-----------------------|----------|-----------|-------------------------------|----------------------|---------------------|--------------|---------------------------------------|---------------|
|                       |          |           |                               |                      | Reagent ID          | Volume Added |                                       |               |
|                       |          |           |                               |                      |                     |              | n-Octadecane                          | 40 ug/mL      |
|                       |          |           |                               |                      |                     |              | Naphthalene                           | 40 ug/mL      |
|                       |          |           |                               |                      |                     |              | Nitrobenzene                          | 40 ug/mL      |
|                       |          |           |                               |                      |                     |              | Pentachlorophenol                     | 80 ug/mL      |
|                       |          |           |                               |                      |                     |              | Phenanthrene                          | 40 ug/mL      |
|                       |          |           |                               |                      |                     |              | Phenol                                | 40 ug/mL      |
|                       |          |           |                               |                      |                     |              | Pyrene                                | 40 ug/mL      |
|                       |          |           |                               |                      |                     |              | Pyridine                              | 40 ug/mL      |
|                       |          |           |                               |                      | SVLVstd2_00012      | 400 uL       | 3,3'-Dichlorobenzidine                | 40 ug/mL      |
|                       |          |           |                               |                      |                     |              | Atrazine                              | 40 ug/mL      |
|                       |          |           |                               |                      |                     |              | Benzidine                             | 40 ug/mL      |
|                       |          |           |                               |                      |                     |              | Caprolactam                           | 40 ug/mL      |
|                       |          |           |                               |                      | SVLVstd5(7)_00001   | 400 uL       | N-Nitrosodiphenylamine                | 40 ug/mL      |
|                       |          |           |                               |                      | SVLVstd8_00003      | 400 uL       | Benzaldehyde                          | 40 ug/mL      |
|                       |          |           |                               |                      |                     |              | Benzoic acid                          | 40 ug/mL      |
|                       |          |           |                               |                      |                     |              | Indene                                | 40 ug/mL      |
|                       |          |           |                               |                      | SVLVSURRSPK_00003   | 160 uL       | 2,4,6-Tribromophenol (Surr)           | 40 ug/mL      |
|                       |          |           |                               |                      |                     |              | 2-Fluorobiphenyl                      | 40 ug/mL      |
|                       |          |           |                               |                      |                     |              | 2-Fluorophenol (Surr)                 | 40 ug/mL      |
|                       |          |           |                               |                      |                     |              | Nitrobenzene-d5 (Surr)                | 40 ug/mL      |
|                       |          |           |                               |                      |                     |              | Phenol-d5 (Surr)                      | 40 ug/mL      |
|                       |          |           |                               |                      |                     |              | Terphenyl-d14 (Surr)                  | 40 ug/mL      |
|                       |          |           |                               |                      | SVNNITROPYROS_00015 | 800 uL       | N-Nitrosopyrrolidine                  | 40 ug/mL      |
| ..sv benzoepyre_00001 | 10/03/18 |           | Absolute, Lot 100313          |                      | (Purchased Reagent) |              | Benzo[e]pyrene                        | 1000 ug/mL    |
| ..SV2NAPAMINES_00002  | 06/30/17 |           | Ultra Scientific, Lot CK-1617 |                      | (Purchased Reagent) |              | 2-Naphthylamine                       | 1000 ug/mL    |
| ..SVLVlist12_00002    | 04/30/15 |           | Restek, Lot A0102912          |                      | (Purchased Reagent) |              | 2,3,5,6-Tetrachlorophenol             | 1000 ug/mL    |
| ..SVLVstd1_00026      | 08/31/15 |           | Restek, Lot A0101615          |                      | (Purchased Reagent) |              | 2,6-Dichlorophenol                    | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 7,12-Dimethylbenz(a)anthracene        | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | Methyl methanesulfonate               | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,1'-Biphenyl                         | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,2,4,5-Tetrachlorobenzene            | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,2,4-Trichlorobenzene                | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,2-Dichlorobenzene                   | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,2-Diphenylhydrazine (as Azobenzene) | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,3-Dichlorobenzene                   | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,3-Dinitrobenzene                    | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,4-Dichlorobenzene                   | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,4-Dioxane                           | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1-Methylnaphthalene                   | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,2'-oxybis[1-chloropropane]          | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,3,4,6-Tetrachlorophenol             | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,4,5-Trichlorophenol                 | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,4,6-Trichlorophenol                 | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,4-Dichlorophenol                    | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,4-Dimethylphenol                    | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,4-Dinitrophenol                     | 2000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,4-Dinitrotoluene                    | 1000 ug/mL    |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent |              | Analyte                      | Concentration |
|------------|----------|-----------|---------------|----------------------|----------------|--------------|------------------------------|---------------|
|            |          |           |               |                      | Reagent ID     | Volume Added |                              |               |
|            |          |           |               |                      |                |              | 2,6-Dinitrotoluene           | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Chloronaphthalene          | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Chlorophenol               | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Methylnaphthalene          | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Methylphenol               | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Nitroaniline               | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Nitrophenol                | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 3-Nitroaniline               | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4,6-Dinitro-2-methylphenol   | 2000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Bromophenyl phenyl ether   | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Chloro-3-methylphenol      | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Chloroaniline              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Chlorophenyl phenyl ether  | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Methylphenol               | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Nitroaniline               | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Nitrophenol                | 2000 ug/mL    |
|            |          |           |               |                      |                |              | Acenaphthene                 | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Acenaphthylene               | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Acetophenone                 | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Aniline                      | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Anthracene                   | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[a]anthracene           | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[a]pyrene               | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[b]fluoranthene         | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[g,h,i]perylene         | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[k]fluoranthene         | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzyl alcohol               | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Bis (2-chloroethoxy)methane  | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Bis (2-chloroethyl) ether    | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Bis (2-ethylhexyl) phthalate | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Butyl benzyl phthalate       | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Carbazole                    | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Chrysene                     | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Di-n-butyl phthalate         | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Di-n-octyl phthalate         | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Dibenz (a,h) anthracene      | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Dibenzofuran                 | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Diethyl phthalate            | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Dimethyl phthalate           | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Fluoranthene                 | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Fluorene                     | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Hexachlorobenzene            | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Hexachlorobutadiene          | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Hexachlorocyclopentadiene    | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Hexachloroethane             | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Hexadecane                   | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Indeno[1,2,3-cd]pyrene       | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Isophorone                   | 1000 ug/mL    |



## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID            | Exp Date | Prep Date | Dilutant Used        | Reagent Final Volume | Parent Reagent      |              | Analyte                               | Concentration |
|-----------------------|----------|-----------|----------------------|----------------------|---------------------|--------------|---------------------------------------|---------------|
|                       |          |           |                      |                      | Reagent ID          | Volume Added |                                       |               |
|                       |          |           |                      |                      |                     |              | n-Decane                              | 1000 ug/mL    |
|                       |          |           |                      |                      |                     |              | N-Nitrosodi-n-propylamine             | 1000 ug/mL    |
|                       |          |           |                      |                      |                     |              | N-Nitrosodimethylamine                | 1000 ug/mL    |
|                       |          |           |                      |                      |                     |              | n-Octadecane                          | 1000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Naphthalene                           | 1000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Nitrobenzene                          | 1000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Pentachlorophenol                     | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Phenanthrene                          | 1000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Phenol                                | 1000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Pyrene                                | 1000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Pyridine                              | 1000 ug/mL    |
| ..SVLVstd2_00012      | 07/31/15 |           | Restek, Lot A0100824 |                      | (Purchased Reagent) |              | 3,3'-Dichlorobenzidine                | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Atrazine                              | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Benzidine                             | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Caprolactam                           | 2000 ug/mL    |
| ..SVLVstd5(7)_00001   | 02/28/17 |           | Restek, Lot A0101573 |                      | (Purchased Reagent) |              | N-Nitrosodiphenylamine                | 2000 ug/mL    |
| ..SVLVstd8_00003      | 05/31/15 |           | Restek, Lot A0103145 |                      | (Purchased Reagent) |              | Benzaldehyde                          | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Benzoic acid                          | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Indene                                | 2000 ug/mL    |
| ..SVLVSURRSPK_00003   | 02/28/18 |           | Restek, Lot A093638  |                      | (Purchased Reagent) |              | 2,4,6-Tribromophenol (Surr)           | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 2-Fluorobiphenyl                      | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 2-Fluorophenol (Surr)                 | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Nitrobenzene-d5 (Surr)                | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Phenol-d5 (Surr)                      | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Terphenyl-d14 (Surr)                  | 5000 ug/mL    |
| ..SVNNITROPYROS_00015 | 06/05/17 |           | absolute, Lot 060514 |                      | (Purchased Reagent) |              | N-Nitrosopyrrolidine                  | 1000 ug/mL    |
| SVTAPSTD10i_00095     | 04/01/15 | 03/25/15  | MeCl2, Lot 1417620   | 1 mL                 | SVTAPITINTRNi_00005 | 10 uL        | 1,4-Dichlorobenzene-d4                | 4 ug/mL       |
|                       |          |           |                      |                      |                     |              | Acenaphthene-d10                      | 4 ug/mL       |
|                       |          |           |                      |                      |                     |              | Chrysene-d12                          | 4 ug/mL       |
|                       |          |           |                      |                      |                     |              | Naphthalene-d8                        | 4 ug/mL       |
|                       |          |           |                      |                      |                     |              | Perylene-d12                          | 4 ug/mL       |
|                       |          |           |                      |                      |                     |              | Phenanthrene-d10                      | 4 ug/mL       |
|                       |          |           |                      |                      | SVTAPITSTCKi_00005  | 125 uL       | Benzo[e]pyrene                        | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2-Naphthylamine                       | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2,3,5,6-Tetrachlorophenol             | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2,6-Dichlorophenol                    | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 7,12-Dimethylbenz(a)anthracene        | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Methyl methanesulfonate               | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 1,1'-Biphenyl                         | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 1,2,4,5-Tetrachlorobenzene            | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 1,2,4-Trichlorobenzene                | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 1,2-Dichlorobenzene                   | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 1,2-Diphenylhydrazine (as Azobenzene) | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 1,3-Dichlorobenzene                   | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 1,3-Dinitrobenzene                    | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 1,4-Dichlorobenzene                   | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 1,4-Dioxane                           | 5 ug/mL       |

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent |              | Analyte                      | Concentration |
|------------|----------|-----------|---------------|----------------------|----------------|--------------|------------------------------|---------------|
|            |          |           |               |                      | Reagent ID     | Volume Added |                              |               |
|            |          |           |               |                      |                |              | 1-Methylnaphthalene          | 5 ug/mL       |
|            |          |           |               |                      |                |              | 2,2'-oxybis[1-chloropropane] | 5 ug/mL       |
|            |          |           |               |                      |                |              | 2,3,4,6-Tetrachlorophenol    | 5 ug/mL       |
|            |          |           |               |                      |                |              | 2,4,5-Trichlorophenol        | 5 ug/mL       |
|            |          |           |               |                      |                |              | 2,4,6-Trichlorophenol        | 5 ug/mL       |
|            |          |           |               |                      |                |              | 2,4-Dichlorophenol           | 5 ug/mL       |
|            |          |           |               |                      |                |              | 2,4-Dimethylphenol           | 5 ug/mL       |
|            |          |           |               |                      |                |              | 2,4-Dinitrophenol            | 10 ug/mL      |
|            |          |           |               |                      |                |              | 2,4-Dinitrotoluene           | 5 ug/mL       |
|            |          |           |               |                      |                |              | 2,6-Dinitrotoluene           | 5 ug/mL       |
|            |          |           |               |                      |                |              | 2-Chloronaphthalene          | 5 ug/mL       |
|            |          |           |               |                      |                |              | 2-Chlorophenol               | 5 ug/mL       |
|            |          |           |               |                      |                |              | 2-Methylnaphthalene          | 5 ug/mL       |
|            |          |           |               |                      |                |              | 2-Methylphenol               | 5 ug/mL       |
|            |          |           |               |                      |                |              | 2-Nitroaniline               | 5 ug/mL       |
|            |          |           |               |                      |                |              | 2-Nitrophenol                | 5 ug/mL       |
|            |          |           |               |                      |                |              | 3-Nitroaniline               | 5 ug/mL       |
|            |          |           |               |                      |                |              | 4,6-Dinitro-2-methylphenol   | 10 ug/mL      |
|            |          |           |               |                      |                |              | 4-Bromophenyl phenyl ether   | 5 ug/mL       |
|            |          |           |               |                      |                |              | 4-Chloro-3-methylphenol      | 5 ug/mL       |
|            |          |           |               |                      |                |              | 4-Chloroaniline              | 5 ug/mL       |
|            |          |           |               |                      |                |              | 4-Chlorophenyl phenyl ether  | 5 ug/mL       |
|            |          |           |               |                      |                |              | 4-Methylphenol               | 5 ug/mL       |
|            |          |           |               |                      |                |              | 4-Nitroaniline               | 5 ug/mL       |
|            |          |           |               |                      |                |              | 4-Nitrophenol                | 10 ug/mL      |
|            |          |           |               |                      |                |              | Acenaphthene                 | 5 ug/mL       |
|            |          |           |               |                      |                |              | Acenaphthylene               | 5 ug/mL       |
|            |          |           |               |                      |                |              | Acetophenone                 | 5 ug/mL       |
|            |          |           |               |                      |                |              | Aniline                      | 5 ug/mL       |
|            |          |           |               |                      |                |              | Anthracene                   | 5 ug/mL       |
|            |          |           |               |                      |                |              | Benzo[a]anthracene           | 5 ug/mL       |
|            |          |           |               |                      |                |              | Benzo[a]pyrene               | 5 ug/mL       |
|            |          |           |               |                      |                |              | Benzo[b]fluoranthene         | 5 ug/mL       |
|            |          |           |               |                      |                |              | Benzo[g,h,i]perylene         | 5 ug/mL       |
|            |          |           |               |                      |                |              | Benzo[k]fluoranthene         | 5 ug/mL       |
|            |          |           |               |                      |                |              | Benzyl alcohol               | 5 ug/mL       |
|            |          |           |               |                      |                |              | Bis(2-chloroethoxy)methane   | 5 ug/mL       |
|            |          |           |               |                      |                |              | Bis(2-chloroethyl)ether      | 5 ug/mL       |
|            |          |           |               |                      |                |              | Bis(2-ethylhexyl) phthalate  | 5 ug/mL       |
|            |          |           |               |                      |                |              | Butyl benzyl phthalate       | 5 ug/mL       |
|            |          |           |               |                      |                |              | Carbazole                    | 5 ug/mL       |
|            |          |           |               |                      |                |              | Chrysene                     | 5 ug/mL       |
|            |          |           |               |                      |                |              | Di-n-butyl phthalate         | 5 ug/mL       |
|            |          |           |               |                      |                |              | Di-n-octyl phthalate         | 5 ug/mL       |
|            |          |           |               |                      |                |              | Dibenz(a,h)anthracene        | 5 ug/mL       |
|            |          |           |               |                      |                |              | Dibenzofuran                 | 5 ug/mL       |
|            |          |           |               |                      |                |              | Diethyl phthalate            | 5 ug/mL       |
|            |          |           |               |                      |                |              | Dimethyl phthalate           | 5 ug/mL       |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID           | Exp Date | Prep Date           | Dilutant Used      | Reagent Final Volume | Parent Reagent      |              | Analyte                     | Concentration |
|----------------------|----------|---------------------|--------------------|----------------------|---------------------|--------------|-----------------------------|---------------|
|                      |          |                     |                    |                      | Reagent ID          | Volume Added |                             |               |
|                      |          |                     |                    |                      |                     |              | Fluoranthene                | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | Fluorene                    | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | Hexachlorobenzene           | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | Hexachlorobutadiene         | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | Hexachlorocyclopentadiene   | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | Hexachloroethane            | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | Hexadecane                  | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | Indeno[1,2,3-cd]pyrene      | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | Isophorone                  | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | n-Decane                    | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | N-Nitrosodi-n-propylamine   | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | N-Nitrosodimethylamine      | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | n-Octadecane                | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | Naphthalene                 | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | Nitrobenzene                | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | Pentachlorophenol           | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Phenanthrene                | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | Phenol                      | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | Pyrene                      | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | Pyridine                    | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | 3,3'-Dichlorobenzidine      | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | Atrazine                    | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | Benzidine                   | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | Caprolactam                 | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | N-Nitrosodiphenylamine      | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | Benzaldehyde                | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | Benzoic acid                | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | Indene                      | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | 2,4,6-Tribromophenol (Surr) | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | 2-Fluorobiphenyl            | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | 2-Fluorophenol (Surr)       | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | Nitrobenzene-d5 (Surr)      | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | Phenol-d5 (Surr)            | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | Terphenyl-d14 (Surr)        | 5 ug/mL       |
|                      |          |                     |                    |                      |                     |              | N-Nitrosopyrrolidine        | 5 ug/mL       |
| .SVTAPITINTRNi_00005 | 05/07/15 | 05/07/14            | MeCl2, Lot 1000447 | 25 mL                | SVLVIntstd_00007    | 5000 uL      | 1,4-Dichlorobenzene-d4      | 400 ug/mL     |
|                      |          |                     |                    |                      |                     |              | Acenaphthene-d10            | 400 ug/mL     |
|                      |          |                     |                    |                      |                     |              | Chrysene-d12                | 400 ug/mL     |
|                      |          |                     |                    |                      |                     |              | Naphthalene-d8              | 400 ug/mL     |
|                      |          |                     |                    |                      |                     |              | Perylene-d12                | 400 ug/mL     |
|                      |          |                     |                    |                      |                     |              | Phenanthrene-d10            | 400 ug/mL     |
| ..SVLVIntstd_00007   | 02/28/18 | Restek, Lot A093676 |                    |                      | (Purchased Reagent) |              | 1,4-Dichlorobenzene-d4      | 2000 ug/mL    |
|                      |          |                     |                    |                      |                     |              | Acenaphthene-d10            | 2000 ug/mL    |
|                      |          |                     |                    |                      |                     |              | Chrysene-d12                | 2000 ug/mL    |
|                      |          |                     |                    |                      |                     |              | Naphthalene-d8              | 2000 ug/mL    |
|                      |          |                     |                    |                      |                     |              | Perylene-d12                | 2000 ug/mL    |
|                      |          |                     |                    |                      |                     |              | Phenanthrene-d10            | 2000 ug/mL    |
| .SVTAPITSTCKi_00005  | 04/30/15 | 02/17/15            | MeCl2, Lot 1417620 | 20 mL                | sv benzoepyre_00001 | 800 uL       | Benzo[e]pyrene              | 40 ug/mL      |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent     |              | Analyte                               | Concentration |
|------------|----------|-----------|---------------|----------------------|--------------------|--------------|---------------------------------------|---------------|
|            |          |           |               |                      | Reagent ID         | Volume Added |                                       |               |
|            |          |           |               |                      | SV2NAPAMINEs_00002 | 800 uL       | 2-Naphthylamine                       | 40 ug/mL      |
|            |          |           |               |                      | SVLVlist12_00002   | 800 uL       | 2,3,5,6-Tetrachlorophenol             | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2,6-Dichlorophenol                    | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 7,12-Dimethylbenz(a)anthracene        | 40 ug/mL      |
|            |          |           |               |                      |                    |              | Methyl methanesulfonate               | 40 ug/mL      |
|            |          |           |               |                      | SVLVstd1_00026     | 800 uL       | 1,1'-Biphenyl                         | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 1,2,4,5-Tetrachlorobenzene            | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 1,2,4-Trichlorobenzene                | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 1,2-Dichlorobenzene                   | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 1,2-Diphenylhydrazine (as Azobenzene) | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 1,3-Dichlorobenzene                   | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 1,3-Dinitrobenzene                    | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 1,4-Dichlorobenzene                   | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 1,4-Dioxane                           | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 1-Methylnaphthalene                   | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2,2'-oxybis[1-chloropropane]          | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2,3,4,6-Tetrachlorophenol             | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2,4,5-Trichlorophenol                 | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2,4,6-Trichlorophenol                 | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2,4-Dichlorophenol                    | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2,4-Dimethylphenol                    | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2,4-Dinitrophenol                     | 80 ug/mL      |
|            |          |           |               |                      |                    |              | 2,4-Dinitrotoluene                    | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2,6-Dinitrotoluene                    | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2-Chloronaphthalene                   | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2-Chlorophenol                        | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2-Methylnaphthalene                   | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2-Methylphenol                        | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2-Nitroaniline                        | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2-Nitrophenol                         | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 3-Nitroaniline                        | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 4,6-Dinitro-2-methylphenol            | 80 ug/mL      |
|            |          |           |               |                      |                    |              | 4-Bromophenyl phenyl ether            | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 4-Chloro-3-methylphenol               | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 4-Chloroaniline                       | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 4-Chlorophenyl phenyl ether           | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 4-Methylphenol                        | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 4-Nitroaniline                        | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 4-Nitrophenol                         | 80 ug/mL      |
|            |          |           |               |                      |                    |              | Acenaphthene                          | 40 ug/mL      |
|            |          |           |               |                      |                    |              | Acenaphthylene                        | 40 ug/mL      |
|            |          |           |               |                      |                    |              | Acetophenone                          | 40 ug/mL      |
|            |          |           |               |                      |                    |              | Aniline                               | 40 ug/mL      |
|            |          |           |               |                      |                    |              | Anthracene                            | 40 ug/mL      |
|            |          |           |               |                      |                    |              | Benzo[a]anthracene                    | 40 ug/mL      |
|            |          |           |               |                      |                    |              | Benzo[a]pyrene                        | 40 ug/mL      |
|            |          |           |               |                      |                    |              | Benzo[b]fluoranthene                  | 40 ug/mL      |

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent    |              | Analyte                      | Concentration |
|------------|----------|-----------|---------------|----------------------|-------------------|--------------|------------------------------|---------------|
|            |          |           |               |                      | Reagent ID        | Volume Added |                              |               |
|            |          |           |               |                      |                   |              | Benzo[g,h,i]perylene         | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Benzo[k]fluoranthene         | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Benzyl alcohol               | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Bis (2-chloroethoxy)methane  | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Bis (2-chloroethyl) ether    | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Bis (2-ethylhexyl) phthalate | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Butyl benzyl phthalate       | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Carbazole                    | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Chrysene                     | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Di-n-butyl phthalate         | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Di-n-octyl phthalate         | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Dibenz (a,h) anthracene      | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Dibenzofuran                 | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Diethyl phthalate            | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Dimethyl phthalate           | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Fluoranthene                 | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Fluorene                     | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Hexachlorobenzene            | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Hexachlorobutadiene          | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Hexachlorocyclopentadiene    | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Hexachloroethane             | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Hexadecane                   | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Indeno[1,2,3-cd]pyrene       | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Isophorone                   | 40 ug/mL      |
|            |          |           |               |                      |                   |              | n-Decane                     | 40 ug/mL      |
|            |          |           |               |                      |                   |              | N-Nitrosodi-n-propylamine    | 40 ug/mL      |
|            |          |           |               |                      |                   |              | N-Nitrosodimethylamine       | 40 ug/mL      |
|            |          |           |               |                      |                   |              | n-Octadecane                 | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Naphthalene                  | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Nitrobenzene                 | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Pentachlorophenol            | 80 ug/mL      |
|            |          |           |               |                      |                   |              | Phenanthrene                 | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Phenol                       | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Pyrene                       | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Pyridine                     | 40 ug/mL      |
|            |          |           |               |                      | SVLVstd2_00012    | 400 uL       | 3,3'-Dichlorobenzidine       | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Atrazine                     | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Benzidine                    | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Caprolactam                  | 40 ug/mL      |
|            |          |           |               |                      | SVLVstd5(7)_00001 | 400 uL       | N-Nitrosodiphenylamine       | 40 ug/mL      |
|            |          |           |               |                      | SVLVstd8_00003    | 400 uL       | Benzaldehyde                 | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Benzoic acid                 | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Indene                       | 40 ug/mL      |
|            |          |           |               |                      | SVLVSURRSPK_00003 | 160 uL       | 2,4,6-Tribromophenol (Surr)  | 40 ug/mL      |
|            |          |           |               |                      |                   |              | 2-Fluorobiphenyl             | 40 ug/mL      |
|            |          |           |               |                      |                   |              | 2-Fluorophenol (Surr)        | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Nitrobenzene-d5 (Surr)       | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Phenol-d5 (Surr)             | 40 ug/mL      |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID            | Exp Date | Prep Date | Dilutant Used                 | Reagent Final Volume | Parent Reagent      |              | Analyte                               | Concentration |
|-----------------------|----------|-----------|-------------------------------|----------------------|---------------------|--------------|---------------------------------------|---------------|
|                       |          |           |                               |                      | Reagent ID          | Volume Added |                                       |               |
|                       |          |           |                               |                      | SVNNITROPYROS_00015 | 800 uL       | Terphenyl-d14 (Surr)                  | 40 ug/mL      |
|                       |          |           |                               |                      |                     |              | N-Nitrosopyrrolidine                  | 40 ug/mL      |
| ..sv benzoepyre_00001 | 10/03/18 |           | Absolute, Lot 100313          |                      | (Purchased Reagent) |              | Benzo[e]pyrene                        | 1000 ug/mL    |
| ..SV2NAPAMINES_00002  | 06/30/17 |           | Ultra Scientific, Lot Ck-1617 |                      | (Purchased Reagent) |              | 2-Naphthylamine                       | 1000 ug/mL    |
| ..SVLVlist12_00002    | 04/30/15 |           | Restek, Lot A0102912          |                      | (Purchased Reagent) |              | 2,3,5,6-Tetrachlorophenol             | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,6-Dichlorophenol                    | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 7,12-Dimethylbenz(a)anthracene        | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | Methyl methanesulfonate               | 1000 ug/mL    |
| ..SVLVstd1_00026      | 08/31/15 |           | Restek, Lot A0101615          |                      | (Purchased Reagent) |              | 1,1'-Biphenyl                         | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,2,4,5-Tetrachlorobenzene            | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,2,4-Trichlorobenzene                | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,2-Dichlorobenzene                   | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,2-Diphenylhydrazine (as Azobenzene) | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,3-Dichlorobenzene                   | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,3-Dinitrobenzene                    | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,4-Dichlorobenzene                   | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,4-Dioxane                           | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1-Methylnaphthalene                   | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,2'-oxybis[1-chloropropane]          | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,3,4,6-Tetrachlorophenol             | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,4,5-Trichlorophenol                 | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,4,6-Trichlorophenol                 | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,4-Dichlorophenol                    | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,4-Dimethylphenol                    | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,4-Dinitrophenol                     | 2000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,4-Dinitrotoluene                    | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,6-Dinitrotoluene                    | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2-Chloronaphthalene                   | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2-Chlorophenol                        | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2-Methylnaphthalene                   | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2-Methylphenol                        | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2-Nitroaniline                        | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2-Nitrophenol                         | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 3-Nitroaniline                        | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 4,6-Dinitro-2-methylphenol            | 2000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 4-Bromophenyl phenyl ether            | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 4-Chloro-3-methylphenol               | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 4-Chloroaniline                       | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 4-Chlorophenyl phenyl ether           | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 4-Methylphenol                        | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 4-Nitroaniline                        | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 4-Nitrophenol                         | 2000 ug/mL    |
|                       |          |           |                               |                      |                     |              | Acenaphthene                          | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | Acenaphthylene                        | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | Acetophenone                          | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | Aniline                               | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | Anthracene                            | 1000 ug/mL    |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID          | Exp Date | Prep Date            | Dilutant Used | Reagent Final Volume | Parent Reagent      |              | Analyte                      | Concentration |
|---------------------|----------|----------------------|---------------|----------------------|---------------------|--------------|------------------------------|---------------|
|                     |          |                      |               |                      | Reagent ID          | Volume Added |                              |               |
|                     |          |                      |               |                      |                     |              | Benzo[a]anthracene           | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Benzo[a]pyrene               | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Benzo[b]fluoranthene         | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Benzo[g,h,i]perylene         | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Benzo[k]fluoranthene         | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Benzyl alcohol               | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Bis (2-chloroethoxy)methane  | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Bis (2-chloroethyl) ether    | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Bis (2-ethylhexyl) phthalate | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Butyl benzyl phthalate       | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Carbazole                    | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Chrysene                     | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Di-n-butyl phthalate         | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Di-n-octyl phthalate         | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Dibenz (a,h) anthracene      | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Dibenzofuran                 | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Diethyl phthalate            | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Dimethyl phthalate           | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Fluoranthene                 | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Fluorene                     | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Hexachlorobenzene            | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Hexachlorobutadiene          | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Hexachlorocyclopentadiene    | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Hexachloroethane             | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Hexadecane                   | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Indeno[1,2,3-cd]pyrene       | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Isophorone                   | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | n-Decane                     | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | N-Nitrosodi-n-propylamine    | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | N-Nitrosodimethylamine       | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | n-Octadecane                 | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Naphthalene                  | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Nitrobenzene                 | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Pentachlorophenol            | 2000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Phenanthrene                 | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Phenol                       | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Pyrene                       | 1000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Pyridine                     | 1000 ug/mL    |
| ..SVLVstd2_00012    | 07/31/15 | Restek, Lot A0100824 |               |                      | (Purchased Reagent) |              | 3,3'-Dichlorobenzidine       | 2000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Atrazine                     | 2000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Benzydine                    | 2000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Caprolactam                  | 2000 ug/mL    |
| ..SVLVstd5(7)_00001 | 02/28/17 | Restek, Lot A0101573 |               |                      | (Purchased Reagent) |              | N-Nitrosodiphenylamine       | 2000 ug/mL    |
| ..SVLVstd8_00003    | 05/31/15 | Restek, Lot A0103145 |               |                      | (Purchased Reagent) |              | Benzaldehyde                 | 2000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Benzoic acid                 | 2000 ug/mL    |
|                     |          |                      |               |                      |                     |              | Indene                       | 2000 ug/mL    |
| ..SVLVSURRSPK_00003 | 02/28/18 | Restek, Lot A093638  |               |                      | (Purchased Reagent) |              | 2,4,6-Tribromophenol (Surr)  | 5000 ug/mL    |
|                     |          |                      |               |                      |                     |              | 2-Fluorobiphenyl             | 5000 ug/mL    |

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID            | Exp Date | Prep Date | Dilutant Used        | Reagent Final Volume | Parent Reagent      |              | Analyte                               | Concentration |
|-----------------------|----------|-----------|----------------------|----------------------|---------------------|--------------|---------------------------------------|---------------|
|                       |          |           |                      |                      | Reagent ID          | Volume Added |                                       |               |
|                       |          |           |                      |                      |                     |              | 2-Fluorophenol (Surr)                 | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Nitrobenzene-d5 (Surr)                | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Phenol-d5 (Surr)                      | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Terphenyl-d14 (Surr)                  | 5000 ug/mL    |
| ..SVNNITROPYROS_00015 | 06/05/17 |           | absolute, Lot 060514 |                      | (Purchased Reagent) |              | N-Nitrosopyrrolidine                  | 1000 ug/mL    |
| SVTAPSTD10i_00103     | 05/17/15 | 05/10/15  | MeCl2, Lot 1417620   | 1 mL                 | SVTAPITSTCKi_00008  | 125 uL       | 1,2,4-Trichlorobenzene                | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 1,2-Diphenylhydrazine (as Azobenzene) | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2,2'-oxybis[1-chloropropane]          | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2,4,6-Trichlorophenol                 | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2,4-Dichlorophenol                    | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2,4-Dimethylphenol                    | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2,4-Dinitrophenol                     | 10 ug/mL      |
|                       |          |           |                      |                      |                     |              | 2,4-Dinitrotoluene                    | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2,6-Dinitrotoluene                    | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2-Chloronaphthalene                   | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2-Chlorophenol                        | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2-Nitrophenol                         | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 4,6-Dinitro-2-methylphenol            | 10 ug/mL      |
|                       |          |           |                      |                      |                     |              | 4-Bromophenyl phenyl ether            | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 4-Chloro-3-methylphenol               | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 4-Chlorophenyl phenyl ether           | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | 4-Nitrophenol                         | 10 ug/mL      |
|                       |          |           |                      |                      |                     |              | Acenaphthene                          | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Acenaphthylene                        | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Anthracene                            | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Benzo[a]anthracene                    | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Benzo[a]pyrene                        | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Benzo[b]fluoranthene                  | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Benzo[g,h,i]perylene                  | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Benzo[k]fluoranthene                  | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Bis(2-chloroethoxy)methane            | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Bis(2-chloroethyl)ether               | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Bis(2-ethylhexyl) phthalate           | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Butyl benzyl phthalate                | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Chrysene                              | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Di-n-butyl phthalate                  | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Di-n-octyl phthalate                  | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Dibenz(a,h)anthracene                 | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Diethyl phthalate                     | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Dimethyl phthalate                    | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Fluoranthene                          | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Fluorene                              | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Hexachlorobenzene                     | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Hexachlorobutadiene                   | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Hexachlorocyclopentadiene             | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Hexachloroethane                      | 5 ug/mL       |
|                       |          |           |                      |                      |                     |              | Indeno[1,2,3-cd]pyrene                | 5 ug/mL       |



## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID          | Exp Date | Prep Date | Dilutant Used      | Reagent Final Volume | Parent Reagent |              | Analyte                               | Concentration |
|---------------------|----------|-----------|--------------------|----------------------|----------------|--------------|---------------------------------------|---------------|
|                     |          |           |                    |                      | Reagent ID     | Volume Added |                                       |               |
|                     |          |           |                    |                      |                |              | Isophorone                            | 5 ug/mL       |
|                     |          |           |                    |                      |                |              | N-Nitrosodi-n-propylamine             | 5 ug/mL       |
|                     |          |           |                    |                      |                |              | N-Nitrosodimethylamine                | 5 ug/mL       |
|                     |          |           |                    |                      |                |              | Naphthalene                           | 5 ug/mL       |
|                     |          |           |                    |                      |                |              | Nitrobenzene                          | 5 ug/mL       |
|                     |          |           |                    |                      |                |              | Pentachlorophenol                     | 10 ug/mL      |
|                     |          |           |                    |                      |                |              | Phenanthrene                          | 5 ug/mL       |
|                     |          |           |                    |                      |                |              | Phenol                                | 5 ug/mL       |
|                     |          |           |                    |                      |                |              | Pyrene                                | 5 ug/mL       |
|                     |          |           |                    |                      |                |              | 3,3'-Dichlorobenzidine                | 5 ug/mL       |
|                     |          |           |                    |                      |                |              | Benzidine                             | 5 ug/mL       |
|                     |          |           |                    |                      |                |              | N-Nitrosodiphenylamine                | 5 ug/mL       |
|                     |          |           |                    |                      |                |              | Benzoic acid                          | 5 ug/mL       |
|                     |          |           |                    |                      |                |              | 2,4,6-Tribromophenol (Surr)           | 5 ug/mL       |
|                     |          |           |                    |                      |                |              | 2-Fluorobiphenyl                      | 5 ug/mL       |
|                     |          |           |                    |                      |                |              | 2-Fluorophenol (Surr)                 | 5 ug/mL       |
|                     |          |           |                    |                      |                |              | Nitrobenzene-d5 (Surr)                | 5 ug/mL       |
|                     |          |           |                    |                      |                |              | Phenol-d5 (Surr)                      | 5 ug/mL       |
|                     |          |           |                    |                      |                |              | Terphenyl-d14 (Surr)                  | 5 ug/mL       |
| .SVTAPITSTCKi_00008 | 05/31/15 | 05/01/15  | MeCl2, Lot 1417620 | 20 mL                | SVLVstd1_00026 | 800 uL       | 1,2,4-Trichlorobenzene                | 40 ug/mL      |
|                     |          |           |                    |                      |                |              | 1,2-Diphenylhydrazine (as Azobenzene) | 40 ug/mL      |
|                     |          |           |                    |                      |                |              | 2,2'-oxybis[1-chloropropane]          | 40 ug/mL      |
|                     |          |           |                    |                      |                |              | 2,4,6-Trichlorophenol                 | 40 ug/mL      |
|                     |          |           |                    |                      |                |              | 2,4-Dichlorophenol                    | 40 ug/mL      |
|                     |          |           |                    |                      |                |              | 2,4-Dimethylphenol                    | 40 ug/mL      |
|                     |          |           |                    |                      |                |              | 2,4-Dinitrophenol                     | 80 ug/mL      |
|                     |          |           |                    |                      |                |              | 2,4-Dinitrotoluene                    | 40 ug/mL      |
|                     |          |           |                    |                      |                |              | 2,6-Dinitrotoluene                    | 40 ug/mL      |
|                     |          |           |                    |                      |                |              | 2-Chloronaphthalene                   | 40 ug/mL      |
|                     |          |           |                    |                      |                |              | 2-Chlorophenol                        | 40 ug/mL      |
|                     |          |           |                    |                      |                |              | 2-Nitrophenol                         | 40 ug/mL      |
|                     |          |           |                    |                      |                |              | 4,6-Dinitro-2-methylphenol            | 80 ug/mL      |
|                     |          |           |                    |                      |                |              | 4-Bromophenyl phenyl ether            | 40 ug/mL      |
|                     |          |           |                    |                      |                |              | 4-Chloro-3-methylphenol               | 40 ug/mL      |
|                     |          |           |                    |                      |                |              | 4-Chlorophenyl phenyl ether           | 40 ug/mL      |
|                     |          |           |                    |                      |                |              | 4-Nitrophenol                         | 80 ug/mL      |
|                     |          |           |                    |                      |                |              | Acenaphthene                          | 40 ug/mL      |
|                     |          |           |                    |                      |                |              | Acenaphthylene                        | 40 ug/mL      |
|                     |          |           |                    |                      |                |              | Anthracene                            | 40 ug/mL      |
|                     |          |           |                    |                      |                |              | Benzo[a]anthracene                    | 40 ug/mL      |
|                     |          |           |                    |                      |                |              | Benzo[a]pyrene                        | 40 ug/mL      |
|                     |          |           |                    |                      |                |              | Benzo[b]fluoranthene                  | 40 ug/mL      |
|                     |          |           |                    |                      |                |              | Benzo[g,h,i]perylene                  | 40 ug/mL      |
|                     |          |           |                    |                      |                |              | Benzo[k]fluoranthene                  | 40 ug/mL      |
|                     |          |           |                    |                      |                |              | Bis (2-chloroethoxy)methane           | 40 ug/mL      |
|                     |          |           |                    |                      |                |              | Bis (2-chloroethyl) ether             | 40 ug/mL      |
|                     |          |           |                    |                      |                |              | Bis (2-ethylhexyl) phthalate          | 40 ug/mL      |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID       | Exp Date | Prep Date              | Dilutant Used | Reagent Final Volume | Parent Reagent      |              | Analyte                               | Concentration |
|------------------|----------|------------------------|---------------|----------------------|---------------------|--------------|---------------------------------------|---------------|
|                  |          |                        |               |                      | Reagent ID          | Volume Added |                                       |               |
|                  |          |                        |               |                      |                     |              | Butyl benzyl phthalate                | 40 ug/mL      |
|                  |          |                        |               |                      |                     |              | Chrysene                              | 40 ug/mL      |
|                  |          |                        |               |                      |                     |              | Di-n-butyl phthalate                  | 40 ug/mL      |
|                  |          |                        |               |                      |                     |              | Di-n-octyl phthalate                  | 40 ug/mL      |
|                  |          |                        |               |                      |                     |              | Dibenz(a,h)anthracene                 | 40 ug/mL      |
|                  |          |                        |               |                      |                     |              | Diethyl phthalate                     | 40 ug/mL      |
|                  |          |                        |               |                      |                     |              | Dimethyl phthalate                    | 40 ug/mL      |
|                  |          |                        |               |                      |                     |              | Fluoranthene                          | 40 ug/mL      |
|                  |          |                        |               |                      |                     |              | Fluorene                              | 40 ug/mL      |
|                  |          |                        |               |                      |                     |              | Hexachlorobenzene                     | 40 ug/mL      |
|                  |          |                        |               |                      |                     |              | Hexachlorobutadiene                   | 40 ug/mL      |
|                  |          |                        |               |                      |                     |              | Hexachlorocyclopentadiene             | 40 ug/mL      |
|                  |          |                        |               |                      |                     |              | Hexachloroethane                      | 40 ug/mL      |
|                  |          |                        |               |                      |                     |              | Indeno[1,2,3-cd]pyrene                | 40 ug/mL      |
|                  |          |                        |               |                      |                     |              | Isophorone                            | 40 ug/mL      |
|                  |          |                        |               |                      |                     |              | N-Nitrosodi-n-propylamine             | 40 ug/mL      |
|                  |          |                        |               |                      |                     |              | N-Nitrosodimethylamine                | 40 ug/mL      |
|                  |          |                        |               |                      |                     |              | Naphthalene                           | 40 ug/mL      |
|                  |          |                        |               |                      |                     |              | Nitrobenzene                          | 40 ug/mL      |
|                  |          |                        |               |                      |                     |              | Pentachlorophenol                     | 80 ug/mL      |
|                  |          |                        |               |                      |                     |              | Phenanthrene                          | 40 ug/mL      |
|                  |          |                        |               |                      |                     |              | Phenol                                | 40 ug/mL      |
|                  |          |                        |               |                      |                     |              | Pyrene                                | 40 ug/mL      |
|                  |          |                        |               |                      | SVLVstd2_00012      | 400 uL       | 3,3'-Dichlorobenzidine                | 40 ug/mL      |
|                  |          |                        |               |                      |                     |              | Benzidine                             | 40 ug/mL      |
|                  |          |                        |               |                      | SVLVstd5(7)_00001   | 400 uL       | N-Nitrosodiphenylamine                | 40 ug/mL      |
|                  |          |                        |               |                      | SVLVstd8_00003      | 400 uL       | Benzoic acid                          | 40 ug/mL      |
|                  |          |                        |               |                      | SVLVSURRSPK_00003   | 160 uL       | 2,4,6-Tribromophenol (Surr)           | 40 ug/mL      |
|                  |          | 2-Fluorobiphenyl       | 40 ug/mL      |                      |                     |              |                                       |               |
|                  |          | 2-Fluorophenol (Surr)  | 40 ug/mL      |                      |                     |              |                                       |               |
|                  |          | Nitrobenzene-d5 (Surr) | 40 ug/mL      |                      |                     |              |                                       |               |
|                  |          | Phenol-d5 (Surr)       | 40 ug/mL      |                      |                     |              |                                       |               |
|                  |          | Terphenyl-d14 (Surr)   | 40 ug/mL      |                      |                     |              |                                       |               |
| ..SVLVstd1_00026 | 08/31/15 | Restek, Lot A0101615   |               |                      | (Purchased Reagent) |              | 1,2,4-Trichlorobenzene                | 1000 ug/mL    |
|                  |          |                        |               |                      |                     |              | 1,2-Diphenylhydrazine (as Azobenzene) | 1000 ug/mL    |
|                  |          |                        |               |                      |                     |              | 2,2'-oxybis[1-chloropropane]          | 1000 ug/mL    |
|                  |          |                        |               |                      |                     |              | 2,4,6-Trichlorophenol                 | 1000 ug/mL    |
|                  |          |                        |               |                      |                     |              | 2,4-Dichlorophenol                    | 1000 ug/mL    |
|                  |          |                        |               |                      |                     |              | 2,4-Dimethylphenol                    | 1000 ug/mL    |
|                  |          |                        |               |                      |                     |              | 2,4-Dinitrophenol                     | 2000 ug/mL    |
|                  |          |                        |               |                      |                     |              | 2,4-Dinitrotoluene                    | 1000 ug/mL    |
|                  |          |                        |               |                      |                     |              | 2,6-Dinitrotoluene                    | 1000 ug/mL    |
|                  |          |                        |               |                      |                     |              | 2-Chloronaphthalene                   | 1000 ug/mL    |
|                  |          |                        |               |                      |                     |              | 2-Chlorophenol                        | 1000 ug/mL    |
|                  |          |                        |               |                      |                     |              | 2-Nitrophenol                         | 1000 ug/mL    |
|                  |          |                        |               |                      |                     |              | 4,6-Dinitro-2-methylphenol            | 2000 ug/mL    |
|                  |          |                        |               |                      |                     |              | 4-Bromophenyl phenyl ether            | 1000 ug/mL    |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID          | Exp Date | Prep Date | Dilutant Used        | Reagent Final Volume | Parent Reagent      |              | Analyte                      | Concentration |
|---------------------|----------|-----------|----------------------|----------------------|---------------------|--------------|------------------------------|---------------|
|                     |          |           |                      |                      | Reagent ID          | Volume Added |                              |               |
|                     |          |           |                      |                      |                     |              | 4-Chloro-3-methylphenol      | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | 4-Chlorophenyl phenyl ether  | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | 4-Nitrophenol                | 2000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Acenaphthene                 | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Acenaphthylene               | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Anthracene                   | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Benzo[a]anthracene           | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Benzo[a]pyrene               | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Benzo[b]fluoranthene         | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Benzo[g,h,i]perylene         | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Benzo[k]fluoranthene         | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Bis (2-chloroethoxy)methane  | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Bis (2-chloroethyl) ether    | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Bis (2-ethylhexyl) phthalate | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Butyl benzyl phthalate       | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Chrysene                     | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Di-n-butyl phthalate         | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Di-n-octyl phthalate         | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Dibenz (a,h) anthracene      | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Diethyl phthalate            | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Dimethyl phthalate           | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Fluoranthene                 | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Fluorene                     | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Hexachlorobenzene            | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Hexachlorobutadiene          | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Hexachlorocyclopentadiene    | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Hexachloroethane             | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Indeno[1,2,3-cd]pyrene       | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Isophorone                   | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | N-Nitrosodi-n-propylamine    | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | N-Nitrosodimethylamine       | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Naphthalene                  | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Nitrobenzene                 | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Pentachlorophenol            | 2000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Phenanthrene                 | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Phenol                       | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Pyrene                       | 1000 ug/mL    |
| ..SVLVstd2_00012    | 07/31/15 |           | Restek, Lot A0100824 |                      | (Purchased Reagent) |              | 3,3'-Dichlorobenzidine       | 2000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Benidine                     | 2000 ug/mL    |
| ..SVLVstd5(7)_00001 | 02/28/17 |           | Restek, Lot A0101573 |                      | (Purchased Reagent) |              | N-Nitrosodiphenylamine       | 2000 ug/mL    |
| ..SVLVstd8_00003    | 05/31/15 |           | Restek, Lot A0103145 |                      | (Purchased Reagent) |              | Benzoic acid                 | 2000 ug/mL    |
| ..SVLVSURRSPK_00003 | 02/28/18 |           | Restek, Lot A093638  |                      | (Purchased Reagent) |              | 2,4,6-Tribromophenol (Surr)  | 5000 ug/mL    |
|                     |          |           |                      |                      |                     |              | 2-Fluorobiphenyl             | 5000 ug/mL    |
|                     |          |           |                      |                      |                     |              | 2-Fluorophenol (Surr)        | 5000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Nitrobenzene-d5 (Surr)       | 5000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Phenol-d5 (Surr)             | 5000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Terphenyl-d14 (Surr)         | 5000 ug/mL    |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID         | Exp Date | Prep Date | Dilutant Used      | Reagent Final Volume | Parent Reagent      |              | Analyte                               | Concentration |
|--------------------|----------|-----------|--------------------|----------------------|---------------------|--------------|---------------------------------------|---------------|
|                    |          |           |                    |                      | Reagent ID          | Volume Added |                                       |               |
| SVTAPSTD2.0i_00006 | 04/30/15 | 02/23/15  | MeCl2, Lot 1053215 | 1 mL                 | SVTAPITINTRNi_00005 | 10 uL        | 1,4-Dichlorobenzene-d4                | 4 ug/mL       |
|                    |          |           |                    |                      |                     |              | Acenaphthene-d10                      | 4 ug/mL       |
|                    |          |           |                    |                      |                     |              | Chrysene-d12                          | 4 ug/mL       |
|                    |          |           |                    |                      |                     |              | Naphthalene-d8                        | 4 ug/mL       |
|                    |          |           |                    |                      |                     |              | Perylene-d12                          | 4 ug/mL       |
|                    |          |           |                    |                      | SVTAPITSTCKi_00005  | 25 uL        | Phenanthrene-d10                      | 4 ug/mL       |
|                    |          |           |                    |                      |                     |              | Benzo[e]pyrene                        | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 2-Naphthylamine                       | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 2,3,5,6-Tetrachlorophenol             | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 2,6-Dichlorophenol                    | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 7,12-Dimethylbenz(a)anthracene        | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | Methyl methanesulfonate               | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 1,1'-Biphenyl                         | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 1,2,4,5-Tetrachlorobenzene            | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 1,2,4-Trichlorobenzene                | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 1,2-Dichlorobenzene                   | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 1,2-Diphenylhydrazine (as Azobenzene) | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 1,3-Dichlorobenzene                   | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 1,3-Dinitrobenzene                    | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 1,4-Dichlorobenzene                   | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 1,4-Dioxane                           | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 1-Methylnaphthalene                   | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 2,2'-oxybis[1-chloropropane]          | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 2,3,4,6-Tetrachlorophenol             | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 2,4,5-Trichlorophenol                 | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 2,4,6-Trichlorophenol                 | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 2,4-Dichlorophenol                    | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 2,4-Dimethylphenol                    | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 2,4-Dinitrophenol                     | 2 ug/mL       |
|                    |          |           |                    |                      |                     |              | 2,4-Dinitrotoluene                    | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 2,6-Dinitrotoluene                    | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 2-Chloronaphthalene                   | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 2-Chlorophenol                        | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 2-Methylnaphthalene                   | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 2-Methylphenol                        | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 2-Nitroaniline                        | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 2-Nitrophenol                         | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 3-Nitroaniline                        | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 4,6-Dinitro-2-methylphenol            | 2 ug/mL       |
|                    |          |           |                    |                      |                     |              | 4-Bromophenyl phenyl ether            | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 4-Chloro-3-methylphenol               | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 4-Chloroaniline                       | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 4-Chlorophenyl phenyl ether           | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 4-Methylphenol                        | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 4-Nitroaniline                        | 1 ug/mL       |
|                    |          |           |                    |                      |                     |              | 4-Nitrophenol                         | 2 ug/mL       |
|                    |          |           |                    |                      |                     |              | Acenaphthene                          | 1 ug/mL       |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent |              | Analyte                      | Concentration |
|------------|----------|-----------|---------------|----------------------|----------------|--------------|------------------------------|---------------|
|            |          |           |               |                      | Reagent ID     | Volume Added |                              |               |
|            |          |           |               |                      |                |              | Acenaphthylene               | 1 ug/mL       |
|            |          |           |               |                      |                |              | Acetophenone                 | 1 ug/mL       |
|            |          |           |               |                      |                |              | Aniline                      | 1 ug/mL       |
|            |          |           |               |                      |                |              | Anthracene                   | 1 ug/mL       |
|            |          |           |               |                      |                |              | Benzo[a]anthracene           | 1 ug/mL       |
|            |          |           |               |                      |                |              | Benzo[a]pyrene               | 1 ug/mL       |
|            |          |           |               |                      |                |              | Benzo[b]fluoranthene         | 1 ug/mL       |
|            |          |           |               |                      |                |              | Benzo[g,h,i]perylene         | 1 ug/mL       |
|            |          |           |               |                      |                |              | Benzo[k]fluoranthene         | 1 ug/mL       |
|            |          |           |               |                      |                |              | Benzyl alcohol               | 1 ug/mL       |
|            |          |           |               |                      |                |              | Bis (2-chloroethoxy)methane  | 1 ug/mL       |
|            |          |           |               |                      |                |              | Bis (2-chloroethyl) ether    | 1 ug/mL       |
|            |          |           |               |                      |                |              | Bis (2-ethylhexyl) phthalate | 1 ug/mL       |
|            |          |           |               |                      |                |              | Butyl benzyl phthalate       | 1 ug/mL       |
|            |          |           |               |                      |                |              | Carbazole                    | 1 ug/mL       |
|            |          |           |               |                      |                |              | Chrysene                     | 1 ug/mL       |
|            |          |           |               |                      |                |              | Di-n-butyl phthalate         | 1 ug/mL       |
|            |          |           |               |                      |                |              | Di-n-octyl phthalate         | 1 ug/mL       |
|            |          |           |               |                      |                |              | Dibenz (a,h) anthracene      | 1 ug/mL       |
|            |          |           |               |                      |                |              | Dibenzofuran                 | 1 ug/mL       |
|            |          |           |               |                      |                |              | Diethyl phthalate            | 1 ug/mL       |
|            |          |           |               |                      |                |              | Dimethyl phthalate           | 1 ug/mL       |
|            |          |           |               |                      |                |              | Fluoranthene                 | 1 ug/mL       |
|            |          |           |               |                      |                |              | Fluorene                     | 1 ug/mL       |
|            |          |           |               |                      |                |              | Hexachlorobenzene            | 1 ug/mL       |
|            |          |           |               |                      |                |              | Hexachlorobutadiene          | 1 ug/mL       |
|            |          |           |               |                      |                |              | Hexachlorocyclopentadiene    | 1 ug/mL       |
|            |          |           |               |                      |                |              | Hexachloroethane             | 1 ug/mL       |
|            |          |           |               |                      |                |              | Hexadecane                   | 1 ug/mL       |
|            |          |           |               |                      |                |              | Indeno[1,2,3-cd]pyrene       | 1 ug/mL       |
|            |          |           |               |                      |                |              | Isophorone                   | 1 ug/mL       |
|            |          |           |               |                      |                |              | n-Decane                     | 1 ug/mL       |
|            |          |           |               |                      |                |              | N-Nitrosodi-n-propylamine    | 1 ug/mL       |
|            |          |           |               |                      |                |              | N-Nitrosodimethylamine       | 1 ug/mL       |
|            |          |           |               |                      |                |              | n-Octadecane                 | 1 ug/mL       |
|            |          |           |               |                      |                |              | Naphthalene                  | 1 ug/mL       |
|            |          |           |               |                      |                |              | Nitrobenzene                 | 1 ug/mL       |
|            |          |           |               |                      |                |              | Pentachlorophenol            | 2 ug/mL       |
|            |          |           |               |                      |                |              | Phenanthrene                 | 1 ug/mL       |
|            |          |           |               |                      |                |              | Phenol                       | 1 ug/mL       |
|            |          |           |               |                      |                |              | Pyrene                       | 1 ug/mL       |
|            |          |           |               |                      |                |              | Pyridine                     | 1 ug/mL       |
|            |          |           |               |                      |                |              | 3,3'-Dichlorobenzidine       | 1 ug/mL       |
|            |          |           |               |                      |                |              | Atrazine                     | 1 ug/mL       |
|            |          |           |               |                      |                |              | Benzidine                    | 1 ug/mL       |
|            |          |           |               |                      |                |              | Caprolactam                  | 1 ug/mL       |
|            |          |           |               |                      |                |              | N-Nitrosodiphenylamine       | 1 ug/mL       |
|            |          |           |               |                      |                |              | Benzaldehyde                 | 1 ug/mL       |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID           | Exp Date | Prep Date | Dilutant Used       | Reagent Final Volume | Parent Reagent      |              | Analyte                               | Concentration |
|----------------------|----------|-----------|---------------------|----------------------|---------------------|--------------|---------------------------------------|---------------|
|                      |          |           |                     |                      | Reagent ID          | Volume Added |                                       |               |
|                      |          |           |                     |                      |                     |              | Benzoic acid                          | 1 ug/mL       |
|                      |          |           |                     |                      |                     |              | Indene                                | 1 ug/mL       |
|                      |          |           |                     |                      |                     |              | 2,4,6-Tribromophenol (Surr)           | 1 ug/mL       |
|                      |          |           |                     |                      |                     |              | 2-Fluorobiphenyl                      | 1 ug/mL       |
|                      |          |           |                     |                      |                     |              | 2-Fluorophenol (Surr)                 | 1 ug/mL       |
|                      |          |           |                     |                      |                     |              | Nitrobenzene-d5 (Surr)                | 1 ug/mL       |
|                      |          |           |                     |                      |                     |              | Phenol-d5 (Surr)                      | 1 ug/mL       |
|                      |          |           |                     |                      |                     |              | Terphenyl-d14 (Surr)                  | 1 ug/mL       |
|                      |          |           |                     |                      |                     |              | N-Nitrosopyrrolidine                  | 1 ug/mL       |
| .SVTAPITINTRNi_00005 | 05/07/15 | 05/07/14  | MeCl2, Lot 1000447  | 25 mL                | SVLVIntstd_00007    | 5000 uL      | 1,4-Dichlorobenzene-d4                | 400 ug/mL     |
|                      |          |           |                     |                      |                     |              | Acenaphthene-d10                      | 400 ug/mL     |
|                      |          |           |                     |                      |                     |              | Chrysene-d12                          | 400 ug/mL     |
|                      |          |           |                     |                      |                     |              | Naphthalene-d8                        | 400 ug/mL     |
|                      |          |           |                     |                      |                     |              | Perylene-d12                          | 400 ug/mL     |
|                      |          |           |                     |                      |                     |              | Phenanthrene-d10                      | 400 ug/mL     |
| ..SVLVIntstd_00007   | 02/28/18 |           | Restek, Lot A093676 |                      | (Purchased Reagent) |              | 1,4-Dichlorobenzene-d4                | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Acenaphthene-d10                      | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Chrysene-d12                          | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Naphthalene-d8                        | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Perylene-d12                          | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Phenanthrene-d10                      | 2000 ug/mL    |
| .SVTAPITSTCKi_00005  | 04/30/15 | 02/17/15  | MeCl2, Lot 1417620  | 20 mL                | sv benzoepyre_00001 | 800 uL       | Benzo[e]pyrene                        | 40 ug/mL      |
|                      |          |           |                     |                      | SV2NAPAMINEs_00002  | 800 uL       | 2-Naphthylamine                       | 40 ug/mL      |
|                      |          |           |                     |                      | SVLVlist12_00002    | 800 uL       | 2,3,5,6-Tetrachlorophenol             | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,6-Dichlorophenol                    | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 7,12-Dimethylbenz(a)anthracene        | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | Methyl methanesulfonate               | 40 ug/mL      |
|                      |          |           |                     |                      | SVLVstd1_00026      | 800 uL       | 1,1'-Biphenyl                         | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,2,4,5-Tetrachlorobenzene            | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,2,4-Trichlorobenzene                | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,2-Dichlorobenzene                   | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,2-Diphenylhydrazine (as Azobenzene) | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,3-Dichlorobenzene                   | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,3-Dinitrobenzene                    | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,4-Dichlorobenzene                   | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,4-Dioxane                           | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1-Methylnaphthalene                   | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,2'-oxybis[1-chloropropane]          | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,3,4,6-Tetrachlorophenol             | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,4,5-Trichlorophenol                 | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,4,6-Trichlorophenol                 | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,4-Dichlorophenol                    | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,4-Dimethylphenol                    | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,4-Dinitrophenol                     | 80 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,4-Dinitrotoluene                    | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,6-Dinitrotoluene                    | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2-Chloronaphthalene                   | 40 ug/mL      |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent |              | Analyte                      | Concentration |
|------------|----------|-----------|---------------|----------------------|----------------|--------------|------------------------------|---------------|
|            |          |           |               |                      | Reagent ID     | Volume Added |                              |               |
|            |          |           |               |                      |                |              | 2-Chlorophenol               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2-Methylnaphthalene          | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2-Methylphenol               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2-Nitroaniline               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2-Nitrophenol                | 40 ug/mL      |
|            |          |           |               |                      |                |              | 3-Nitroaniline               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4,6-Dinitro-2-methylphenol   | 80 ug/mL      |
|            |          |           |               |                      |                |              | 4-Bromophenyl phenyl ether   | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chloro-3-methylphenol      | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chloroaniline              | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chlorophenyl phenyl ether  | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Methylphenol               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Nitroaniline               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Nitrophenol                | 80 ug/mL      |
|            |          |           |               |                      |                |              | Acenaphthene                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Acenaphthylene               | 40 ug/mL      |
|            |          |           |               |                      |                |              | Acetophenone                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Aniline                      | 40 ug/mL      |
|            |          |           |               |                      |                |              | Anthracene                   | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[a]anthracene           | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[a]pyrene               | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[b]fluoranthene         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[g,h,i]perylene         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[k]fluoranthene         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzyl alcohol               | 40 ug/mL      |
|            |          |           |               |                      |                |              | Bis (2-chloroethoxy)methane  | 40 ug/mL      |
|            |          |           |               |                      |                |              | Bis (2-chloroethyl) ether    | 40 ug/mL      |
|            |          |           |               |                      |                |              | Bis (2-ethylhexyl) phthalate | 40 ug/mL      |
|            |          |           |               |                      |                |              | Butyl benzyl phthalate       | 40 ug/mL      |
|            |          |           |               |                      |                |              | Carbazole                    | 40 ug/mL      |
|            |          |           |               |                      |                |              | Chrysene                     | 40 ug/mL      |
|            |          |           |               |                      |                |              | Di-n-butyl phthalate         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Di-n-octyl phthalate         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Dibenz (a,h) anthracene      | 40 ug/mL      |
|            |          |           |               |                      |                |              | Dibenzofuran                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Diethyl phthalate            | 40 ug/mL      |
|            |          |           |               |                      |                |              | Dimethyl phthalate           | 40 ug/mL      |
|            |          |           |               |                      |                |              | Fluoranthene                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Fluorene                     | 40 ug/mL      |
|            |          |           |               |                      |                |              | Hexachlorobenzene            | 40 ug/mL      |
|            |          |           |               |                      |                |              | Hexachlorobutadiene          | 40 ug/mL      |
|            |          |           |               |                      |                |              | Hexachlorocyclopentadiene    | 40 ug/mL      |
|            |          |           |               |                      |                |              | Hexachloroethane             | 40 ug/mL      |
|            |          |           |               |                      |                |              | Hexadecane                   | 40 ug/mL      |
|            |          |           |               |                      |                |              | Indeno[1,2,3-cd]pyrene       | 40 ug/mL      |
|            |          |           |               |                      |                |              | Isophorone                   | 40 ug/mL      |
|            |          |           |               |                      |                |              | n-Decane                     | 40 ug/mL      |
|            |          |           |               |                      |                |              | N-Nitrosodi-n-propylamine    | 40 ug/mL      |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID            | Exp Date | Prep Date                     | Dilutant Used | Reagent Final Volume | Parent Reagent      |                                       | Analyte                     | Concentration |
|-----------------------|----------|-------------------------------|---------------|----------------------|---------------------|---------------------------------------|-----------------------------|---------------|
|                       |          |                               |               |                      | Reagent ID          | Volume Added                          |                             |               |
|                       |          |                               |               |                      |                     |                                       | N-Nitrosodimethylamine      | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | n-Octadecane                | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Naphthalene                 | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Nitrobenzene                | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Pentachlorophenol           | 80 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Phenanthrene                | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Phenol                      | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Pyrene                      | 40 ug/mL      |
|                       |          |                               |               |                      | Pyridine            | 40 ug/mL                              |                             |               |
|                       |          |                               |               |                      | SVLVstd2_00012      | 400 uL                                | 3,3'-Dichlorobenzidine      | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Atrazine                    | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Benztidine                  | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Caprolactam                 | 40 ug/mL      |
|                       |          |                               |               |                      | SVLVstd5(7)_00001   | 400 uL                                | N-Nitrosodiphenylamine      | 40 ug/mL      |
|                       |          |                               |               |                      | SVLVstd8_00003      | 400 uL                                | Benzaldehyde                | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Benzoic acid                | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Indene                      | 40 ug/mL      |
|                       |          |                               |               |                      | SVLVSURRSPK_00003   | 160 uL                                | 2,4,6-Tribromophenol (Surr) | 40 ug/mL      |
|                       |          | 2-Fluorobiphenyl              | 40 ug/mL      |                      |                     |                                       |                             |               |
|                       |          | 2-Fluorophenol (Surr)         | 40 ug/mL      |                      |                     |                                       |                             |               |
|                       |          | Nitrobenzene-d5 (Surr)        | 40 ug/mL      |                      |                     |                                       |                             |               |
|                       |          | Phenol-d5 (Surr)              | 40 ug/mL      |                      |                     |                                       |                             |               |
|                       |          | Terphenyl-d14 (Surr)          | 40 ug/mL      |                      |                     |                                       |                             |               |
| SVNNITROPYROs_00015   | 800 uL   | N-Nitrosopyrrolidine          | 40 ug/mL      |                      |                     |                                       |                             |               |
| ..sv benzoepyre 00001 | 10/03/18 | Absolute, Lot 100313          |               |                      | (Purchased Reagent) |                                       | Benzo[e]pyrene              | 1000 ug/mL    |
| ..SV2NAPAMINEs 00002  | 06/30/17 | Ultra Scientific, Lot Ck-1617 |               |                      | (Purchased Reagent) |                                       | 2-Naphthylamine             | 1000 ug/mL    |
| ..SVLVlist12_00002    | 04/30/15 | Restek, Lot A0102912          |               |                      | (Purchased Reagent) |                                       | 2,3,5,6-Tetrachlorophenol   | 1000 ug/mL    |
|                       |          |                               |               |                      |                     | 2,6-Dichlorophenol                    | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 7,12-Dimethylbenz(a)anthracene        | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | Methyl methanesulfonate               | 1000 ug/mL                  |               |
| ..SVLVstd1_00026      | 08/31/15 | Restek, Lot A0101615          |               |                      | (Purchased Reagent) |                                       | 1,1'-Biphenyl               | 1000 ug/mL    |
|                       |          |                               |               |                      |                     | 1,2,4,5-Tetrachlorobenzene            | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 1,2,4-Trichlorobenzene                | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 1,2-Dichlorobenzene                   | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 1,2-Diphenylhydrazine (as Azobenzene) | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 1,3-Dichlorobenzene                   | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 1,3-Dinitrobenzene                    | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 1,4-Dichlorobenzene                   | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 1,4-Dioxane                           | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 1-Methylnaphthalene                   | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 2,2'-oxybis[1-chloropropane]          | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 2,3,4,6-Tetrachlorophenol             | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 2,4,5-Trichlorophenol                 | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 2,4,6-Trichlorophenol                 | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 2,4-Dichlorophenol                    | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 2,4-Dimethylphenol                    | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 2,4-Dinitrophenol                     | 2000 ug/mL                  |               |



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent |              | Analyte                     | Concentration |
|------------|----------|-----------|---------------|----------------------|----------------|--------------|-----------------------------|---------------|
|            |          |           |               |                      | Reagent ID     | Volume Added |                             |               |
|            |          |           |               |                      |                |              | 2,4-Dinitrotoluene          | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2,6-Dinitrotoluene          | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Chloronaphthalene         | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Chlorophenol              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Methylnaphthalene         | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Methylphenol              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Nitroaniline              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Nitrophenol               | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 3-Nitroaniline              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4,6-Dinitro-2-methylphenol  | 2000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Bromophenyl phenyl ether  | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Chloro-3-methylphenol     | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Chloroaniline             | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Chlorophenyl phenyl ether | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Methylphenol              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Nitroaniline              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Nitrophenol               | 2000 ug/mL    |
|            |          |           |               |                      |                |              | Acenaphthene                | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Acenaphthylene              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Acetophenone                | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Aniline                     | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Anthracene                  | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[a]anthracene          | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[a]pyrene              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[b]fluoranthene        | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[g,h,i]perylene        | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[k]fluoranthene        | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzyl alcohol              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Bis(2-chloroethoxy)methane  | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Bis(2-chloroethyl)ether     | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Bis(2-ethylhexyl) phthalate | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Butyl benzyl phthalate      | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Carbazole                   | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Chrysene                    | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Di-n-butyl phthalate        | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Di-n-octyl phthalate        | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Dibenz(a,h)anthracene       | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Dibenzofuran                | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Diethyl phthalate           | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Dimethyl phthalate          | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Fluoranthene                | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Fluorene                    | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Hexachlorobenzene           | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Hexachlorobutadiene         | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Hexachlorocyclopentadiene   | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Hexachloroethane            | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Hexadecane                  | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Indeno[1,2,3-cd]pyrene      | 1000 ug/mL    |

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID            | Exp Date | Prep Date | Dilutant Used        | Reagent Final Volume | Parent Reagent      |              | Analyte                               | Concentration |
|-----------------------|----------|-----------|----------------------|----------------------|---------------------|--------------|---------------------------------------|---------------|
|                       |          |           |                      |                      | Reagent ID          | Volume Added |                                       |               |
|                       |          |           |                      |                      |                     |              | Isophorone                            | 1000 ug/mL    |
|                       |          |           |                      |                      |                     |              | n-Decane                              | 1000 ug/mL    |
|                       |          |           |                      |                      |                     |              | N-Nitrosodi-n-propylamine             | 1000 ug/mL    |
|                       |          |           |                      |                      |                     |              | N-Nitrosodimethylamine                | 1000 ug/mL    |
|                       |          |           |                      |                      |                     |              | n-Octadecane                          | 1000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Naphthalene                           | 1000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Nitrobenzene                          | 1000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Pentachlorophenol                     | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Phenanthrene                          | 1000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Phenol                                | 1000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Pyrene                                | 1000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Pyridine                              | 1000 ug/mL    |
| ..SVLVstd2_00012      | 07/31/15 |           | Restek, Lot A0100824 |                      | (Purchased Reagent) |              | 3,3'-Dichlorobenzidine                | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Atrazine                              | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Benzidine                             | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Caprolactam                           | 2000 ug/mL    |
| ..SVLVstd5(7)_00001   | 02/28/17 |           | Restek, Lot A0101573 |                      | (Purchased Reagent) |              | N-Nitrosodiphenylamine                | 2000 ug/mL    |
| ..SVLVstd8_00003      | 05/31/15 |           | Restek, Lot A0103145 |                      | (Purchased Reagent) |              | Benzaldehyde                          | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Benzoic acid                          | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Indene                                | 2000 ug/mL    |
| ..SVLVSURRSPK_00003   | 02/28/18 |           | Restek, Lot A093638  |                      | (Purchased Reagent) |              | 2,4,6-Tribromophenol (Surr)           | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 2-Fluorobiphenyl                      | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 2-Fluorophenol (Surr)                 | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Nitrobenzene-d5 (Surr)                | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Phenol-d5 (Surr)                      | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Terphenyl-d14 (Surr)                  | 5000 ug/mL    |
| ..SVNNITROPYROs_00015 | 06/05/17 |           | absolute, Lot 060514 |                      | (Purchased Reagent) |              | N-Nitrosopyrrolidine                  | 1000 ug/mL    |
| SVTAPSTD20i_00006     | 04/30/15 | 02/23/15  | MeCl2, Lot 1053215   | 1 mL                 | SVTAPITINTRNi_00005 | 10 uL        | 1,4-Dichlorobenzene-d4                | 4 ug/mL       |
|                       |          |           |                      |                      |                     |              | Acenaphthene-d10                      | 4 ug/mL       |
|                       |          |           |                      |                      |                     |              | Chrysene-d12                          | 4 ug/mL       |
|                       |          |           |                      |                      |                     |              | Naphthalene-d8                        | 4 ug/mL       |
|                       |          |           |                      |                      |                     |              | Perylene-d12                          | 4 ug/mL       |
|                       |          |           |                      |                      |                     |              | Phenanthrene-d10                      | 4 ug/mL       |
|                       |          |           |                      |                      | SVTAPITSTCKi_00005  | 250 uL       | Benzo[e]pyrene                        | 10 ug/mL      |
|                       |          |           |                      |                      |                     |              | 2-Naphthylamine                       | 10 ug/mL      |
|                       |          |           |                      |                      |                     |              | 2,3,5,6-Tetrachlorophenol             | 10 ug/mL      |
|                       |          |           |                      |                      |                     |              | 2,6-Dichlorophenol                    | 10 ug/mL      |
|                       |          |           |                      |                      |                     |              | 7,12-Dimethylbenz(a)anthracene        | 10 ug/mL      |
|                       |          |           |                      |                      |                     |              | Methyl methanesulfonate               | 10 ug/mL      |
|                       |          |           |                      |                      |                     |              | 1,1'-Biphenyl                         | 10 ug/mL      |
|                       |          |           |                      |                      |                     |              | 1,2,4,5-Tetrachlorobenzene            | 10 ug/mL      |
|                       |          |           |                      |                      |                     |              | 1,2,4-Trichlorobenzene                | 10 ug/mL      |
|                       |          |           |                      |                      |                     |              | 1,2-Dichlorobenzene                   | 10 ug/mL      |
|                       |          |           |                      |                      |                     |              | 1,2-Diphenylhydrazine (as Azobenzene) | 10 ug/mL      |
|                       |          |           |                      |                      |                     |              | 1,3-Dichlorobenzene                   | 10 ug/mL      |
|                       |          |           |                      |                      |                     |              | 1,3-Dinitrobenzene                    | 10 ug/mL      |
|                       |          |           |                      |                      |                     |              | 1,4-Dichlorobenzene                   | 10 ug/mL      |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent |              | Analyte                      | Concentration |
|------------|----------|-----------|---------------|----------------------|----------------|--------------|------------------------------|---------------|
|            |          |           |               |                      | Reagent ID     | Volume Added |                              |               |
|            |          |           |               |                      |                |              | 1,4-Dioxane                  | 10 ug/mL      |
|            |          |           |               |                      |                |              | 1-Methylnaphthalene          | 10 ug/mL      |
|            |          |           |               |                      |                |              | 2,2'-oxybis[1-chloropropane] | 10 ug/mL      |
|            |          |           |               |                      |                |              | 2,3,4,6-Tetrachlorophenol    | 10 ug/mL      |
|            |          |           |               |                      |                |              | 2,4,5-Trichlorophenol        | 10 ug/mL      |
|            |          |           |               |                      |                |              | 2,4,6-Trichlorophenol        | 10 ug/mL      |
|            |          |           |               |                      |                |              | 2,4-Dichlorophenol           | 10 ug/mL      |
|            |          |           |               |                      |                |              | 2,4-Dimethylphenol           | 10 ug/mL      |
|            |          |           |               |                      |                |              | 2,4-Dinitrophenol            | 20 ug/mL      |
|            |          |           |               |                      |                |              | 2,4-Dinitrotoluene           | 10 ug/mL      |
|            |          |           |               |                      |                |              | 2,6-Dinitrotoluene           | 10 ug/mL      |
|            |          |           |               |                      |                |              | 2-Chloronaphthalene          | 10 ug/mL      |
|            |          |           |               |                      |                |              | 2-Chlorophenol               | 10 ug/mL      |
|            |          |           |               |                      |                |              | 2-Methylnaphthalene          | 10 ug/mL      |
|            |          |           |               |                      |                |              | 2-Methylphenol               | 10 ug/mL      |
|            |          |           |               |                      |                |              | 2-Nitroaniline               | 10 ug/mL      |
|            |          |           |               |                      |                |              | 2-Nitrophenol                | 10 ug/mL      |
|            |          |           |               |                      |                |              | 3-Nitroaniline               | 10 ug/mL      |
|            |          |           |               |                      |                |              | 4,6-Dinitro-2-methylphenol   | 20 ug/mL      |
|            |          |           |               |                      |                |              | 4-Bromophenyl phenyl ether   | 10 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chloro-3-methylphenol      | 10 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chloroaniline              | 10 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chlorophenyl phenyl ether  | 10 ug/mL      |
|            |          |           |               |                      |                |              | 4-Methylphenol               | 10 ug/mL      |
|            |          |           |               |                      |                |              | 4-Nitroaniline               | 10 ug/mL      |
|            |          |           |               |                      |                |              | 4-Nitrophenol                | 20 ug/mL      |
|            |          |           |               |                      |                |              | Acenaphthene                 | 10 ug/mL      |
|            |          |           |               |                      |                |              | Acenaphthylene               | 10 ug/mL      |
|            |          |           |               |                      |                |              | Acetophenone                 | 10 ug/mL      |
|            |          |           |               |                      |                |              | Aniline                      | 10 ug/mL      |
|            |          |           |               |                      |                |              | Anthracene                   | 10 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[a]anthracene           | 10 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[a]pyrene               | 10 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[b]fluoranthene         | 10 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[g,h,i]perylene         | 10 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[k]fluoranthene         | 10 ug/mL      |
|            |          |           |               |                      |                |              | Benzyl alcohol               | 10 ug/mL      |
|            |          |           |               |                      |                |              | Bis (2-chloroethoxy)methane  | 10 ug/mL      |
|            |          |           |               |                      |                |              | Bis (2-chloroethyl) ether    | 10 ug/mL      |
|            |          |           |               |                      |                |              | Bis (2-ethylhexyl) phthalate | 10 ug/mL      |
|            |          |           |               |                      |                |              | Butyl benzyl phthalate       | 10 ug/mL      |
|            |          |           |               |                      |                |              | Carbazole                    | 10 ug/mL      |
|            |          |           |               |                      |                |              | Chrysene                     | 10 ug/mL      |
|            |          |           |               |                      |                |              | Di-n-butyl phthalate         | 10 ug/mL      |
|            |          |           |               |                      |                |              | Di-n-octyl phthalate         | 10 ug/mL      |
|            |          |           |               |                      |                |              | Dibenz (a,h) anthracene      | 10 ug/mL      |
|            |          |           |               |                      |                |              | Dibenzofuran                 | 10 ug/mL      |
|            |          |           |               |                      |                |              | Diethyl phthalate            | 10 ug/mL      |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID           | Exp Date | Prep Date           | Dilutant Used      | Reagent Final Volume | Parent Reagent      |              | Analyte                     | Concentration |
|----------------------|----------|---------------------|--------------------|----------------------|---------------------|--------------|-----------------------------|---------------|
|                      |          |                     |                    |                      | Reagent ID          | Volume Added |                             |               |
|                      |          |                     |                    |                      |                     |              | Dimethyl phthalate          | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Fluoranthene                | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Fluorene                    | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Hexachlorobenzene           | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Hexachlorobutadiene         | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Hexachlorocyclopentadiene   | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Hexachloroethane            | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Hexadecane                  | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Indeno[1,2,3-cd]pyrene      | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Isophorone                  | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | n-Decane                    | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | N-Nitrosodi-n-propylamine   | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | N-Nitrosodimethylamine      | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | n-Octadecane                | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Naphthalene                 | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Nitrobenzene                | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Pentachlorophenol           | 20 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Phenanthrene                | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Phenol                      | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Pyrene                      | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Pyridine                    | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | 3,3'-Dichlorobenzidine      | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Atrazine                    | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Benzidine                   | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Caprolactam                 | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | N-Nitrosodiphenylamine      | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Benzaldehyde                | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Benzoic acid                | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Indene                      | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | 2,4,6-Tribromophenol (Surr) | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | 2-Fluorobiphenyl            | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | 2-Fluorophenol (Surr)       | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Nitrobenzene-d5 (Surr)      | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Phenol-d5 (Surr)            | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Terphenyl-d14 (Surr)        | 10 ug/mL      |
|                      |          |                     |                    |                      |                     |              | N-Nitrosopyrrolidine        | 10 ug/mL      |
| .SVTAPITINTRNi_00005 | 05/07/15 | 05/07/14            | MeCl2, Lot 1000447 | 25 mL                | SVLVIntstd_00007    | 5000 uL      | 1,4-Dichlorobenzene-d4      | 400 ug/mL     |
|                      |          |                     |                    |                      |                     |              | Acenaphthene-d10            | 400 ug/mL     |
|                      |          |                     |                    |                      |                     |              | Chrysene-d12                | 400 ug/mL     |
|                      |          |                     |                    |                      |                     |              | Naphthalene-d8              | 400 ug/mL     |
|                      |          |                     |                    |                      |                     |              | Perylene-d12                | 400 ug/mL     |
|                      |          |                     |                    |                      |                     |              | Phenanthrene-d10            | 400 ug/mL     |
| ..SVLVIntstd_00007   | 02/28/18 | Restek, Lot A093676 |                    |                      | (Purchased Reagent) |              | 1,4-Dichlorobenzene-d4      | 2000 ug/mL    |
|                      |          |                     |                    |                      |                     |              | Acenaphthene-d10            | 2000 ug/mL    |
|                      |          |                     |                    |                      |                     |              | Chrysene-d12                | 2000 ug/mL    |
|                      |          |                     |                    |                      |                     |              | Naphthalene-d8              | 2000 ug/mL    |
|                      |          |                     |                    |                      |                     |              | Perylene-d12                | 2000 ug/mL    |
|                      |          |                     |                    |                      |                     |              | Phenanthrene-d10            | 2000 ug/mL    |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID          | Exp Date | Prep Date | Dilutant Used      | Reagent Final Volume | Parent Reagent      |              | Analyte                               | Concentration |
|---------------------|----------|-----------|--------------------|----------------------|---------------------|--------------|---------------------------------------|---------------|
|                     |          |           |                    |                      | Reagent ID          | Volume Added |                                       |               |
| .SVTAPITSTCKi_00005 | 04/30/15 | 02/17/15  | MeCl2, Lot 1417620 | 20 mL                | sv benzoepyre 00001 | 800 uL       | Benzo[e]pyrene                        | 40 ug/mL      |
|                     |          |           |                    |                      | SV2NAPAMINes_00002  | 800 uL       | 2-Naphthylamine                       | 40 ug/mL      |
|                     |          |           |                    |                      | SVLVlist12_00002    | 800 uL       | 2,3,5,6-Tetrachlorophenol             | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 2,6-Dichlorophenol                    | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 7,12-Dimethylbenz(a)anthracene        | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | Methyl methanesulfonate               | 40 ug/mL      |
|                     |          |           |                    |                      | SVLVstd1_00026      | 800 uL       | 1,1'-Biphenyl                         | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 1,2,4,5-Tetrachlorobenzene            | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 1,2,4-Trichlorobenzene                | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 1,2-Dichlorobenzene                   | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 1,2-Diphenylhydrazine (as Azobenzene) | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 1,3-Dichlorobenzene                   | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 1,3-Dinitrobenzene                    | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 1,4-Dichlorobenzene                   | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 1,4-Dioxane                           | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 1-Methylnaphthalene                   | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 2,2'-oxybis[1-chloropropane]          | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 2,3,4,6-Tetrachlorophenol             | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 2,4,5-Trichlorophenol                 | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 2,4,6-Trichlorophenol                 | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 2,4-Dichlorophenol                    | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 2,4-Dimethylphenol                    | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 2,4-Dinitrophenol                     | 80 ug/mL      |
|                     |          |           |                    |                      |                     |              | 2,4-Dinitrotoluene                    | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 2,6-Dinitrotoluene                    | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 2-Chloronaphthalene                   | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 2-Chlorophenol                        | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 2-Methylnaphthalene                   | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 2-Methylphenol                        | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 2-Nitroaniline                        | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 2-Nitrophenol                         | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 3-Nitroaniline                        | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 4,6-Dinitro-2-methylphenol            | 80 ug/mL      |
|                     |          |           |                    |                      |                     |              | 4-Bromophenyl phenyl ether            | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 4-Chloro-3-methylphenol               | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 4-Chloroaniline                       | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 4-Chlorophenyl phenyl ether           | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 4-Methylphenol                        | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 4-Nitroaniline                        | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | 4-Nitrophenol                         | 80 ug/mL      |
|                     |          |           |                    |                      |                     |              | Acenaphthene                          | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | Acenaphthylene                        | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | Acetophenone                          | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | Aniline                               | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | Anthracene                            | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | Benzo[a]anthracene                    | 40 ug/mL      |
|                     |          |           |                    |                      |                     |              | Benzo[a]pyrene                        | 40 ug/mL      |

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent    |              | Analyte                      | Concentration |
|------------|----------|-----------|---------------|----------------------|-------------------|--------------|------------------------------|---------------|
|            |          |           |               |                      | Reagent ID        | Volume Added |                              |               |
|            |          |           |               |                      |                   |              | Benzo[b]fluoranthene         | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Benzo[g,h,i]perylene         | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Benzo[k]fluoranthene         | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Benzyl alcohol               | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Bis (2-chloroethoxy)methane  | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Bis (2-chloroethyl) ether    | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Bis (2-ethylhexyl) phthalate | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Butyl benzyl phthalate       | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Carbazole                    | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Chrysene                     | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Di-n-butyl phthalate         | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Di-n-octyl phthalate         | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Dibenz (a,h) anthracene      | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Dibenzofuran                 | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Diethyl phthalate            | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Dimethyl phthalate           | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Fluoranthene                 | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Fluorene                     | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Hexachlorobenzene            | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Hexachlorobutadiene          | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Hexachlorocyclopentadiene    | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Hexachloroethane             | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Hexadecane                   | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Indeno[1,2,3-cd]pyrene       | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Isophorone                   | 40 ug/mL      |
|            |          |           |               |                      |                   |              | n-Decane                     | 40 ug/mL      |
|            |          |           |               |                      |                   |              | N-Nitrosodi-n-propylamine    | 40 ug/mL      |
|            |          |           |               |                      |                   |              | N-Nitrosodimethylamine       | 40 ug/mL      |
|            |          |           |               |                      |                   |              | n-Octadecane                 | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Naphthalene                  | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Nitrobenzene                 | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Pentachlorophenol            | 80 ug/mL      |
|            |          |           |               |                      |                   |              | Phenanthrene                 | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Phenol                       | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Pyrene                       | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Pyridine                     | 40 ug/mL      |
|            |          |           |               |                      | SVLVstd2_00012    | 400 uL       | 3,3'-Dichlorobenzidine       | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Atrazine                     | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Benzidine                    | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Caprolactam                  | 40 ug/mL      |
|            |          |           |               |                      | SVLVstd5(7)_00001 | 400 uL       | N-Nitrosodiphenylamine       | 40 ug/mL      |
|            |          |           |               |                      | SVLVstd8_00003    | 400 uL       | Benzaldehyde                 | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Benzoic acid                 | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Indene                       | 40 ug/mL      |
|            |          |           |               |                      | SVLVSURRSPK_00003 | 160 uL       | 2,4,6-Tribromophenol (Surr)  | 40 ug/mL      |
|            |          |           |               |                      |                   |              | 2-Fluorobiphenyl             | 40 ug/mL      |
|            |          |           |               |                      |                   |              | 2-Fluorophenol (Surr)        | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Nitrobenzene-d5 (Surr)       | 40 ug/mL      |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID            | Exp Date | Prep Date | Dilutant Used                 | Reagent Final Volume | Parent Reagent      |              | Analyte                               | Concentration |
|-----------------------|----------|-----------|-------------------------------|----------------------|---------------------|--------------|---------------------------------------|---------------|
|                       |          |           |                               |                      | Reagent ID          | Volume Added |                                       |               |
|                       |          |           |                               |                      |                     |              | Phenol-d5 (Surr)                      | 40 ug/mL      |
|                       |          |           |                               |                      |                     |              | Terphenyl-d14 (Surr)                  | 40 ug/mL      |
|                       |          |           |                               |                      | SVNNITROPYROS 00015 | 800 uL       | N-Nitrosopyrrolidine                  | 40 ug/mL      |
| ..sv benzoepyre_00001 | 10/03/18 |           | Absolute, Lot 100313          |                      | (Purchased Reagent) |              | Benzo[e]pyrene                        | 1000 ug/mL    |
| ..SV2NAPAMINES 00002  | 06/30/17 |           | Ultra Scientific, Lot CK-1617 |                      | (Purchased Reagent) |              | 2-Naphthylamine                       | 1000 ug/mL    |
| ..SVLVlist12_00002    | 04/30/15 |           | Restek, Lot A0102912          |                      | (Purchased Reagent) |              | 2,3,5,6-Tetrachlorophenol             | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,6-Dichlorophenol                    | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 7,12-Dimethylbenz(a)anthracene        | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | Methyl methanesulfonate               | 1000 ug/mL    |
| ..SVLVstdl_00026      | 08/31/15 |           | Restek, Lot A0101615          |                      | (Purchased Reagent) |              | 1,1'-Biphenyl                         | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,2,4,5-Tetrachlorobenzene            | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,2,4-Trichlorobenzene                | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,2-Dichlorobenzene                   | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,2-Diphenylhydrazine (as Azobenzene) | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,3-Dichlorobenzene                   | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,3-Dinitrobenzene                    | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,4-Dichlorobenzene                   | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1,4-Dioxane                           | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 1-Methylnaphthalene                   | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,2'-oxybis[1-chloropropane]          | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,3,4,6-Tetrachlorophenol             | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,4,5-Trichlorophenol                 | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,4,6-Trichlorophenol                 | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,4-Dichlorophenol                    | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,4-Dimethylphenol                    | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,4-Dinitrophenol                     | 2000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,4-Dinitrotoluene                    | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2,6-Dinitrotoluene                    | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2-Chloronaphthalene                   | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2-Chlorophenol                        | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2-Methylnaphthalene                   | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2-Methylphenol                        | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2-Nitroaniline                        | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 2-Nitrophenol                         | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 3-Nitroaniline                        | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 4,6-Dinitro-2-methylphenol            | 2000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 4-Bromophenyl phenyl ether            | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 4-Chloro-3-methylphenol               | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 4-Chloroaniline                       | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 4-Chlorophenyl phenyl ether           | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 4-Methylphenol                        | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 4-Nitroaniline                        | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | 4-Nitrophenol                         | 2000 ug/mL    |
|                       |          |           |                               |                      |                     |              | Acenaphthene                          | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | Acenaphthylene                        | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | Acetophenone                          | 1000 ug/mL    |
|                       |          |           |                               |                      |                     |              | Aniline                               | 1000 ug/mL    |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID          | Exp Date | Prep Date | Dilutant Used        | Reagent Final Volume | Parent Reagent      |              | Analyte                      | Concentration |
|---------------------|----------|-----------|----------------------|----------------------|---------------------|--------------|------------------------------|---------------|
|                     |          |           |                      |                      | Reagent ID          | Volume Added |                              |               |
|                     |          |           |                      |                      |                     |              | Anthracene                   | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Benzo[a]anthracene           | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Benzo[a]pyrene               | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Benzo[b]fluoranthene         | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Benzo[g,h,i]perylene         | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Benzo[k]fluoranthene         | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Benzyl alcohol               | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Bis (2-chloroethoxy)methane  | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Bis (2-chloroethyl) ether    | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Bis (2-ethylhexyl) phthalate | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Butyl benzyl phthalate       | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Carbazole                    | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Chrysene                     | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Di-n-butyl phthalate         | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Di-n-octyl phthalate         | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Dibenz (a,h) anthracene      | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Dibenzofuran                 | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Diethyl phthalate            | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Dimethyl phthalate           | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Fluoranthene                 | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Fluorene                     | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Hexachlorobenzene            | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Hexachlorobutadiene          | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Hexachlorocyclopentadiene    | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Hexachloroethane             | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Hexadecane                   | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Indeno[1,2,3-cd]pyrene       | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Isophorone                   | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | n-Decane                     | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | N-Nitrosodi-n-propylamine    | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | N-Nitrosodimethylamine       | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | n-Octadecane                 | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Naphthalene                  | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Nitrobenzene                 | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Pentachlorophenol            | 2000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Phenanthrene                 | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Phenol                       | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Pyrene                       | 1000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Pyridine                     | 1000 ug/mL    |
| ..SVLVstd2_00012    | 07/31/15 |           | Restek, Lot A0100824 |                      | (Purchased Reagent) |              | 3,3'-Dichlorobenzidine       | 2000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Atrazine                     | 2000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Benzidine                    | 2000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Caprolactam                  | 2000 ug/mL    |
| ..SVLVstd5(7)_00001 | 02/28/17 |           | Restek, Lot A0101573 |                      | (Purchased Reagent) |              | N-Nitrosodiphenylamine       | 2000 ug/mL    |
| ..SVLVstd8_00003    | 05/31/15 |           | Restek, Lot A0103145 |                      | (Purchased Reagent) |              | Benzaldehyde                 | 2000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Benzoic acid                 | 2000 ug/mL    |
|                     |          |           |                      |                      |                     |              | Indene                       | 2000 ug/mL    |
| ..SVLVSURRSPK_00003 | 02/28/18 |           | Restek, Lot A093638  |                      | (Purchased Reagent) |              | 2,4,6-Tribromophenol (Surr)  | 5000 ug/mL    |



## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID            | Exp Date | Prep Date | Dilutant Used        | Reagent Final Volume | Parent Reagent      |              | Analyte                               | Concentration |
|-----------------------|----------|-----------|----------------------|----------------------|---------------------|--------------|---------------------------------------|---------------|
|                       |          |           |                      |                      | Reagent ID          | Volume Added |                                       |               |
|                       |          |           |                      |                      |                     |              | 2-Fluorobiphenyl                      | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 2-Fluorophenol (Surr)                 | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Nitrobenzene-d5 (Surr)                | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Phenol-d5 (Surr)                      | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Terphenyl-d14 (Surr)                  | 5000 ug/mL    |
| ..SVNNITROPYROS_00015 | 06/05/17 |           | absolute, Lot 060514 |                      | (Purchased Reagent) |              | N-Nitrosopyrrolidine                  | 1000 ug/mL    |
| SVTAPSTD4.0i_00007    | 04/30/15 | 02/23/15  | MeCl2, Lot 1053215   | 1 mL                 | SVTAPITINTRNi_00005 | 10 uL        | 1,4-Dichlorobenzene-d4                | 4 ug/mL       |
|                       |          |           |                      |                      |                     |              | Acenaphthene-d10                      | 4 ug/mL       |
|                       |          |           |                      |                      |                     |              | Chrysene-d12                          | 4 ug/mL       |
|                       |          |           |                      |                      |                     |              | Naphthalene-d8                        | 4 ug/mL       |
|                       |          |           |                      |                      |                     |              | Perylene-d12                          | 4 ug/mL       |
|                       |          |           |                      |                      |                     |              | Phenanthrene-d10                      | 4 ug/mL       |
|                       |          |           |                      |                      | SVTAPITSTCKi_00005  | 50 uL        | Benzo[e]pyrene                        | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2-Naphthylamine                       | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2,3,5,6-Tetrachlorophenol             | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2,6-Dichlorophenol                    | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 7,12-Dimethylbenz(a)anthracene        | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | Methyl methanesulfonate               | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 1,1'-Biphenyl                         | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 1,2,4,5-Tetrachlorobenzene            | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 1,2,4-Trichlorobenzene                | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 1,2-Dichlorobenzene                   | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 1,2-Diphenylhydrazine (as Azobenzene) | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 1,3-Dichlorobenzene                   | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 1,3-Dinitrobenzene                    | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 1,4-Dichlorobenzene                   | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 1,4-Dioxane                           | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 1-Methylnaphthalene                   | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2,2'-oxybis[1-chloropropane]          | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2,3,4,6-Tetrachlorophenol             | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2,4,5-Trichlorophenol                 | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2,4,6-Trichlorophenol                 | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2,4-Dichlorophenol                    | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2,4-Dimethylphenol                    | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2,4-Dinitrophenol                     | 4 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2,4-Dinitrotoluene                    | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2,6-Dinitrotoluene                    | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2-Chloronaphthalene                   | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2-Chlorophenol                        | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2-Methylnaphthalene                   | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2-Methylphenol                        | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2-Nitroaniline                        | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 2-Nitrophenol                         | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 3-Nitroaniline                        | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 4,6-Dinitro-2-methylphenol            | 4 ug/mL       |
|                       |          |           |                      |                      |                     |              | 4-Bromophenyl phenyl ether            | 2 ug/mL       |
|                       |          |           |                      |                      |                     |              | 4-Chloro-3-methylphenol               | 2 ug/mL       |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent |              | Analyte                      | Concentration |
|------------|----------|-----------|---------------|----------------------|----------------|--------------|------------------------------|---------------|
|            |          |           |               |                      | Reagent ID     | Volume Added |                              |               |
|            |          |           |               |                      |                |              | 4-Chloroaniline              | 2 ug/mL       |
|            |          |           |               |                      |                |              | 4-Chlorophenyl phenyl ether  | 2 ug/mL       |
|            |          |           |               |                      |                |              | 4-Methylphenol               | 2 ug/mL       |
|            |          |           |               |                      |                |              | 4-Nitroaniline               | 2 ug/mL       |
|            |          |           |               |                      |                |              | 4-Nitrophenol                | 4 ug/mL       |
|            |          |           |               |                      |                |              | Acenaphthene                 | 2 ug/mL       |
|            |          |           |               |                      |                |              | Acenaphthylene               | 2 ug/mL       |
|            |          |           |               |                      |                |              | Acetophenone                 | 2 ug/mL       |
|            |          |           |               |                      |                |              | Aniline                      | 2 ug/mL       |
|            |          |           |               |                      |                |              | Anthracene                   | 2 ug/mL       |
|            |          |           |               |                      |                |              | Benzo[a]anthracene           | 2 ug/mL       |
|            |          |           |               |                      |                |              | Benzo[a]pyrene               | 2 ug/mL       |
|            |          |           |               |                      |                |              | Benzo[b]fluoranthene         | 2 ug/mL       |
|            |          |           |               |                      |                |              | Benzo[g,h,i]perylene         | 2 ug/mL       |
|            |          |           |               |                      |                |              | Benzo[k]fluoranthene         | 2 ug/mL       |
|            |          |           |               |                      |                |              | Benzyl alcohol               | 2 ug/mL       |
|            |          |           |               |                      |                |              | Bis (2-chloroethoxy)methane  | 2 ug/mL       |
|            |          |           |               |                      |                |              | Bis (2-chloroethyl) ether    | 2 ug/mL       |
|            |          |           |               |                      |                |              | Bis (2-ethylhexyl) phthalate | 2 ug/mL       |
|            |          |           |               |                      |                |              | Butyl benzyl phthalate       | 2 ug/mL       |
|            |          |           |               |                      |                |              | Carbazole                    | 2 ug/mL       |
|            |          |           |               |                      |                |              | Chrysene                     | 2 ug/mL       |
|            |          |           |               |                      |                |              | Di-n-butyl phthalate         | 2 ug/mL       |
|            |          |           |               |                      |                |              | Di-n-octyl phthalate         | 2 ug/mL       |
|            |          |           |               |                      |                |              | Dibenz (a,h) anthracene      | 2 ug/mL       |
|            |          |           |               |                      |                |              | Dibenzofuran                 | 2 ug/mL       |
|            |          |           |               |                      |                |              | Diethyl phthalate            | 2 ug/mL       |
|            |          |           |               |                      |                |              | Dimethyl phthalate           | 2 ug/mL       |
|            |          |           |               |                      |                |              | Fluoranthene                 | 2 ug/mL       |
|            |          |           |               |                      |                |              | Fluorene                     | 2 ug/mL       |
|            |          |           |               |                      |                |              | Hexachlorobenzene            | 2 ug/mL       |
|            |          |           |               |                      |                |              | Hexachlorobutadiene          | 2 ug/mL       |
|            |          |           |               |                      |                |              | Hexachlorocyclopentadiene    | 2 ug/mL       |
|            |          |           |               |                      |                |              | Hexachloroethane             | 2 ug/mL       |
|            |          |           |               |                      |                |              | Hexadecane                   | 2 ug/mL       |
|            |          |           |               |                      |                |              | Indeno[1,2,3-cd]pyrene       | 2 ug/mL       |
|            |          |           |               |                      |                |              | Isophorone                   | 2 ug/mL       |
|            |          |           |               |                      |                |              | n-Decane                     | 2 ug/mL       |
|            |          |           |               |                      |                |              | N-Nitrosodi-n-propylamine    | 2 ug/mL       |
|            |          |           |               |                      |                |              | N-Nitrosodimethylamine       | 2 ug/mL       |
|            |          |           |               |                      |                |              | n-Octadecane                 | 2 ug/mL       |
|            |          |           |               |                      |                |              | Naphthalene                  | 2 ug/mL       |
|            |          |           |               |                      |                |              | Nitrobenzene                 | 2 ug/mL       |
|            |          |           |               |                      |                |              | Pentachlorophenol            | 4 ug/mL       |
|            |          |           |               |                      |                |              | Phenanthrene                 | 2 ug/mL       |
|            |          |           |               |                      |                |              | Phenol                       | 2 ug/mL       |
|            |          |           |               |                      |                |              | Pyrene                       | 2 ug/mL       |
|            |          |           |               |                      |                |              | Pyridine                     | 2 ug/mL       |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID           | Exp Date | Prep Date | Dilutant Used       | Reagent Final Volume | Parent Reagent      |              | Analyte                               | Concentration |
|----------------------|----------|-----------|---------------------|----------------------|---------------------|--------------|---------------------------------------|---------------|
|                      |          |           |                     |                      | Reagent ID          | Volume Added |                                       |               |
|                      |          |           |                     |                      |                     |              | 3,3'-Dichlorobenzidine                | 2 ug/mL       |
|                      |          |           |                     |                      |                     |              | Atrazine                              | 2 ug/mL       |
|                      |          |           |                     |                      |                     |              | Benzidine                             | 2 ug/mL       |
|                      |          |           |                     |                      |                     |              | Caprolactam                           | 2 ug/mL       |
|                      |          |           |                     |                      |                     |              | N-Nitrosodiphenylamine                | 2 ug/mL       |
|                      |          |           |                     |                      |                     |              | Benzaldehyde                          | 2 ug/mL       |
|                      |          |           |                     |                      |                     |              | Benzoic acid                          | 2 ug/mL       |
|                      |          |           |                     |                      |                     |              | Indene                                | 2 ug/mL       |
|                      |          |           |                     |                      |                     |              | 2,4,6-Tribromophenol (Surr)           | 2 ug/mL       |
|                      |          |           |                     |                      |                     |              | 2-Fluorobiphenyl                      | 2 ug/mL       |
|                      |          |           |                     |                      |                     |              | 2-Fluorophenol (Surr)                 | 2 ug/mL       |
|                      |          |           |                     |                      |                     |              | Nitrobenzene-d5 (Surr)                | 2 ug/mL       |
|                      |          |           |                     |                      |                     |              | Phenol-d5 (Surr)                      | 2 ug/mL       |
|                      |          |           |                     |                      |                     |              | Terphenyl-d14 (Surr)                  | 2 ug/mL       |
| .SVTAPITINTRNi_00005 | 05/07/15 | 05/07/14  | MeCl2, Lot 1000447  | 25 mL                | SVLVIntstd_00007    | 5000 uL      | N-Nitrosopyrrolidine                  | 2 ug/mL       |
|                      |          |           |                     |                      |                     |              | 1,4-Dichlorobenzene-d4                | 400 ug/mL     |
|                      |          |           |                     |                      |                     |              | Acenaphthene-d10                      | 400 ug/mL     |
|                      |          |           |                     |                      |                     |              | Chrysene-d12                          | 400 ug/mL     |
|                      |          |           |                     |                      |                     |              | Naphthalene-d8                        | 400 ug/mL     |
|                      |          |           |                     |                      |                     |              | Perylene-d12                          | 400 ug/mL     |
| ..SVLVIntstd_00007   | 02/28/18 |           | Restek, Lot A093676 |                      | (Purchased Reagent) |              | Phenanthrene-d10                      | 400 ug/mL     |
|                      |          |           |                     |                      |                     |              | 1,4-Dichlorobenzene-d4                | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Acenaphthene-d10                      | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Chrysene-d12                          | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Naphthalene-d8                        | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Perylene-d12                          | 2000 ug/mL    |
| .SVTAPITSTCKi_00005  | 04/30/15 | 02/17/15  | MeCl2, Lot 1417620  | 20 mL                | sv benzoepyre_00001 | 800 uL       | Phenanthrene-d10                      | 2000 ug/mL    |
|                      |          |           |                     |                      | SV2NAPAMINEs_00002  | 800 uL       | 1,4-Dichlorobenzene-d4                | 2000 ug/mL    |
|                      |          |           |                     |                      | SVLVlist12_00002    | 800 uL       | Acenaphthene-d10                      | 2000 ug/mL    |
|                      |          |           |                     |                      | SVLVstd1_00026      | 800 uL       | Chrysene-d12                          | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Naphthalene-d8                        | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Perylene-d12                          | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Benzo[e]pyrene                        | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2-Naphthylamine                       | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,3,5,6-Tetrachlorophenol             | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,6-Dichlorophenol                    | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 7,12-Dimethylbenz(a)anthracene        | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | Methyl methanesulfonate               | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,1'-Biphenyl                         | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,2,4,5-Tetrachlorobenzene            | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,2,4-Trichlorobenzene                | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,2-Dichlorobenzene                   | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,2-Diphenylhydrazine (as Azobenzene) | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,3-Dichlorobenzene                   | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,3-Dinitrobenzene                    | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,4-Dichlorobenzene                   | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,4-Dioxane                           | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1-Methylnaphthalene                   | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,2'-oxybis[1-chloropropane]          | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,3,4,6-Tetrachlorophenol             | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,4,5-Trichlorophenol                 | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,4,6-Trichlorophenol                 | 40 ug/mL      |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent |              | Analyte                      | Concentration |
|------------|----------|-----------|---------------|----------------------|----------------|--------------|------------------------------|---------------|
|            |          |           |               |                      | Reagent ID     | Volume Added |                              |               |
|            |          |           |               |                      |                |              | 2,4-Dichlorophenol           | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2,4-Dimethylphenol           | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2,4-Dinitrophenol            | 80 ug/mL      |
|            |          |           |               |                      |                |              | 2,4-Dinitrotoluene           | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2,6-Dinitrotoluene           | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2-Chloronaphthalene          | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2-Chlorophenol               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2-Methylnaphthalene          | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2-Methylphenol               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2-Nitroaniline               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2-Nitrophenol                | 40 ug/mL      |
|            |          |           |               |                      |                |              | 3-Nitroaniline               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4,6-Dinitro-2-methylphenol   | 80 ug/mL      |
|            |          |           |               |                      |                |              | 4-Bromophenyl phenyl ether   | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chloro-3-methylphenol      | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chloroaniline              | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chlorophenyl phenyl ether  | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Methylphenol               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Nitroaniline               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Nitrophenol                | 80 ug/mL      |
|            |          |           |               |                      |                |              | Acenaphthene                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Acenaphthylene               | 40 ug/mL      |
|            |          |           |               |                      |                |              | Acetophenone                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Aniline                      | 40 ug/mL      |
|            |          |           |               |                      |                |              | Anthracene                   | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[a]anthracene           | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[a]pyrene               | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[b]fluoranthene         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[g,h,i]perylene         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[k]fluoranthene         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzyl alcohol               | 40 ug/mL      |
|            |          |           |               |                      |                |              | Bis (2-chloroethoxy)methane  | 40 ug/mL      |
|            |          |           |               |                      |                |              | Bis (2-chloroethyl) ether    | 40 ug/mL      |
|            |          |           |               |                      |                |              | Bis (2-ethylhexyl) phthalate | 40 ug/mL      |
|            |          |           |               |                      |                |              | Butyl benzyl phthalate       | 40 ug/mL      |
|            |          |           |               |                      |                |              | Carbazole                    | 40 ug/mL      |
|            |          |           |               |                      |                |              | Chrysene                     | 40 ug/mL      |
|            |          |           |               |                      |                |              | Di-n-butyl phthalate         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Di-n-octyl phthalate         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Dibenz (a,h) anthracene      | 40 ug/mL      |
|            |          |           |               |                      |                |              | Dibenzofuran                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Diethyl phthalate            | 40 ug/mL      |
|            |          |           |               |                      |                |              | Dimethyl phthalate           | 40 ug/mL      |
|            |          |           |               |                      |                |              | Fluoranthene                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Fluorene                     | 40 ug/mL      |
|            |          |           |               |                      |                |              | Hexachlorobenzene            | 40 ug/mL      |
|            |          |           |               |                      |                |              | Hexachlorobutadiene          | 40 ug/mL      |
|            |          |           |               |                      |                |              | Hexachlorocyclopentadiene    | 40 ug/mL      |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID            | Exp Date | Prep Date                     | Dilutant Used | Reagent Final Volume | Parent Reagent      |                                       | Analyte                     | Concentration |
|-----------------------|----------|-------------------------------|---------------|----------------------|---------------------|---------------------------------------|-----------------------------|---------------|
|                       |          |                               |               |                      | Reagent ID          | Volume Added                          |                             |               |
|                       |          |                               |               |                      |                     |                                       | Hexachloroethane            | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Hexadecane                  | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Indeno[1,2,3-cd]pyrene      | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Isophorone                  | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | n-Decane                    | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | N-Nitrosodi-n-propylamine   | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | N-Nitrosodimethylamine      | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | n-Octadecane                | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Naphthalene                 | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Nitrobenzene                | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Pentachlorophenol           | 80 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Phenanthrene                | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Phenol                      | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Pyrene                      | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Pyridine                    | 40 ug/mL      |
|                       |          |                               |               |                      | SVLVstd2_00012      | 400 uL                                | 3,3'-Dichlorobenzidine      | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Atrazine                    | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Benzidine                   | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Caprolactam                 | 40 ug/mL      |
|                       |          |                               |               |                      | SVLVstd5(7)_00001   | 400 uL                                | N-Nitrosodiphenylamine      | 40 ug/mL      |
|                       |          |                               |               |                      | SVLVstd8_00003      | 400 uL                                | Benzaldehyde                | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Benzoic acid                | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Indene                      | 40 ug/mL      |
|                       |          |                               |               |                      | SVLVSURRSPK_00003   | 160 uL                                | 2,4,6-Tribromophenol (Surr) | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | 2-Fluorobiphenyl            | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | 2-Fluorophenol (Surr)       | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Nitrobenzene-d5 (Surr)      | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Phenol-d5 (Surr)            | 40 ug/mL      |
|                       |          |                               |               |                      |                     |                                       | Terphenyl-d14 (Surr)        | 40 ug/mL      |
|                       |          |                               |               |                      | SVNNITROPYROs_00015 | 800 uL                                | N-Nitrosopyrrolidine        | 40 ug/mL      |
| ..sv benzoepyre 00001 | 10/03/18 | Absolute, Lot 100313          |               |                      | (Purchased Reagent) |                                       | Benzo[e]pyrene              | 1000 ug/mL    |
| ..SV2NAPAMINES_00002  | 06/30/17 | Ultra Scientific, Lot Ck-1617 |               |                      | (Purchased Reagent) |                                       | 2-Naphthylamine             | 1000 ug/mL    |
| ..SVLVlist12_00002    | 04/30/15 | Restek, Lot A0102912          |               |                      | (Purchased Reagent) |                                       | 2,3,5,6-Tetrachlorophenol   | 1000 ug/mL    |
|                       |          |                               |               |                      |                     | 2,6-Dichlorophenol                    | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 7,12-Dimethylbenz (a) anthracene      | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | Methyl methanesulfonate               | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 1,1'-Biphenyl                         | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 1,2,4,5-Tetrachlorobenzene            | 1000 ug/mL                  |               |
| ..SVLVstd1_00026      | 08/31/15 | Restek, Lot A0101615          |               |                      | (Purchased Reagent) | 1,2,4-Trichlorobenzene                | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 1,2-Dichlorobenzene                   | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 1,2-Diphenylhydrazine (as Azobenzene) | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 1,3-Dichlorobenzene                   | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 1,3-Dinitrobenzene                    | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 1,4-Dichlorobenzene                   | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 1,4-Dioxane                           | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 1-Methylnaphthalene                   | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     | 2,2'-oxybis[1-chloropropane]          | 1000 ug/mL                  |               |
|                       |          |                               |               |                      |                     |                                       |                             |               |
|                       |          |                               |               |                      |                     |                                       |                             |               |
|                       |          |                               |               |                      |                     |                                       |                             |               |
|                       |          |                               |               |                      |                     |                                       |                             |               |
|                       |          |                               |               |                      |                     |                                       |                             |               |

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent |              | Analyte                     | Concentration |
|------------|----------|-----------|---------------|----------------------|----------------|--------------|-----------------------------|---------------|
|            |          |           |               |                      | Reagent ID     | Volume Added |                             |               |
|            |          |           |               |                      |                |              | 2,3,4,6-Tetrachlorophenol   | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2,4,5-Trichlorophenol       | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2,4,6-Trichlorophenol       | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2,4-Dichlorophenol          | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2,4-Dimethylphenol          | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2,4-Dinitrophenol           | 2000 ug/mL    |
|            |          |           |               |                      |                |              | 2,4-Dinitrotoluene          | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2,6-Dinitrotoluene          | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Chloronaphthalene         | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Chlorophenol              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Methylnaphthalene         | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Methylphenol              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Nitroaniline              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Nitrophenol               | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 3-Nitroaniline              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4,6-Dinitro-2-methylphenol  | 2000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Bromophenyl phenyl ether  | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Chloro-3-methylphenol     | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Chloroaniline             | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Chlorophenyl phenyl ether | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Methylphenol              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Nitroaniline              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Nitrophenol               | 2000 ug/mL    |
|            |          |           |               |                      |                |              | Acenaphthene                | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Acenaphthylene              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Acetophenone                | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Aniline                     | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Anthracene                  | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[a]anthracene          | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[a]pyrene              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[b]fluoranthene        | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[g,h,i]perylene        | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[k]fluoranthene        | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzyl alcohol              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Bis(2-chloroethoxy)methane  | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Bis(2-chloroethyl)ether     | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Bis(2-ethylhexyl) phthalate | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Butyl benzyl phthalate      | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Carbazole                   | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Chrysene                    | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Di-n-butyl phthalate        | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Di-n-octyl phthalate        | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Dibenz(a,h)anthracene       | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Dibenzofuran                | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Diethyl phthalate           | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Dimethyl phthalate          | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Fluoranthene                | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Fluorene                    | 1000 ug/mL    |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID               | Exp Date | Prep Date | Dilutant Used        | Reagent Final Volume | Parent Reagent      |              | Analyte                        | Concentration |
|--------------------------|----------|-----------|----------------------|----------------------|---------------------|--------------|--------------------------------|---------------|
|                          |          |           |                      |                      | Reagent ID          | Volume Added |                                |               |
|                          |          |           |                      |                      |                     |              | Hexachlorobenzene              | 1000 ug/mL    |
|                          |          |           |                      |                      |                     |              | Hexachlorobutadiene            | 1000 ug/mL    |
|                          |          |           |                      |                      |                     |              | Hexachlorocyclopentadiene      | 1000 ug/mL    |
|                          |          |           |                      |                      |                     |              | Hexachloroethane               | 1000 ug/mL    |
|                          |          |           |                      |                      |                     |              | Hexadecane                     | 1000 ug/mL    |
|                          |          |           |                      |                      |                     |              | Indeno[1,2,3-cd]pyrene         | 1000 ug/mL    |
|                          |          |           |                      |                      |                     |              | Isophorone                     | 1000 ug/mL    |
|                          |          |           |                      |                      |                     |              | n-Decane                       | 1000 ug/mL    |
|                          |          |           |                      |                      |                     |              | N-Nitrosodi-n-propylamine      | 1000 ug/mL    |
|                          |          |           |                      |                      |                     |              | N-Nitrosodimethylamine         | 1000 ug/mL    |
|                          |          |           |                      |                      |                     |              | n-Octadecane                   | 1000 ug/mL    |
|                          |          |           |                      |                      |                     |              | Naphthalene                    | 1000 ug/mL    |
|                          |          |           |                      |                      |                     |              | Nitrobenzene                   | 1000 ug/mL    |
|                          |          |           |                      |                      |                     |              | Pentachlorophenol              | 2000 ug/mL    |
|                          |          |           |                      |                      |                     |              | Phenanthrene                   | 1000 ug/mL    |
|                          |          |           |                      |                      |                     |              | Phenol                         | 1000 ug/mL    |
|                          |          |           |                      |                      |                     |              | Pyrene                         | 1000 ug/mL    |
|                          |          |           |                      |                      |                     |              | Pyridine                       | 1000 ug/mL    |
| ..SVLVstd2_00012         | 07/31/15 |           | Restek, Lot A0100824 |                      | (Purchased Reagent) |              | 3,3'-Dichlorobenzidine         | 2000 ug/mL    |
|                          |          |           |                      |                      |                     |              | Atrazine                       | 2000 ug/mL    |
|                          |          |           |                      |                      |                     |              | Benzydine                      | 2000 ug/mL    |
|                          |          |           |                      |                      |                     |              | Caprolactam                    | 2000 ug/mL    |
| ..SVLVstd5(7) 00001      | 02/28/17 |           | Restek, Lot A0101573 |                      | (Purchased Reagent) |              | N-Nitrosodiphenylamine         | 2000 ug/mL    |
| ..SVLVstd8_00003         | 05/31/15 |           | Restek, Lot A0103145 |                      | (Purchased Reagent) |              | Benzaldehyde                   | 2000 ug/mL    |
|                          |          |           |                      |                      |                     |              | Benzoic acid                   | 2000 ug/mL    |
|                          |          |           |                      |                      |                     |              | Indene                         | 2000 ug/mL    |
| ..SVLVSURRSPK_00003      | 02/28/18 |           | Restek, Lot A093638  |                      | (Purchased Reagent) |              | 2,4,6-Tribromophenol (Surr)    | 5000 ug/mL    |
|                          |          |           |                      |                      |                     |              | 2-Fluorobiphenyl               | 5000 ug/mL    |
|                          |          |           |                      |                      |                     |              | 2-Fluorophenol (Surr)          | 5000 ug/mL    |
|                          |          |           |                      |                      |                     |              | Nitrobenzene-d5 (Surr)         | 5000 ug/mL    |
|                          |          |           |                      |                      |                     |              | Phenol-d5 (Surr)               | 5000 ug/mL    |
|                          |          |           |                      |                      |                     |              | Terphenyl-dl4 (Surr)           | 5000 ug/mL    |
| ..SVNNITROPYROs_00015    | 06/05/17 |           | absolute, Lot 060514 |                      | (Purchased Reagent) |              | N-Nitrosopyrrolidine           | 1000 ug/mL    |
| <b>SVTAPSTD40i_00006</b> | 04/30/15 | 02/23/15  | MeCl2, Lot 1053215   | 1 mL                 | SVTAPITINTRNi_00005 | 10 uL        | 1,4-Dichlorobenzene-d4         | 4 ug/mL       |
|                          |          |           |                      |                      |                     |              | Acenaphthene-d10               | 4 ug/mL       |
|                          |          |           |                      |                      |                     |              | Chrysene-d12                   | 4 ug/mL       |
|                          |          |           |                      |                      |                     |              | Naphthalene-d8                 | 4 ug/mL       |
|                          |          |           |                      |                      |                     |              | Perylene-d12                   | 4 ug/mL       |
|                          |          |           |                      |                      |                     |              | Phenanthrene-d10               | 4 ug/mL       |
|                          |          |           |                      |                      | SVTAPITSTCKi_00005  | 500 uL       | Benzo[e]pyrene                 | 20 ug/mL      |
|                          |          |           |                      |                      |                     |              | 2-Naphthylamine                | 20 ug/mL      |
|                          |          |           |                      |                      |                     |              | 2,3,5,6-Tetrachlorophenol      | 20 ug/mL      |
|                          |          |           |                      |                      |                     |              | 2,6-Dichlorophenol             | 20 ug/mL      |
|                          |          |           |                      |                      |                     |              | 7,12-Dimethylbenz(a)anthracene | 20 ug/mL      |
|                          |          |           |                      |                      |                     |              | Methyl methanesulfonate        | 20 ug/mL      |
|                          |          |           |                      |                      |                     |              | 1,1'-Biphenyl                  | 20 ug/mL      |
|                          |          |           |                      |                      |                     |              | 1,2,4,5-Tetrachlorobenzene     | 20 ug/mL      |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent |              | Analyte                               | Concentration |
|------------|----------|-----------|---------------|----------------------|----------------|--------------|---------------------------------------|---------------|
|            |          |           |               |                      | Reagent ID     | Volume Added |                                       |               |
|            |          |           |               |                      |                |              | 1,2,4-Trichlorobenzene                | 20 ug/mL      |
|            |          |           |               |                      |                |              | 1,2-Dichlorobenzene                   | 20 ug/mL      |
|            |          |           |               |                      |                |              | 1,2-Diphenylhydrazine (as Azobenzene) | 20 ug/mL      |
|            |          |           |               |                      |                |              | 1,3-Dichlorobenzene                   | 20 ug/mL      |
|            |          |           |               |                      |                |              | 1,3-Dinitrobenzene                    | 20 ug/mL      |
|            |          |           |               |                      |                |              | 1,4-Dichlorobenzene                   | 20 ug/mL      |
|            |          |           |               |                      |                |              | 1,4-Dioxane                           | 20 ug/mL      |
|            |          |           |               |                      |                |              | 1-Methylnaphthalene                   | 20 ug/mL      |
|            |          |           |               |                      |                |              | 2,2'-oxybis[1-chloropropane]          | 20 ug/mL      |
|            |          |           |               |                      |                |              | 2,3,4,6-Tetrachlorophenol             | 20 ug/mL      |
|            |          |           |               |                      |                |              | 2,4,5-Trichlorophenol                 | 20 ug/mL      |
|            |          |           |               |                      |                |              | 2,4,6-Trichlorophenol                 | 20 ug/mL      |
|            |          |           |               |                      |                |              | 2,4-Dichlorophenol                    | 20 ug/mL      |
|            |          |           |               |                      |                |              | 2,4-Dimethylphenol                    | 20 ug/mL      |
|            |          |           |               |                      |                |              | 2,4-Dinitrophenol                     | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2,4-Dinitrotoluene                    | 20 ug/mL      |
|            |          |           |               |                      |                |              | 2,6-Dinitrotoluene                    | 20 ug/mL      |
|            |          |           |               |                      |                |              | 2-Chloronaphthalene                   | 20 ug/mL      |
|            |          |           |               |                      |                |              | 2-Chlorophenol                        | 20 ug/mL      |
|            |          |           |               |                      |                |              | 2-Methylnaphthalene                   | 20 ug/mL      |
|            |          |           |               |                      |                |              | 2-Methylphenol                        | 20 ug/mL      |
|            |          |           |               |                      |                |              | 2-Nitroaniline                        | 20 ug/mL      |
|            |          |           |               |                      |                |              | 2-Nitrophenol                         | 20 ug/mL      |
|            |          |           |               |                      |                |              | 3-Nitroaniline                        | 20 ug/mL      |
|            |          |           |               |                      |                |              | 4,6-Dinitro-2-methylphenol            | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Bromophenyl phenyl ether            | 20 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chloro-3-methylphenol               | 20 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chloroaniline                       | 20 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chlorophenyl phenyl ether           | 20 ug/mL      |
|            |          |           |               |                      |                |              | 4-Methylphenol                        | 20 ug/mL      |
|            |          |           |               |                      |                |              | 4-Nitroaniline                        | 20 ug/mL      |
|            |          |           |               |                      |                |              | 4-Nitrophenol                         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Acenaphthene                          | 20 ug/mL      |
|            |          |           |               |                      |                |              | Acenaphthylene                        | 20 ug/mL      |
|            |          |           |               |                      |                |              | Acetophenone                          | 20 ug/mL      |
|            |          |           |               |                      |                |              | Aniline                               | 20 ug/mL      |
|            |          |           |               |                      |                |              | Anthracene                            | 20 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[a]anthracene                    | 20 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[a]pyrene                        | 20 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[b]fluoranthene                  | 20 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[g,h,i]perylene                  | 20 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[k]fluoranthene                  | 20 ug/mL      |
|            |          |           |               |                      |                |              | Benzyl alcohol                        | 20 ug/mL      |
|            |          |           |               |                      |                |              | Bis(2-chloroethoxy)methane            | 20 ug/mL      |
|            |          |           |               |                      |                |              | Bis(2-chloroethyl)ether               | 20 ug/mL      |
|            |          |           |               |                      |                |              | Bis(2-ethylhexyl) phthalate           | 20 ug/mL      |
|            |          |           |               |                      |                |              | Butyl benzyl phthalate                | 20 ug/mL      |



## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID           | Exp Date | Prep Date | Dilutant Used      | Reagent Final Volume | Parent Reagent   |              | Analyte                     | Concentration |
|----------------------|----------|-----------|--------------------|----------------------|------------------|--------------|-----------------------------|---------------|
|                      |          |           |                    |                      | Reagent ID       | Volume Added |                             |               |
|                      |          |           |                    |                      |                  |              | Carbazole                   | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Chrysene                    | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Di-n-butyl phthalate        | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Di-n-octyl phthalate        | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Dibenz(a,h)anthracene       | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Dibenzofuran                | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Diethyl phthalate           | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Dimethyl phthalate          | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Fluoranthene                | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Fluorene                    | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Hexachlorobenzene           | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Hexachlorobutadiene         | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Hexachlorocyclopentadiene   | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Hexachloroethane            | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Hexadecane                  | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Indeno[1,2,3-cd]pyrene      | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Isophorone                  | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | n-Decane                    | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | N-Nitrosodi-n-propylamine   | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | N-Nitrosodimethylamine      | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | n-Octadecane                | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Naphthalene                 | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Nitrobenzene                | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Pentachlorophenol           | 40 ug/mL      |
|                      |          |           |                    |                      |                  |              | Phenanthrene                | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Phenol                      | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Pyrene                      | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Pyridine                    | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | 3,3'-Dichlorobenzidine      | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Atrazine                    | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Benzidine                   | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Caprolactam                 | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | N-Nitrosodiphenylamine      | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Benzaldehyde                | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Benzoic acid                | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Indene                      | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | 2,4,6-Tribromophenol (Surr) | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | 2-Fluorobiphenyl            | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | 2-Fluorophenol (Surr)       | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Nitrobenzene-d5 (Surr)      | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Phenol-d5 (Surr)            | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | Terphenyl-d14 (Surr)        | 20 ug/mL      |
|                      |          |           |                    |                      |                  |              | N-Nitrosopyrrolidine        | 20 ug/mL      |
| .SVTAPITINTRNi_00005 | 05/07/15 | 05/07/14  | MeCl2, Lot 1000447 | 25 mL                | SVLVIntstd_00007 | 5000 uL      | 1,4-Dichlorobenzene-d4      | 400 ug/mL     |
|                      |          |           |                    |                      |                  |              | Acenaphthene-d10            | 400 ug/mL     |
|                      |          |           |                    |                      |                  |              | Chrysene-d12                | 400 ug/mL     |
|                      |          |           |                    |                      |                  |              | Naphthalene-d8              | 400 ug/mL     |
|                      |          |           |                    |                      |                  |              | Perylene-d12                | 400 ug/mL     |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID          | Exp Date | Prep Date | Dilutant Used       | Reagent Final Volume | Parent Reagent      |              | Analyte                               | Concentration |
|---------------------|----------|-----------|---------------------|----------------------|---------------------|--------------|---------------------------------------|---------------|
|                     |          |           |                     |                      | Reagent ID          | Volume Added |                                       |               |
| ..SVLVIntstd_00007  | 02/28/18 |           | Restek, Lot A093676 |                      | (Purchased Reagent) |              | Phenanthrene-d10                      | 400 ug/mL     |
|                     |          |           |                     |                      |                     |              | 1,4-Dichlorobenzene-d4                | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Acenaphthene-d10                      | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Chrysene-d12                          | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Naphthalene-d8                        | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Perylene-d12                          | 2000 ug/mL    |
| .SVTAPITSTCKi_00005 | 04/30/15 | 02/17/15  | MeCl2, Lot 1417620  | 20 mL                | sv benzoepyre_00001 | 800 uL       | Benzo[e]pyrene                        | 40 ug/mL      |
|                     |          |           |                     |                      | SV2NAPAMINEs_00002  | 800 uL       | 2-Naphthylamine                       | 40 ug/mL      |
|                     |          |           |                     |                      | SVLVlist12_00002    | 800 uL       | 2,3,5,6-Tetrachlorophenol             | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 2,6-Dichlorophenol                    | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 7,12-Dimethylbenz(a)anthracene        | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | Methyl methanesulfonate               | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 1,1'-Biphenyl                         | 40 ug/mL      |
|                     |          |           |                     |                      | SVLVstd1_00026      | 800 uL       | 1,2,4,5-Tetrachlorobenzene            | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 1,2,4-Trichlorobenzene                | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 1,2-Dichlorobenzene                   | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 1,2-Diphenylhydrazine (as Azobenzene) | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 1,3-Dichlorobenzene                   | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 1,3-Dinitrobenzene                    | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 1,4-Dichlorobenzene                   | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 1,4-Dioxane                           | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 1-Methylnaphthalene                   | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 2,2'-oxybis[1-chloropropane]          | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 2,3,4,6-Tetrachlorophenol             | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 2,4,5-Trichlorophenol                 | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 2,4,6-Trichlorophenol                 | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 2,4-Dichlorophenol                    | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 2,4-Dimethylphenol                    | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 2,4-Dinitrophenol                     | 80 ug/mL      |
|                     |          |           |                     |                      |                     |              | 2,4-Dinitrotoluene                    | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 2,6-Dinitrotoluene                    | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 2-Chloronaphthalene                   | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 2-Chlorophenol                        | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 2-Methylnaphthalene                   | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 2-Methylphenol                        | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 2-Nitroaniline                        | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 2-Nitrophenol                         | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 3-Nitroaniline                        | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 4,6-Dinitro-2-methylphenol            | 80 ug/mL      |
|                     |          |           |                     |                      |                     |              | 4-Bromophenyl phenyl ether            | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 4-Chloro-3-methylphenol               | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 4-Chloroaniline                       | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 4-Chlorophenyl phenyl ether           | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 4-Methylphenol                        | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 4-Nitroaniline                        | 40 ug/mL      |
|                     |          |           |                     |                      |                     |              | 4-Nitrophenol                         | 80 ug/mL      |

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent    |              | Analyte                      | Concentration |
|------------|----------|-----------|---------------|----------------------|-------------------|--------------|------------------------------|---------------|
|            |          |           |               |                      | Reagent ID        | Volume Added |                              |               |
|            |          |           |               |                      |                   |              | Acenaphthene                 | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Acenaphthylene               | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Acetophenone                 | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Aniline                      | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Anthracene                   | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Benzo[a]anthracene           | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Benzo[a]pyrene               | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Benzo[b]fluoranthene         | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Benzo[g,h,i]perylene         | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Benzo[k]fluoranthene         | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Benzyl alcohol               | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Bis (2-chloroethoxy)methane  | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Bis (2-chloroethyl) ether    | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Bis (2-ethylhexyl) phthalate | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Butyl benzyl phthalate       | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Carbazole                    | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Chrysene                     | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Di-n-butyl phthalate         | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Di-n-octyl phthalate         | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Dibenz (a,h) anthracene      | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Dibenzofuran                 | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Diethyl phthalate            | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Dimethyl phthalate           | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Fluoranthene                 | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Fluorene                     | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Hexachlorobenzene            | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Hexachlorobutadiene          | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Hexachlorocyclopentadiene    | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Hexachloroethane             | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Hexadecane                   | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Indeno[1,2,3-cd]pyrene       | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Isophorone                   | 40 ug/mL      |
|            |          |           |               |                      |                   |              | n-Decane                     | 40 ug/mL      |
|            |          |           |               |                      |                   |              | N-Nitrosodi-n-propylamine    | 40 ug/mL      |
|            |          |           |               |                      |                   |              | N-Nitrosodimethylamine       | 40 ug/mL      |
|            |          |           |               |                      |                   |              | n-Octadecane                 | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Naphthalene                  | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Nitrobenzene                 | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Pentachlorophenol            | 80 ug/mL      |
|            |          |           |               |                      |                   |              | Phenanthrene                 | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Phenol                       | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Pyrene                       | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Pyridine                     | 40 ug/mL      |
|            |          |           |               |                      | SVLVstd2_00012    | 400 uL       | 3,3'-Dichlorobenzidine       | 40 ug/mL      |
|            |          |           |               |                      | SVLVstd5(7)_00001 | 400 uL       | Atrazine                     | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Benzidine                    | 40 ug/mL      |
|            |          |           |               |                      |                   |              | Caprolactam                  | 40 ug/mL      |
|            |          |           |               |                      | SVLVstd5(7)_00001 | 400 uL       | N-Nitrosodiphenylamine       | 40 ug/mL      |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID            | Exp Date | Prep Date                     | Dilutant Used | Reagent Final Volume | Parent Reagent       |              | Analyte                               | Concentration |
|-----------------------|----------|-------------------------------|---------------|----------------------|----------------------|--------------|---------------------------------------|---------------|
|                       |          |                               |               |                      | Reagent ID           | Volume Added |                                       |               |
|                       |          |                               |               |                      | SVLVstd8_00003       | 400 uL       | Benzaldehyde                          | 40 ug/mL      |
|                       |          |                               |               |                      | SVLVSURRSPK_00003    | 160 uL       | Benzoic acid                          | 40 ug/mL      |
|                       |          |                               |               |                      |                      |              | Indene                                | 40 ug/mL      |
|                       |          |                               |               |                      |                      |              | 2,4,6-Tribromophenol (Surr)           | 40 ug/mL      |
|                       |          |                               |               |                      |                      |              | 2-Fluorobiphenyl                      | 40 ug/mL      |
|                       |          |                               |               |                      |                      |              | 2-Fluorophenol (Surr)                 | 40 ug/mL      |
|                       |          |                               |               |                      |                      |              | Nitrobenzene-d5 (Surr)                | 40 ug/mL      |
|                       |          |                               |               |                      | Phenol-d5 (Surr)     | 40 ug/mL     |                                       |               |
|                       |          |                               |               |                      | Terphenyl-d14 (Surr) | 40 ug/mL     |                                       |               |
|                       |          |                               |               |                      | SVNNITROPYROs_00015  | 800 uL       | N-Nitrosopyrrolidine                  | 40 ug/mL      |
| ..sv benzoepyre_00001 | 10/03/18 | Absolute, Lot 100313          |               |                      | (Purchased Reagent)  |              | Benzo[e]pyrene                        | 1000 ug/mL    |
| ..SV2NAPAMINes_00002  | 06/30/17 | Ultra Scientific, Lot Ck-1617 |               |                      | (Purchased Reagent)  |              | 2-Naphthylamine                       | 1000 ug/mL    |
| ..SVLVlist12_00002    | 04/30/15 | Restek, Lot A0102912          |               |                      | (Purchased Reagent)  |              | 2,3,5,6-Tetrachlorophenol             | 1000 ug/mL    |
| ..SVLVstd1_00026      | 08/31/15 | Restek, Lot A0101615          |               |                      | (Purchased Reagent)  |              | 2,6-Dichlorophenol                    | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 7,12-Dimethylbenz(a)anthracene        | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | Methyl methanesulfonate               | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 1,1'-Biphenyl                         | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 1,2,4,5-Tetrachlorobenzene            | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 1,2,4-Trichlorobenzene                | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 1,2-Dichlorobenzene                   | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 1,2-Diphenylhydrazine (as Azobenzene) | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 1,3-Dichlorobenzene                   | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 1,3-Dinitrobenzene                    | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 1,4-Dichlorobenzene                   | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 1,4-Dioxane                           | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 1-Methylnaphthalene                   | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 2,2'-oxybis[1-chloropropane]          | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 2,3,4,6-Tetrachlorophenol             | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 2,4,5-Trichlorophenol                 | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 2,4,6-Trichlorophenol                 | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 2,4-Dichlorophenol                    | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 2,4-Dimethylphenol                    | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 2,4-Dinitrophenol                     | 2000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 2,4-Dinitrotoluene                    | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 2,6-Dinitrotoluene                    | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 2-Chloronaphthalene                   | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 2-Chlorophenol                        | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 2-Methylnaphthalene                   | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 2-Methylphenol                        | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 2-Nitroaniline                        | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 2-Nitrophenol                         | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 3-Nitroaniline                        | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 4,6-Dinitro-2-methylphenol            | 2000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 4-Bromophenyl phenyl ether            | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 4-Chloro-3-methylphenol               | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 4-Chloroaniline                       | 1000 ug/mL    |
|                       |          |                               |               |                      |                      |              | 4-Chlorophenyl phenyl ether           | 1000 ug/mL    |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID       | Exp Date | Prep Date | Dilutant Used        | Reagent Final Volume | Parent Reagent      |              | Analyte                     | Concentration |
|------------------|----------|-----------|----------------------|----------------------|---------------------|--------------|-----------------------------|---------------|
|                  |          |           |                      |                      | Reagent ID          | Volume Added |                             |               |
|                  |          |           |                      |                      |                     |              | 4-Methylphenol              | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | 4-Nitroaniline              | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | 4-Nitrophenol               | 2000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Acenaphthene                | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Acenaphthylene              | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Acetophenone                | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Aniline                     | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Anthracene                  | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Benzo[a]anthracene          | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Benzo[a]pyrene              | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Benzo[b]fluoranthene        | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Benzo[g,h,i]perylene        | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Benzo[k]fluoranthene        | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Benzyl alcohol              | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Bis(2-chloroethoxy)methane  | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Bis(2-chloroethyl)ether     | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Bis(2-ethylhexyl) phthalate | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Butyl benzyl phthalate      | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Carbazole                   | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Chrysene                    | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Di-n-butyl phthalate        | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Di-n-octyl phthalate        | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Dibenz(a,h)anthracene       | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Dibenzofuran                | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Diethyl phthalate           | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Dimethyl phthalate          | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Fluoranthene                | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Fluorene                    | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Hexachlorobenzene           | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Hexachlorobutadiene         | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Hexachlorocyclopentadiene   | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Hexachloroethane            | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Hexadecane                  | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Indeno[1,2,3-cd]pyrene      | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Isophorone                  | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | n-Decane                    | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | N-Nitrosodi-n-propylamine   | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | N-Nitrosodimethylamine      | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | n-Octadecane                | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Naphthalene                 | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Nitrobenzene                | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Pentachlorophenol           | 2000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Phenanthrene                | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Phenol                      | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Pyrene                      | 1000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Pyridine                    | 1000 ug/mL    |
| ..SVLVstd2_00012 | 07/31/15 |           | Restek, Lot A0100824 |                      | (Purchased Reagent) |              | 3,3'-Dichlorobenzidine      | 2000 ug/mL    |
|                  |          |           |                      |                      |                     |              | Atrazine                    | 2000 ug/mL    |

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID            | Exp Date | Prep Date | Dilutant Used        | Reagent Final Volume | Parent Reagent      |              | Analyte                               | Concentration |
|-----------------------|----------|-----------|----------------------|----------------------|---------------------|--------------|---------------------------------------|---------------|
|                       |          |           |                      |                      | Reagent ID          | Volume Added |                                       |               |
|                       |          |           |                      |                      |                     |              | Benzidine                             | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Caprolactam                           | 2000 ug/mL    |
| ..SVLVstd5(7)_00001   | 02/28/17 |           | Restek, Lot A0101573 |                      | (Purchased Reagent) |              | N-Nitrosodiphenylamine                | 2000 ug/mL    |
| ..SVLVstd8_00003      | 05/31/15 |           | Restek, Lot A0103145 |                      | (Purchased Reagent) |              | Benzaldehyde                          | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Benzoic acid                          | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Indene                                | 2000 ug/mL    |
| ..SVLVSURRSPK_00003   | 02/28/18 |           | Restek, Lot A093638  |                      | (Purchased Reagent) |              | 2,4,6-Tribromophenol (Surr)           | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 2-Fluorobiphenyl                      | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 2-Fluorophenol (Surr)                 | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Nitrobenzene-d5 (Surr)                | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Phenol-d5 (Surr)                      | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Terphenyl-d14 (Surr)                  | 5000 ug/mL    |
| ..SVNNITROPYROs_00015 | 06/05/17 |           | absolute, Lot 060514 |                      | (Purchased Reagent) |              | N-Nitrosopyrrolidine                  | 1000 ug/mL    |
| SVTAPSTD60i_00006     | 04/30/15 | 02/23/15  | MeCl2, Lot 1053215   | 1 mL                 | SVTAPITINTRNi_00005 | 10 uL        | 1,4-Dichlorobenzene-d4                | 4 ug/mL       |
|                       |          |           |                      |                      |                     |              | Acenaphthene-d10                      | 4 ug/mL       |
|                       |          |           |                      |                      |                     |              | Chrysene-d12                          | 4 ug/mL       |
|                       |          |           |                      |                      |                     |              | Naphthalene-d8                        | 4 ug/mL       |
|                       |          |           |                      |                      |                     |              | Perylene-d12                          | 4 ug/mL       |
|                       |          |           |                      |                      |                     |              | Phenanthrene-d10                      | 4 ug/mL       |
|                       |          |           |                      |                      | SVTAPITSTCKi_00005  | 750 uL       | Benzo[e]pyrene                        | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 2-Naphthylamine                       | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 2,3,5,6-Tetrachlorophenol             | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 2,6-Dichlorophenol                    | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 7,12-Dimethylbenz(a)anthracene        | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | Methyl methanesulfonate               | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 1,1'-Biphenyl                         | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 1,2,4,5-Tetrachlorobenzene            | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 1,2,4-Trichlorobenzene                | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 1,2-Dichlorobenzene                   | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 1,2-Diphenylhydrazine (as Azobenzene) | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 1,3-Dichlorobenzene                   | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 1,3-Dinitrobenzene                    | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 1,4-Dichlorobenzene                   | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 1,4-Dioxane                           | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 1-Methylnaphthalene                   | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 2,2'-oxybis[1-chloropropane]          | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 2,3,4,6-Tetrachlorophenol             | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 2,4,5-Trichlorophenol                 | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 2,4,6-Trichlorophenol                 | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 2,4-Dichlorophenol                    | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 2,4-Dimethylphenol                    | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 2,4-Dinitrophenol                     | 60 ug/mL      |
|                       |          |           |                      |                      |                     |              | 2,4-Dinitrotoluene                    | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 2,6-Dinitrotoluene                    | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 2-Chloronaphthalene                   | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 2-Chlorophenol                        | 30 ug/mL      |
|                       |          |           |                      |                      |                     |              | 2-Methylnaphthalene                   | 30 ug/mL      |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent |              | Analyte                      | Concentration |
|------------|----------|-----------|---------------|----------------------|----------------|--------------|------------------------------|---------------|
|            |          |           |               |                      | Reagent ID     | Volume Added |                              |               |
|            |          |           |               |                      |                |              | 2-Methylphenol               | 30 ug/mL      |
|            |          |           |               |                      |                |              | 2-Nitroaniline               | 30 ug/mL      |
|            |          |           |               |                      |                |              | 2-Nitrophenol                | 30 ug/mL      |
|            |          |           |               |                      |                |              | 3-Nitroaniline               | 30 ug/mL      |
|            |          |           |               |                      |                |              | 4,6-Dinitro-2-methylphenol   | 60 ug/mL      |
|            |          |           |               |                      |                |              | 4-Bromophenyl phenyl ether   | 30 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chloro-3-methylphenol      | 30 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chloroaniline              | 30 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chlorophenyl phenyl ether  | 30 ug/mL      |
|            |          |           |               |                      |                |              | 4-Methylphenol               | 30 ug/mL      |
|            |          |           |               |                      |                |              | 4-Nitroaniline               | 30 ug/mL      |
|            |          |           |               |                      |                |              | 4-Nitrophenol                | 60 ug/mL      |
|            |          |           |               |                      |                |              | Acenaphthene                 | 30 ug/mL      |
|            |          |           |               |                      |                |              | Acenaphthylene               | 30 ug/mL      |
|            |          |           |               |                      |                |              | Acetophenone                 | 30 ug/mL      |
|            |          |           |               |                      |                |              | Aniline                      | 30 ug/mL      |
|            |          |           |               |                      |                |              | Anthracene                   | 30 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[a]anthracene           | 30 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[a]pyrene               | 30 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[b]fluoranthene         | 30 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[g,h,i]perylene         | 30 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[k]fluoranthene         | 30 ug/mL      |
|            |          |           |               |                      |                |              | Benzyl alcohol               | 30 ug/mL      |
|            |          |           |               |                      |                |              | Bis (2-chloroethoxy)methane  | 30 ug/mL      |
|            |          |           |               |                      |                |              | Bis (2-chloroethyl) ether    | 30 ug/mL      |
|            |          |           |               |                      |                |              | Bis (2-ethylhexyl) phthalate | 30 ug/mL      |
|            |          |           |               |                      |                |              | Butyl benzyl phthalate       | 30 ug/mL      |
|            |          |           |               |                      |                |              | Carbazole                    | 30 ug/mL      |
|            |          |           |               |                      |                |              | Chrysene                     | 30 ug/mL      |
|            |          |           |               |                      |                |              | Di-n-butyl phthalate         | 30 ug/mL      |
|            |          |           |               |                      |                |              | Di-n-octyl phthalate         | 30 ug/mL      |
|            |          |           |               |                      |                |              | Dibenz (a,h) anthracene      | 30 ug/mL      |
|            |          |           |               |                      |                |              | Dibenzofuran                 | 30 ug/mL      |
|            |          |           |               |                      |                |              | Diethyl phthalate            | 30 ug/mL      |
|            |          |           |               |                      |                |              | Dimethyl phthalate           | 30 ug/mL      |
|            |          |           |               |                      |                |              | Fluoranthene                 | 30 ug/mL      |
|            |          |           |               |                      |                |              | Fluorene                     | 30 ug/mL      |
|            |          |           |               |                      |                |              | Hexachlorobenzene            | 30 ug/mL      |
|            |          |           |               |                      |                |              | Hexachlorobutadiene          | 30 ug/mL      |
|            |          |           |               |                      |                |              | Hexachlorocyclopentadiene    | 30 ug/mL      |
|            |          |           |               |                      |                |              | Hexachloroethane             | 30 ug/mL      |
|            |          |           |               |                      |                |              | Hexadecane                   | 30 ug/mL      |
|            |          |           |               |                      |                |              | Indeno[1,2,3-cd]pyrene       | 30 ug/mL      |
|            |          |           |               |                      |                |              | Isophorone                   | 30 ug/mL      |
|            |          |           |               |                      |                |              | n-Decane                     | 30 ug/mL      |
|            |          |           |               |                      |                |              | N-Nitrosodi-n-propylamine    | 30 ug/mL      |
|            |          |           |               |                      |                |              | N-Nitrosodimethylamine       | 30 ug/mL      |
|            |          |           |               |                      |                |              | n-Octadecane                 | 30 ug/mL      |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID           | Exp Date | Prep Date           | Dilutant Used      | Reagent Final Volume | Parent Reagent      |              | Analyte                               | Concentration |
|----------------------|----------|---------------------|--------------------|----------------------|---------------------|--------------|---------------------------------------|---------------|
|                      |          |                     |                    |                      | Reagent ID          | Volume Added |                                       |               |
|                      |          |                     |                    |                      |                     |              | Naphthalene                           | 30 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Nitrobenzene                          | 30 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Pentachlorophenol                     | 60 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Phenanthrene                          | 30 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Phenol                                | 30 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Pyrene                                | 30 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Pyridine                              | 30 ug/mL      |
|                      |          |                     |                    |                      |                     |              | 3,3'-Dichlorobenzidine                | 30 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Atrazine                              | 30 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Benzidine                             | 30 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Caprolactam                           | 30 ug/mL      |
|                      |          |                     |                    |                      |                     |              | N-Nitrosodiphenylamine                | 30 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Benzaldehyde                          | 30 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Benzoic acid                          | 30 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Indene                                | 30 ug/mL      |
|                      |          |                     |                    |                      |                     |              | 2,4,6-Tribromophenol (Surr)           | 30 ug/mL      |
|                      |          |                     |                    |                      |                     |              | 2-Fluorobiphenyl                      | 30 ug/mL      |
|                      |          |                     |                    |                      |                     |              | 2-Fluorophenol (Surr)                 | 30 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Nitrobenzene-d5 (Surr)                | 30 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Phenol-d5 (Surr)                      | 30 ug/mL      |
| .SVTAPITINTRNi_00005 | 05/07/15 | 05/07/14            | MeCl2, Lot 1000447 | 25 mL                | SVLVIntstd_00007    | 5000 uL      | Terphenyl-d14 (Surr)                  | 30 ug/mL      |
|                      |          |                     |                    |                      |                     |              | N-Nitrosopyrrolidine                  | 30 ug/mL      |
|                      |          |                     |                    |                      |                     |              | 1,4-Dichlorobenzene-d4                | 400 ug/mL     |
|                      |          |                     |                    |                      |                     |              | Acenaphthene-d10                      | 400 ug/mL     |
|                      |          |                     |                    |                      |                     |              | Chrysene-d12                          | 400 ug/mL     |
|                      |          |                     |                    |                      |                     |              | Naphthalene-d8                        | 400 ug/mL     |
| ..SVLVIntstd_00007   | 02/28/18 | Restek, Lot A093676 |                    |                      | (Purchased Reagent) |              | Perylene-d12                          | 400 ug/mL     |
|                      |          |                     |                    |                      |                     |              | Phenanthrene-d10                      | 400 ug/mL     |
|                      |          |                     |                    |                      |                     |              | 1,4-Dichlorobenzene-d4                | 2000 ug/mL    |
|                      |          |                     |                    |                      |                     |              | Acenaphthene-d10                      | 2000 ug/mL    |
|                      |          |                     |                    |                      |                     |              | Chrysene-d12                          | 2000 ug/mL    |
|                      |          |                     |                    |                      |                     |              | Naphthalene-d8                        | 2000 ug/mL    |
| .SVTAPITSTCKi_00005  | 04/30/15 | 02/17/15            | MeCl2, Lot 1417620 | 20 mL                | sv benzoepyre 00001 | 800 uL       | Perylene-d12                          | 2000 ug/mL    |
|                      |          |                     |                    |                      |                     |              | Phenanthrene-d10                      | 2000 ug/mL    |
|                      |          |                     |                    |                      |                     |              | Benzo[e]pyrene                        | 40 ug/mL      |
|                      |          |                     |                    |                      |                     |              | 2-Naphthylamine                       | 40 ug/mL      |
|                      |          |                     |                    |                      |                     |              | 2,3,5,6-Tetrachlorophenol             | 40 ug/mL      |
|                      |          |                     |                    |                      | SV2NAPAMINEs_00002  | 800 uL       | 2,6-Dichlorophenol                    | 40 ug/mL      |
|                      |          |                     |                    |                      |                     |              | 7,12-Dimethylbenz(a)anthracene        | 40 ug/mL      |
|                      |          |                     |                    |                      |                     |              | Methyl methanesulfonate               | 40 ug/mL      |
|                      |          |                     |                    |                      |                     |              | 1,1'-Biphenyl                         | 40 ug/mL      |
|                      |          |                     |                    |                      |                     |              | 1,2,4,5-Tetrachlorobenzene            | 40 ug/mL      |
|                      |          |                     |                    |                      | SVLVlist12_00002    | 800 uL       | 1,2,4-Trichlorobenzene                | 40 ug/mL      |
|                      |          |                     |                    |                      |                     |              | 1,2-Dichlorobenzene                   | 40 ug/mL      |
|                      |          |                     |                    |                      |                     |              | 1,2-Diphenylhydrazine (as Azobenzene) | 40 ug/mL      |
|                      |          |                     |                    |                      |                     |              | 1,3-Dichlorobenzene                   | 40 ug/mL      |
|                      |          |                     |                    |                      |                     |              | 1,3-Dinitrobenzene                    | 40 ug/mL      |
|                      |          |                     |                    |                      | SVLVstd1_00026      | 800 uL       |                                       |               |
|                      |          |                     |                    |                      |                     |              |                                       |               |
|                      |          |                     |                    |                      |                     |              |                                       |               |
|                      |          |                     |                    |                      |                     |              |                                       |               |
|                      |          |                     |                    |                      |                     |              |                                       |               |



# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent |              | Analyte                      | Concentration |
|------------|----------|-----------|---------------|----------------------|----------------|--------------|------------------------------|---------------|
|            |          |           |               |                      | Reagent ID     | Volume Added |                              |               |
|            |          |           |               |                      |                |              | 1,4-Dichlorobenzene          | 40 ug/mL      |
|            |          |           |               |                      |                |              | 1,4-Dioxane                  | 40 ug/mL      |
|            |          |           |               |                      |                |              | 1-Methylnaphthalene          | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2,2'-oxybis[1-chloropropane] | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2,3,4,6-Tetrachlorophenol    | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2,4,5-Trichlorophenol        | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2,4,6-Trichlorophenol        | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2,4-Dichlorophenol           | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2,4-Dimethylphenol           | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2,4-Dinitrophenol            | 80 ug/mL      |
|            |          |           |               |                      |                |              | 2,4-Dinitrotoluene           | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2,6-Dinitrotoluene           | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2-Chloronaphthalene          | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2-Chlorophenol               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2-Methylnaphthalene          | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2-Methylphenol               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2-Nitroaniline               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2-Nitrophenol                | 40 ug/mL      |
|            |          |           |               |                      |                |              | 3-Nitroaniline               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4,6-Dinitro-2-methylphenol   | 80 ug/mL      |
|            |          |           |               |                      |                |              | 4-Bromophenyl phenyl ether   | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chloro-3-methylphenol      | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chloroaniline              | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chlorophenyl phenyl ether  | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Methylphenol               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Nitroaniline               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Nitrophenol                | 80 ug/mL      |
|            |          |           |               |                      |                |              | Acenaphthene                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Acenaphthylene               | 40 ug/mL      |
|            |          |           |               |                      |                |              | Acetophenone                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Aniline                      | 40 ug/mL      |
|            |          |           |               |                      |                |              | Anthracene                   | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[a]anthracene           | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[a]pyrene               | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[b]fluoranthene         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[g,h,i]perylene         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[k]fluoranthene         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzyl alcohol               | 40 ug/mL      |
|            |          |           |               |                      |                |              | Bis(2-chloroethoxy)methane   | 40 ug/mL      |
|            |          |           |               |                      |                |              | Bis(2-chloroethyl)ether      | 40 ug/mL      |
|            |          |           |               |                      |                |              | Bis(2-ethylhexyl) phthalate  | 40 ug/mL      |
|            |          |           |               |                      |                |              | Butyl benzyl phthalate       | 40 ug/mL      |
|            |          |           |               |                      |                |              | Carbazole                    | 40 ug/mL      |
|            |          |           |               |                      |                |              | Chrysene                     | 40 ug/mL      |
|            |          |           |               |                      |                |              | Di-n-butyl phthalate         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Di-n-octyl phthalate         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Dibenz(a,h)anthracene        | 40 ug/mL      |
|            |          |           |               |                      |                |              | Dibenzofuran                 | 40 ug/mL      |

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID            | Exp Date | Prep Date                     | Dilutant Used        | Reagent Final Volume | Parent Reagent      |                                  | Analyte                     | Concentration |
|-----------------------|----------|-------------------------------|----------------------|----------------------|---------------------|----------------------------------|-----------------------------|---------------|
|                       |          |                               |                      |                      | Reagent ID          | Volume Added                     |                             |               |
|                       |          |                               |                      |                      |                     |                                  | Diethyl phthalate           | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Dimethyl phthalate          | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Fluoranthene                | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Fluorene                    | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Hexachlorobenzene           | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Hexachlorobutadiene         | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Hexachlorocyclopentadiene   | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Hexachloroethane            | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Hexadecane                  | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Indeno[1,2,3-cd]pyrene      | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Isophorone                  | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | n-Decane                    | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | N-Nitrosodi-n-propylamine   | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | N-Nitrosodimethylamine      | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | n-Octadecane                | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Naphthalene                 | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Nitrobenzene                | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Pentachlorophenol           | 80 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Phenanthrene                | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Phenol                      | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Pyrene                      | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Pyridine                    | 40 ug/mL      |
|                       |          |                               |                      |                      | SVLVstd2_00012      | 400 uL                           | 3,3'-Dichlorobenzidine      | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Atrazine                    | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Benzydine                   | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Caprolactam                 | 40 ug/mL      |
|                       |          |                               |                      |                      | SVLVstd5(7)_00001   | 400 uL                           | N-Nitrosodiphenylamine      | 40 ug/mL      |
|                       |          |                               |                      |                      | SVLVstd8_00003      | 400 uL                           | Benzaldehyde                | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Benzoic acid                | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Indene                      | 40 ug/mL      |
|                       |          |                               |                      |                      | SVLVSURRSPK_00003   | 160 uL                           | 2,4,6-Tribromophenol (Surr) | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | 2-Fluorobiphenyl            | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | 2-Fluorophenol (Surr)       | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Nitrobenzene-d5 (Surr)      | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Phenol-d5 (Surr)            | 40 ug/mL      |
|                       |          |                               |                      |                      |                     |                                  | Terphenyl-d14 (Surr)        | 40 ug/mL      |
|                       |          |                               |                      |                      | SVNNITROPYROS_00015 | 800 uL                           | N-Nitrosopyrrolidine        | 40 ug/mL      |
| ..sv benzoepyre 00001 | 10/03/18 | Absolute, Lot 100313          |                      |                      | (Purchased Reagent) |                                  | Benzo[e]pyrene              | 1000 ug/mL    |
| ..SV2NAPAMINES 00002  | 06/30/17 | Ultra Scientific, Lot Ck-1617 |                      |                      | (Purchased Reagent) |                                  | 2-Naphthylamine             | 1000 ug/mL    |
| ..SVLVlist12_00002    | 04/30/15 | Restek, Lot A0102912          |                      |                      | (Purchased Reagent) |                                  | 2,3,5,6-Tetrachlorophenol   | 1000 ug/mL    |
|                       |          |                               |                      |                      |                     | 2,6-Dichlorophenol               | 1000 ug/mL                  |               |
|                       |          |                               |                      |                      |                     | 7,12-Dimethylbenz (a) anthracene | 1000 ug/mL                  |               |
|                       |          |                               |                      |                      |                     | Methyl methanesulfonate          | 1000 ug/mL                  |               |
|                       |          |                               |                      |                      |                     | 1,1'-Biphenyl                    | 1000 ug/mL                  |               |
| ..SVLVstd1_00026      | 08/31/15 |                               | Restek, Lot A0101615 |                      | (Purchased Reagent) | 1,2,4,5-Tetrachlorobenzene       | 1000 ug/mL                  |               |
|                       |          |                               |                      |                      |                     | 1,2,4-Trichlorobenzene           | 1000 ug/mL                  |               |
|                       |          |                               |                      |                      |                     | 1,2-Dichlorobenzene              | 1000 ug/mL                  |               |
|                       |          |                               |                      |                      |                     |                                  |                             |               |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent |              | Analyte                               | Concentration |
|------------|----------|-----------|---------------|----------------------|----------------|--------------|---------------------------------------|---------------|
|            |          |           |               |                      | Reagent ID     | Volume Added |                                       |               |
|            |          |           |               |                      |                |              | 1,2-Diphenylhydrazine (as Azobenzene) | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 1,3-Dichlorobenzene                   | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 1,3-Dinitrobenzene                    | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 1,4-Dichlorobenzene                   | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 1,4-Dioxane                           | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 1-Methylnaphthalene                   | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2,2'-oxybis[1-chloropropane]          | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2,3,4,6-Tetrachlorophenol             | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2,4,5-Trichlorophenol                 | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2,4,6-Trichlorophenol                 | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2,4-Dichlorophenol                    | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2,4-Dimethylphenol                    | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2,4-Dinitrophenol                     | 2000 ug/mL    |
|            |          |           |               |                      |                |              | 2,4-Dinitrotoluene                    | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2,6-Dinitrotoluene                    | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Chloronaphthalene                   | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Chlorophenol                        | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Methylnaphthalene                   | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Methylphenol                        | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Nitroaniline                        | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Nitrophenol                         | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 3-Nitroaniline                        | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4,6-Dinitro-2-methylphenol            | 2000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Bromophenyl phenyl ether            | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Chloro-3-methylphenol               | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Chloroaniline                       | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Chlorophenyl phenyl ether           | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Methylphenol                        | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Nitroaniline                        | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Nitrophenol                         | 2000 ug/mL    |
|            |          |           |               |                      |                |              | Acenaphthene                          | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Acenaphthylene                        | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Acetophenone                          | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Aniline                               | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Anthracene                            | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[a]anthracene                    | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[a]pyrene                        | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[b]fluoranthene                  | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[g,h,i]perylene                  | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[k]fluoranthene                  | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzyl alcohol                        | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Bis(2-chloroethoxy)methane            | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Bis(2-chloroethyl)ether               | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Bis(2-ethylhexyl) phthalate           | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Butyl benzyl phthalate                | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Carbazole                             | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Chrysene                              | 1000 ug/mL    |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID            | Exp Date | Prep Date            | Dilutant Used      | Reagent Final Volume | Parent Reagent      |              | Analyte                     | Concentration |
|-----------------------|----------|----------------------|--------------------|----------------------|---------------------|--------------|-----------------------------|---------------|
|                       |          |                      |                    |                      | Reagent ID          | Volume Added |                             |               |
|                       |          |                      |                    |                      |                     |              | Di-n-butyl phthalate        | 1000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Di-n-octyl phthalate        | 1000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Dibenz(a,h)anthracene       | 1000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Dibenzofuran                | 1000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Diethyl phthalate           | 1000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Dimethyl phthalate          | 1000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Fluoranthene                | 1000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Fluorene                    | 1000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Hexachlorobenzene           | 1000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Hexachlorobutadiene         | 1000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Hexachlorocyclopentadiene   | 1000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Hexachloroethane            | 1000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Hexadecane                  | 1000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Indeno[1,2,3-cd]pyrene      | 1000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Isophorone                  | 1000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | n-Decane                    | 1000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | N-Nitrosodi-n-propylamine   | 1000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | N-Nitrosodimethylamine      | 1000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | n-Octadecane                | 1000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Naphthalene                 | 1000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Nitrobenzene                | 1000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Pentachlorophenol           | 2000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Phenanthrene                | 1000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Phenol                      | 1000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Pyrene                      | 1000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Pyridine                    | 1000 ug/mL    |
| ..SVLVstd2_00012      | 07/31/15 | Restek, Lot A0100824 |                    |                      | (Purchased Reagent) |              | 3,3'-Dichlorobenzidine      | 2000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Atrazine                    | 2000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Benidine                    | 2000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Caprolactam                 | 2000 ug/mL    |
| ..SVLVstd5(7)_00001   | 02/28/17 | Restek, Lot A0101573 |                    |                      | (Purchased Reagent) |              | N-Nitrosodiphenylamine      | 2000 ug/mL    |
| ..SVLVstd8_00003      | 05/31/15 | Restek, Lot A0103145 |                    |                      | (Purchased Reagent) |              | Benzaldehyde                | 2000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Benzoic acid                | 2000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Indene                      | 2000 ug/mL    |
| ..SVLVSURRSPK_00003   | 02/28/18 | Restek, Lot A093638  |                    |                      | (Purchased Reagent) |              | 2,4,6-Tribromophenol (Surr) | 5000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | 2-Fluorobiphenyl            | 5000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | 2-Fluorophenol (Surr)       | 5000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Nitrobenzene-d5 (Surr)      | 5000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Phenol-d5 (Surr)            | 5000 ug/mL    |
|                       |          |                      |                    |                      |                     |              | Terphenyl-d14 (Surr)        | 5000 ug/mL    |
| ..SVNNITROPYROS_00015 | 06/05/17 | absolute, Lot 060514 |                    |                      | (Purchased Reagent) |              | N-Nitrosopyrrolidine        | 1000 ug/mL    |
| SVTAPSTD80i_00006     | 04/30/15 | 02/23/15             | MeCl2, Lot 1053215 | 1 mL                 | SVTAPITINTRNi_00005 | 10 uL        | 1,4-Dichlorobenzene-d4      | 4 ug/mL       |
|                       |          |                      |                    |                      |                     |              | Acenaphthene-d10            | 4 ug/mL       |
|                       |          |                      |                    |                      |                     |              | Chrysene-d12                | 4 ug/mL       |
|                       |          |                      |                    |                      |                     |              | Naphthalene-d8              | 4 ug/mL       |
|                       |          |                      |                    |                      |                     |              | Perylene-d12                | 4 ug/mL       |
|                       |          |                      |                    |                      |                     |              | Phenanthrene-d10            | 4 ug/mL       |

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent     |              | Analyte                               | Concentration |
|------------|----------|-----------|---------------|----------------------|--------------------|--------------|---------------------------------------|---------------|
|            |          |           |               |                      | Reagent ID         | Volume Added |                                       |               |
|            |          |           |               |                      | SVTAPITSTCKi_00005 | 1000 uL      | Benzo[e]pyrene                        | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2-Naphthylamine                       | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2,3,5,6-Tetrachlorophenol             | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2,6-Dichlorophenol                    | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 7,12-Dimethylbenz(a)anthracene        | 40 ug/mL      |
|            |          |           |               |                      |                    |              | Methyl methanesulfonate               | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 1,1'-Biphenyl                         | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 1,2,4,5-Tetrachlorobenzene            | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 1,2,4-Trichlorobenzene                | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 1,2-Dichlorobenzene                   | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 1,2-Diphenylhydrazine (as Azobenzene) | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 1,3-Dichlorobenzene                   | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 1,3-Dinitrobenzene                    | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 1,4-Dichlorobenzene                   | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 1,4-Dioxane                           | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 1-Methylnaphthalene                   | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2,2'-oxybis[1-chloropropane]          | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2,3,4,6-Tetrachlorophenol             | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2,4,5-Trichlorophenol                 | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2,4,6-Trichlorophenol                 | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2,4-Dichlorophenol                    | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2,4-Dimethylphenol                    | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2,4-Dinitrophenol                     | 80 ug/mL      |
|            |          |           |               |                      |                    |              | 2,4-Dinitrotoluene                    | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2,6-Dinitrotoluene                    | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2-Chloronaphthalene                   | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2-Chlorophenol                        | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2-Methylnaphthalene                   | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2-Methylphenol                        | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2-Nitroaniline                        | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 2-Nitrophenol                         | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 3-Nitroaniline                        | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 4,6-Dinitro-2-methylphenol            | 80 ug/mL      |
|            |          |           |               |                      |                    |              | 4-Bromophenyl phenyl ether            | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 4-Chloro-3-methylphenol               | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 4-Chloroaniline                       | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 4-Chlorophenyl phenyl ether           | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 4-Methylphenol                        | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 4-Nitroaniline                        | 40 ug/mL      |
|            |          |           |               |                      |                    |              | 4-Nitrophenol                         | 80 ug/mL      |
|            |          |           |               |                      |                    |              | Acenaphthene                          | 40 ug/mL      |
|            |          |           |               |                      |                    |              | Acenaphthylene                        | 40 ug/mL      |
|            |          |           |               |                      |                    |              | Acetophenone                          | 40 ug/mL      |
|            |          |           |               |                      |                    |              | Aniline                               | 40 ug/mL      |
|            |          |           |               |                      |                    |              | Anthracene                            | 40 ug/mL      |
|            |          |           |               |                      |                    |              | Benzo[a]anthracene                    | 40 ug/mL      |
|            |          |           |               |                      |                    |              | Benzo[a]pyrene                        | 40 ug/mL      |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent |              | Analyte                      | Concentration |
|------------|----------|-----------|---------------|----------------------|----------------|--------------|------------------------------|---------------|
|            |          |           |               |                      | Reagent ID     | Volume Added |                              |               |
|            |          |           |               |                      |                |              | Benzo[b]fluoranthene         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[g,h,i]perylene         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[k]fluoranthene         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzyl alcohol               | 40 ug/mL      |
|            |          |           |               |                      |                |              | Bis (2-chloroethoxy)methane  | 40 ug/mL      |
|            |          |           |               |                      |                |              | Bis (2-chloroethyl) ether    | 40 ug/mL      |
|            |          |           |               |                      |                |              | Bis (2-ethylhexyl) phthalate | 40 ug/mL      |
|            |          |           |               |                      |                |              | Butyl benzyl phthalate       | 40 ug/mL      |
|            |          |           |               |                      |                |              | Carbazole                    | 40 ug/mL      |
|            |          |           |               |                      |                |              | Chrysene                     | 40 ug/mL      |
|            |          |           |               |                      |                |              | Di-n-butyl phthalate         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Di-n-octyl phthalate         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Dibenz (a,h) anthracene      | 40 ug/mL      |
|            |          |           |               |                      |                |              | Dibenzofuran                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Diethyl phthalate            | 40 ug/mL      |
|            |          |           |               |                      |                |              | Dimethyl phthalate           | 40 ug/mL      |
|            |          |           |               |                      |                |              | Fluoranthene                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Fluorene                     | 40 ug/mL      |
|            |          |           |               |                      |                |              | Hexachlorobenzene            | 40 ug/mL      |
|            |          |           |               |                      |                |              | Hexachlorobutadiene          | 40 ug/mL      |
|            |          |           |               |                      |                |              | Hexachlorocyclopentadiene    | 40 ug/mL      |
|            |          |           |               |                      |                |              | Hexachloroethane             | 40 ug/mL      |
|            |          |           |               |                      |                |              | Hexadecane                   | 40 ug/mL      |
|            |          |           |               |                      |                |              | Indeno[1,2,3-cd]pyrene       | 40 ug/mL      |
|            |          |           |               |                      |                |              | Isophorone                   | 40 ug/mL      |
|            |          |           |               |                      |                |              | n-Decane                     | 40 ug/mL      |
|            |          |           |               |                      |                |              | N-Nitrosodi-n-propylamine    | 40 ug/mL      |
|            |          |           |               |                      |                |              | N-Nitrosodimethylamine       | 40 ug/mL      |
|            |          |           |               |                      |                |              | n-Octadecane                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Naphthalene                  | 40 ug/mL      |
|            |          |           |               |                      |                |              | Nitrobenzene                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Pentachlorophenol            | 80 ug/mL      |
|            |          |           |               |                      |                |              | Phenanthrene                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Phenol                       | 40 ug/mL      |
|            |          |           |               |                      |                |              | Pyrene                       | 40 ug/mL      |
|            |          |           |               |                      |                |              | Pyridine                     | 40 ug/mL      |
|            |          |           |               |                      |                |              | 3,3'-Dichlorobenzidine       | 40 ug/mL      |
|            |          |           |               |                      |                |              | Atrazine                     | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzidine                    | 40 ug/mL      |
|            |          |           |               |                      |                |              | Caprolactam                  | 40 ug/mL      |
|            |          |           |               |                      |                |              | N-Nitrosodiphenylamine       | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzaldehyde                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzoic acid                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Indene                       | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2,4,6-Tribromophenol (Surr)  | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2-Fluorobiphenyl             | 40 ug/mL      |
|            |          |           |               |                      |                |              | 2-Fluorophenol (Surr)        | 40 ug/mL      |
|            |          |           |               |                      |                |              | Nitrobenzene-d5 (Surr)       | 40 ug/mL      |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID           | Exp Date | Prep Date | Dilutant Used       | Reagent Final Volume | Parent Reagent      |              | Analyte                               | Concentration |
|----------------------|----------|-----------|---------------------|----------------------|---------------------|--------------|---------------------------------------|---------------|
|                      |          |           |                     |                      | Reagent ID          | Volume Added |                                       |               |
| .SVTAPITINTRNi_00005 | 05/07/15 | 05/07/14  | MeCl2, Lot 1000447  | 25 mL                | SVLVIntstd_00007    | 5000 uL      | Phenol-d5 (Surr)                      | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | Terphenyl-d14 (Surr)                  | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | N-Nitrosopyrrolidine                  | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,4-Dichlorobenzene-d4                | 400 ug/mL     |
|                      |          |           |                     |                      |                     |              | Acenaphthene-d10                      | 400 ug/mL     |
|                      |          |           |                     |                      |                     |              | Chrysene-d12                          | 400 ug/mL     |
|                      |          |           |                     |                      |                     |              | Naphthalene-d8                        | 400 ug/mL     |
| ..SVLVIntstd_00007   | 02/28/18 |           | Restek, Lot A093676 |                      | (Purchased Reagent) |              | Perylene-d12                          | 400 ug/mL     |
|                      |          |           |                     |                      |                     |              | Phenanthrene-d10                      | 400 ug/mL     |
|                      |          |           |                     |                      |                     |              | 1,4-Dichlorobenzene-d4                | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Acenaphthene-d10                      | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Chrysene-d12                          | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Naphthalene-d8                        | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Perylene-d12                          | 2000 ug/mL    |
| .SVTAPITSTCKi_00005  | 04/30/15 | 02/17/15  | MeCl2, Lot 1417620  | 20 mL                | sv benzoepyre_00001 | 800 uL       | Phenanthrene-d10                      | 2000 ug/mL    |
|                      |          |           |                     |                      | SV2NAPAMINEs_00002  | 800 uL       | 1,4-Dichlorobenzene-d4                | 2000 ug/mL    |
|                      |          |           |                     |                      | SVLVlist12_00002    | 800 uL       | Acenaphthene-d10                      | 2000 ug/mL    |
|                      |          |           |                     |                      | SVLVstd1_00026      | 800 uL       | Chrysene-d12                          | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Naphthalene-d8                        | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Perylene-d12                          | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Benzo[e]pyrene                        | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2-Naphthylamine                       | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,3,5,6-Tetrachlorophenol             | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,6-Dichlorophenol                    | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 7,12-Dimethylbenz(a)anthracene        | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | Methyl methanesulfonate               | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,1'-Biphenyl                         | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,2,4,5-Tetrachlorobenzene            | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,2,4-Trichlorobenzene                | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,2-Dichlorobenzene                   | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,2-Diphenylhydrazine (as Azobenzene) | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,3-Dichlorobenzene                   | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,3-Dinitrobenzene                    | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,4-Dichlorobenzene                   | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1,4-Dioxane                           | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 1-Methylnaphthalene                   | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,2'-oxybis[1-chloropropane]          | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,3,4,6-Tetrachlorophenol             | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,4,5-Trichlorophenol                 | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,4,6-Trichlorophenol                 | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,4-Dichlorophenol                    | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,4-Dimethylphenol                    | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,4-Dinitrophenol                     | 80 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,4-Dinitrotoluene                    | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2,6-Dinitrotoluene                    | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2-Chloronaphthalene                   | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2-Chlorophenol                        | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2-Methylnaphthalene                   | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2-Methylphenol                        | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2-Nitroaniline                        | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2-Nitrophenol                         | 40 ug/mL      |
|                      |          |           |                     |                      |                     |              | 3-Nitroaniline                        | 40 ug/mL      |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent |              | Analyte                      | Concentration |
|------------|----------|-----------|---------------|----------------------|----------------|--------------|------------------------------|---------------|
|            |          |           |               |                      | Reagent ID     | Volume Added |                              |               |
|            |          |           |               |                      |                |              | 4,6-Dinitro-2-methylphenol   | 80 ug/mL      |
|            |          |           |               |                      |                |              | 4-Bromophenyl phenyl ether   | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chloro-3-methylphenol      | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chloroaniline              | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chlorophenyl phenyl ether  | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Methylphenol               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Nitroaniline               | 40 ug/mL      |
|            |          |           |               |                      |                |              | 4-Nitrophenol                | 80 ug/mL      |
|            |          |           |               |                      |                |              | Acenaphthene                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Acenaphthylene               | 40 ug/mL      |
|            |          |           |               |                      |                |              | Acetophenone                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Aniline                      | 40 ug/mL      |
|            |          |           |               |                      |                |              | Anthracene                   | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[a]anthracene           | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[a]pyrene               | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[b]fluoranthene         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[g,h,i]perylene         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzo[k]fluoranthene         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Benzyl alcohol               | 40 ug/mL      |
|            |          |           |               |                      |                |              | Bis (2-chloroethoxy)methane  | 40 ug/mL      |
|            |          |           |               |                      |                |              | Bis (2-chloroethyl) ether    | 40 ug/mL      |
|            |          |           |               |                      |                |              | Bis (2-ethylhexyl) phthalate | 40 ug/mL      |
|            |          |           |               |                      |                |              | Butyl benzyl phthalate       | 40 ug/mL      |
|            |          |           |               |                      |                |              | Carbazole                    | 40 ug/mL      |
|            |          |           |               |                      |                |              | Chrysene                     | 40 ug/mL      |
|            |          |           |               |                      |                |              | Di-n-butyl phthalate         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Di-n-octyl phthalate         | 40 ug/mL      |
|            |          |           |               |                      |                |              | Dibenz (a,h) anthracene      | 40 ug/mL      |
|            |          |           |               |                      |                |              | Dibenzofuran                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Diethyl phthalate            | 40 ug/mL      |
|            |          |           |               |                      |                |              | Dimethyl phthalate           | 40 ug/mL      |
|            |          |           |               |                      |                |              | Fluoranthene                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Fluorene                     | 40 ug/mL      |
|            |          |           |               |                      |                |              | Hexachlorobenzene            | 40 ug/mL      |
|            |          |           |               |                      |                |              | Hexachlorobutadiene          | 40 ug/mL      |
|            |          |           |               |                      |                |              | Hexachlorocyclopentadiene    | 40 ug/mL      |
|            |          |           |               |                      |                |              | Hexachloroethane             | 40 ug/mL      |
|            |          |           |               |                      |                |              | Hexadecane                   | 40 ug/mL      |
|            |          |           |               |                      |                |              | Indeno[1,2,3-cd]pyrene       | 40 ug/mL      |
|            |          |           |               |                      |                |              | Isophorone                   | 40 ug/mL      |
|            |          |           |               |                      |                |              | n-Decane                     | 40 ug/mL      |
|            |          |           |               |                      |                |              | N-Nitrosodi-n-propylamine    | 40 ug/mL      |
|            |          |           |               |                      |                |              | N-Nitrosodimethylamine       | 40 ug/mL      |
|            |          |           |               |                      |                |              | n-Octadecane                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Naphthalene                  | 40 ug/mL      |
|            |          |           |               |                      |                |              | Nitrobenzene                 | 40 ug/mL      |
|            |          |           |               |                      |                |              | Pentachlorophenol            | 80 ug/mL      |
|            |          |           |               |                      |                |              | Phenanthrene                 | 40 ug/mL      |



## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID              | Exp Date | Prep Date                     | Dilutant Used | Reagent Final Volume | Parent Reagent      |              | Analyte                               | Concentration |
|-------------------------|----------|-------------------------------|---------------|----------------------|---------------------|--------------|---------------------------------------|---------------|
|                         |          |                               |               |                      | Reagent ID          | Volume Added |                                       |               |
|                         |          |                               |               |                      |                     |              | Phenol                                | 40 ug/mL      |
|                         |          |                               |               |                      |                     |              | Pyrene                                | 40 ug/mL      |
|                         |          |                               |               |                      |                     |              | Pyridine                              | 40 ug/mL      |
|                         |          |                               |               |                      | SVLVstd2_00012      | 400 uL       | 3,3'-Dichlorobenzidine                | 40 ug/mL      |
|                         |          |                               |               |                      |                     |              | Atrazine                              | 40 ug/mL      |
|                         |          |                               |               |                      |                     |              | Benzidine                             | 40 ug/mL      |
|                         |          |                               |               |                      | SVLVstd5(7)_00001   | 400 uL       | Caprolactam                           | 40 ug/mL      |
|                         |          |                               |               |                      |                     |              | N-Nitrosodiphenylamine                | 40 ug/mL      |
|                         |          |                               |               |                      |                     |              | SVLVstd8_00003                        | 400 uL        |
|                         |          |                               |               |                      | Benzoic acid        | 40 ug/mL     |                                       |               |
|                         |          |                               |               |                      | Indene              | 40 ug/mL     |                                       |               |
|                         |          |                               |               |                      | SVLVSURRSPK_00003   | 160 uL       | 2,4,6-Tribromophenol (Surr)           | 40 ug/mL      |
|                         |          |                               |               |                      |                     |              | 2-Fluorobiphenyl                      | 40 ug/mL      |
|                         |          |                               |               |                      |                     |              | 2-Fluorophenol (Surr)                 | 40 ug/mL      |
|                         |          |                               |               |                      |                     |              | Nitrobenzene-d5 (Surr)                | 40 ug/mL      |
| Phenol-d5 (Surr)        | 40 ug/mL |                               |               |                      |                     |              |                                       |               |
| SVNNITROPYROS_00015     | 800 uL   | Terphenyl-d14 (Surr)          | 40 ug/mL      |                      |                     |              |                                       |               |
|                         |          | N-Nitrosopyrrolidine          | 40 ug/mL      |                      |                     |              |                                       |               |
| ..sv benzoepyrene 00001 | 10/03/18 | Absolute, Lot 100313          |               |                      | (Purchased Reagent) |              | Benzo[e]pyrene                        | 1000 ug/mL    |
| ..SV2NAPAMINES_00002    | 06/30/17 | Ultra Scientific, Lot Ck-1617 |               |                      | (Purchased Reagent) |              | 2-Naphthylamine                       | 1000 ug/mL    |
| ..SVLVlist12_00002      | 04/30/15 | Restek, Lot A0102912          |               |                      | (Purchased Reagent) |              | 2,3,5,6-Tetrachlorophenol             | 1000 ug/mL    |
| ..SVLVstd1_00026        | 08/31/15 | Restek, Lot A0101615          |               |                      | (Purchased Reagent) |              | 2,6-Dichlorophenol                    | 1000 ug/mL    |
|                         |          |                               |               |                      |                     |              | 7,12-Dimethylbenz(a)anthracene        | 1000 ug/mL    |
|                         |          |                               |               |                      |                     |              | Methyl methanesulfonate               | 1000 ug/mL    |
|                         |          |                               |               |                      |                     |              | 1,1'-Biphenyl                         | 1000 ug/mL    |
|                         |          |                               |               |                      |                     |              | 1,2,4,5-Tetrachlorobenzene            | 1000 ug/mL    |
|                         |          |                               |               |                      |                     |              | 1,2,4-Trichlorobenzene                | 1000 ug/mL    |
|                         |          |                               |               |                      |                     |              | 1,2-Dichlorobenzene                   | 1000 ug/mL    |
|                         |          |                               |               |                      |                     |              | 1,2-Diphenylhydrazine (as Azobenzene) | 1000 ug/mL    |
|                         |          |                               |               |                      |                     |              | 1,3-Dichlorobenzene                   | 1000 ug/mL    |
|                         |          |                               |               |                      |                     |              | 1,3-Dinitrobenzene                    | 1000 ug/mL    |
|                         |          |                               |               |                      |                     |              | 1,4-Dichlorobenzene                   | 1000 ug/mL    |
|                         |          |                               |               |                      |                     |              | 1,4-Dioxane                           | 1000 ug/mL    |
|                         |          |                               |               |                      |                     |              | 1-Methylnaphthalene                   | 1000 ug/mL    |
|                         |          |                               |               |                      |                     |              | 2,2'-oxybis[1-chloropropane]          | 1000 ug/mL    |
|                         |          |                               |               |                      |                     |              | 2,3,4,6-Tetrachlorophenol             | 1000 ug/mL    |
|                         |          |                               |               |                      |                     |              | 2,4,5-Trichlorophenol                 | 1000 ug/mL    |
|                         |          |                               |               |                      |                     |              | 2,4,6-Trichlorophenol                 | 1000 ug/mL    |
|                         |          |                               |               |                      |                     |              | 2,4-Dichlorophenol                    | 1000 ug/mL    |
|                         |          |                               |               |                      |                     |              | 2,4-Dimethylphenol                    | 1000 ug/mL    |
|                         |          |                               |               |                      |                     |              | 2,4-Dinitrophenol                     | 2000 ug/mL    |
|                         |          |                               |               |                      |                     |              | 2,4-Dinitrotoluene                    | 1000 ug/mL    |
|                         |          |                               |               |                      |                     |              | 2,6-Dinitrotoluene                    | 1000 ug/mL    |
|                         |          |                               |               |                      |                     |              | 2-Chloronaphthalene                   | 1000 ug/mL    |
|                         |          |                               |               |                      |                     |              | 2-Chlorophenol                        | 1000 ug/mL    |
|                         |          |                               |               |                      |                     |              | 2-Methylnaphthalene                   | 1000 ug/mL    |
|                         |          |                               |               |                      |                     |              | 2-Methylphenol                        | 1000 ug/mL    |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent |              | Analyte                     | Concentration |
|------------|----------|-----------|---------------|----------------------|----------------|--------------|-----------------------------|---------------|
|            |          |           |               |                      | Reagent ID     | Volume Added |                             |               |
|            |          |           |               |                      |                |              | 2-Nitroaniline              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 2-Nitrophenol               | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 3-Nitroaniline              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4,6-Dinitro-2-methylphenol  | 2000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Bromophenyl phenyl ether  | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Chloro-3-methylphenol     | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Chloroaniline             | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Chlorophenyl phenyl ether | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Methylphenol              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Nitroaniline              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | 4-Nitrophenol               | 2000 ug/mL    |
|            |          |           |               |                      |                |              | Acenaphthene                | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Acenaphthylene              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Acetophenone                | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Aniline                     | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Anthracene                  | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[a]anthracene          | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[a]pyrene              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[b]fluoranthene        | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[g,h,i]perylene        | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzo[k]fluoranthene        | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Benzyl alcohol              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Bis(2-chloroethoxy)methane  | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Bis(2-chloroethyl)ether     | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Bis(2-ethylhexyl) phthalate | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Butyl benzyl phthalate      | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Carbazole                   | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Chrysene                    | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Di-n-butyl phthalate        | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Di-n-octyl phthalate        | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Dibenz(a,h)anthracene       | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Dibenzofuran                | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Diethyl phthalate           | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Dimethyl phthalate          | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Fluoranthene                | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Fluorene                    | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Hexachlorobenzene           | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Hexachlorobutadiene         | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Hexachlorocyclopentadiene   | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Hexachloroethane            | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Hexadecane                  | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Indeno[1,2,3-cd]pyrene      | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Isophorone                  | 1000 ug/mL    |
|            |          |           |               |                      |                |              | n-Decane                    | 1000 ug/mL    |
|            |          |           |               |                      |                |              | N-Nitrosodi-n-propylamine   | 1000 ug/mL    |
|            |          |           |               |                      |                |              | N-Nitrosodimethylamine      | 1000 ug/mL    |
|            |          |           |               |                      |                |              | n-Octadecane                | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Naphthalene                 | 1000 ug/mL    |

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID            | Exp Date | Prep Date | Dilutant Used        | Reagent Final Volume | Parent Reagent      |              | Analyte                      | Concentration |
|-----------------------|----------|-----------|----------------------|----------------------|---------------------|--------------|------------------------------|---------------|
|                       |          |           |                      |                      | Reagent ID          | Volume Added |                              |               |
|                       |          |           |                      |                      |                     |              | Nitrobenzene                 | 1000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Pentachlorophenol            | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Phenanthrene                 | 1000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Phenol                       | 1000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Pyrene                       | 1000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Pyridine                     | 1000 ug/mL    |
| ..SVLVstd2_00012      | 07/31/15 |           | Restek, Lot A0100824 |                      | (Purchased Reagent) |              | 3,3'-Dichlorobenzidine       | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Atrazine                     | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Benztidine                   | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Caprolactam                  | 2000 ug/mL    |
| ..SVLVstd5(7) 00001   | 02/28/17 |           | Restek, Lot A0101573 |                      | (Purchased Reagent) |              | N-Nitrosodiphenylamine       | 2000 ug/mL    |
| ..SVLVstd8_00003      | 05/31/15 |           | Restek, Lot A0103145 |                      | (Purchased Reagent) |              | Benzaldehyde                 | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Benzoic acid                 | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Indene                       | 2000 ug/mL    |
| ..SVLVSURRSPK_00003   | 02/28/18 |           | Restek, Lot A093638  |                      | (Purchased Reagent) |              | 2,4,6-Tribromophenol (Surr)  | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 2-Fluorobiphenyl             | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 2-Fluorophenol (Surr)        | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Nitrobenzene-d5 (Surr)       | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Phenol-d5 (Surr)             | 5000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Terphenyl-d14 (Surr)         | 5000 ug/mL    |
| ..SVNNITROPYROS_00015 | 06/05/17 |           | absolute, Lot 060514 |                      | (Purchased Reagent) |              | N-Nitrosopyrrolidine         | 1000 ug/mL    |
| VOA8260INT_00030      | 04/10/15 | 03/10/15  | Methanol, Lot 85233  | 10 mL                | VOA8260INTRES_00091 | 1 mL         | 1,4-Dichlorobenzene-d4       | 25 ug/mL      |
|                       |          |           |                      |                      |                     |              | Chlorobenzene-d5             | 25 ug/mL      |
|                       |          |           |                      |                      |                     |              | Fluorobenzene (IS)           | 25 ug/mL      |
|                       |          |           |                      |                      |                     |              | TBA-d9 (IS)                  | 500 ug/mL     |
| .VOA8260INTRES_00091  | 07/31/19 |           | Restek, Lot A0104742 |                      | (Purchased Reagent) |              | 1,4-Dichlorobenzene-d4       | 250 ug/mL     |
|                       |          |           |                      |                      |                     |              | Chlorobenzene-d5             | 250 ug/mL     |
|                       |          |           |                      |                      |                     |              | Fluorobenzene (IS)           | 250 ug/mL     |
|                       |          |           |                      |                      |                     |              | TBA-d9 (IS)                  | 5000 ug/mL    |
| VOA8260SURR_00032     | 04/10/15 | 03/10/15  | Methanol, Lot 85233  | 100 mL               | VOA8260SURRES_00063 | 1 mL         | 1,2-Dichloroethane-d4 (Surr) | 25 ug/mL      |
|                       |          |           |                      |                      |                     |              | 4-Bromofluorobenzene (Surr)  | 25 ug/mL      |
|                       |          |           |                      |                      |                     |              | Dibromofluoromethane (Surr)  | 25 ug/mL      |
|                       |          |           |                      |                      |                     |              | Toluene-d8 (Surr)            | 25 ug/mL      |
| .VOA8260SURRES_00063  | 01/31/19 |           | Restek, Lot A0100424 |                      | (Purchased Reagent) |              | 1,2-Dichloroethane-d4 (Surr) | 2500 ug/mL    |
|                       |          |           |                      |                      |                     |              | 4-Bromofluorobenzene (Surr)  | 2500 ug/mL    |
|                       |          |           |                      |                      |                     |              | Dibromofluoromethane (Surr)  | 2500 ug/mL    |
|                       |          |           |                      |                      |                     |              | Toluene-d8 (Surr)            | 2500 ug/mL    |
| VOA8260SURR_00033     | 05/03/15 | 04/03/15  | Methanol, Lot 85233  | 100 mL               | VOA8260SURRES_00087 | 1 mL         | 1,2-Dichloroethane-d4 (Surr) | 25 ug/mL      |
|                       |          |           |                      |                      |                     |              | 4-Bromofluorobenzene (Surr)  | 25 ug/mL      |
|                       |          |           |                      |                      |                     |              | Dibromofluoromethane (Surr)  | 25 ug/mL      |
|                       |          |           |                      |                      |                     |              | Toluene-d8 (Surr)            | 25 ug/mL      |
| .VOA8260SURRES_00087  | 04/30/19 |           | Restek, Lot A0102817 |                      | (Purchased Reagent) |              | 1,2-Dichloroethane-d4 (Surr) | 2500 ug/mL    |
|                       |          |           |                      |                      |                     |              | 4-Bromofluorobenzene (Surr)  | 2500 ug/mL    |
|                       |          |           |                      |                      |                     |              | Dibromofluoromethane (Surr)  | 2500 ug/mL    |
|                       |          |           |                      |                      |                     |              | Toluene-d8 (Surr)            | 2500 ug/mL    |
| VOA8260VOA2ND_00113   | 04/30/15 | 04/23/15  | Methanol, Lot 85233  | 10 mL                | VOA8260GAS2ND_00094 | 0.1 mL       | Bromomethane                 | 25 ug/mL      |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID           | Exp Date | Prep Date            | Dilutant Used       | Reagent Final Volume | Parent Reagent            |              | Analyte                   | Concentration |
|----------------------|----------|----------------------|---------------------|----------------------|---------------------------|--------------|---------------------------|---------------|
|                      |          |                      |                     |                      | Reagent ID                | Volume Added |                           |               |
|                      |          |                      |                     |                      |                           |              | Chloroethane              | 25 ug/mL      |
|                      |          |                      |                     |                      |                           |              | Chloromethane             | 25 ug/mL      |
|                      |          |                      |                     |                      |                           |              | Vinyl chloride            | 25 ug/mL      |
|                      |          |                      |                     |                      | VOA8260VOA2ND_00112       | 1.25 mL      | 1,1,1-Trichloroethane     | 25 ug/mL      |
|                      |          |                      |                     |                      | 1,1,2,2-Tetrachloroethane |              | 25 ug/mL                  |               |
|                      |          |                      |                     |                      | 1,1,2-Trichloroethane     |              | 25 ug/mL                  |               |
|                      |          |                      |                     |                      | 1,1-Dichloroethane        |              | 25 ug/mL                  |               |
|                      |          |                      |                     |                      | 1,1-Dichloroethene        |              | 25 ug/mL                  |               |
|                      |          |                      |                     |                      | 1,2-Dichlorobenzene       |              | 25 ug/mL                  |               |
|                      |          |                      |                     |                      | 1,2-Dichloroethane        |              | 25 ug/mL                  |               |
|                      |          |                      |                     |                      | 1,2-Dichloropropane       |              | 25 ug/mL                  |               |
|                      |          |                      |                     |                      | 1,3-Dichlorobenzene       |              | 25 ug/mL                  |               |
|                      |          |                      |                     |                      | 1,4-Dichlorobenzene       |              | 25 ug/mL                  |               |
|                      |          |                      |                     |                      | Acrylonitrile             |              | 250 ug/mL                 |               |
|                      |          |                      |                     |                      | Benzene                   |              | 25 ug/mL                  |               |
|                      |          |                      |                     |                      | Bromoform                 |              | 25 ug/mL                  |               |
|                      |          |                      |                     |                      | Carbon tetrachloride      |              | 25 ug/mL                  |               |
|                      |          |                      |                     |                      | Chlorobenzene             |              | 25 ug/mL                  |               |
|                      |          |                      |                     |                      | Chlorodibromomethane      |              | 25 ug/mL                  |               |
|                      |          |                      |                     |                      | Chloroform                |              | 25 ug/mL                  |               |
|                      |          |                      |                     |                      | cis-1,3-Dichloropropene   |              | 25 ug/mL                  |               |
|                      |          |                      |                     |                      | Dichlorobromomethane      |              | 25 ug/mL                  |               |
|                      |          |                      |                     |                      | Ethylbenzene              |              | 25 ug/mL                  |               |
|                      |          |                      |                     |                      | Methylene Chloride        |              | 25 ug/mL                  |               |
|                      |          |                      |                     |                      | Tetrachloroethene         |              | 25 ug/mL                  |               |
|                      |          |                      |                     |                      | Toluene                   |              | 25 ug/mL                  |               |
|                      |          |                      |                     |                      | trans-1,2-Dichloroethene  |              | 25 ug/mL                  |               |
|                      |          |                      |                     |                      | trans-1,3-Dichloropropene |              | 25 ug/mL                  |               |
|                      |          |                      |                     |                      | Trichloroethene           |              | 25 ug/mL                  |               |
| .VOA8260GAS2ND_00094 | 01/31/18 | Restek, Lot A0108226 |                     |                      | (Purchased Reagent)       |              | Bromomethane              | 2500 ug/mL    |
|                      |          |                      |                     |                      |                           |              | Chloroethane              | 2500 ug/mL    |
|                      |          |                      |                     |                      |                           |              | Chloromethane             | 2500 ug/mL    |
|                      |          |                      |                     |                      |                           |              | Vinyl chloride            | 2500 ug/mL    |
| .VOA8260VOA2ND_00112 | 05/17/15 | 04/17/15             | Methanol, Lot 85233 | 10 mL                | VOA8260MEGA2_00034        | 1 mL         | 1,1,1-Trichloroethane     | 200 ug/mL     |
|                      |          |                      |                     |                      |                           |              | 1,1,2,2-Tetrachloroethane | 200 ug/mL     |
|                      |          |                      |                     |                      |                           |              | 1,1,2-Trichloroethane     | 200 ug/mL     |
|                      |          |                      |                     |                      |                           |              | 1,1-Dichloroethane        | 200 ug/mL     |
|                      |          |                      |                     |                      |                           |              | 1,1-Dichloroethene        | 200 ug/mL     |
|                      |          |                      |                     |                      |                           |              | 1,2-Dichlorobenzene       | 200 ug/mL     |
|                      |          |                      |                     |                      |                           |              | 1,2-Dichloroethane        | 200 ug/mL     |
|                      |          |                      |                     |                      |                           |              | 1,2-Dichloropropane       | 200 ug/mL     |
|                      |          |                      |                     |                      |                           |              | 1,3-Dichlorobenzene       | 200 ug/mL     |
|                      |          |                      |                     |                      |                           |              | 1,4-Dichlorobenzene       | 200 ug/mL     |
|                      |          |                      |                     |                      |                           |              | Acrylonitrile             | 2000 ug/mL    |
|                      |          |                      |                     |                      |                           |              | Benzene                   | 200 ug/mL     |
|                      |          |                      |                     |                      |                           |              | Bromoform                 | 200 ug/mL     |
|                      |          |                      |                     |                      |                           |              | Carbon tetrachloride      | 200 ug/mL     |
|                      |          |                      |                     |                      |                           |              | Chlorobenzene             | 200 ug/mL     |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID           | Exp Date | Prep Date | Dilutant Used       | Reagent Final Volume | Parent Reagent      |              | Analyte                   | Concentration |
|----------------------|----------|-----------|---------------------|----------------------|---------------------|--------------|---------------------------|---------------|
|                      |          |           |                     |                      | Reagent ID          | Volume Added |                           |               |
|                      |          |           |                     |                      |                     |              | Chlorodibromomethane      | 200 ug/mL     |
|                      |          |           |                     |                      |                     |              | Chloroform                | 200 ug/mL     |
|                      |          |           |                     |                      |                     |              | cis-1,3-Dichloropropene   | 200 ug/mL     |
|                      |          |           |                     |                      |                     |              | Dichlorobromomethane      | 200 ug/mL     |
|                      |          |           |                     |                      |                     |              | Ethylbenzene              | 200 ug/mL     |
|                      |          |           |                     |                      |                     |              | Methylene Chloride        | 200 ug/mL     |
|                      |          |           |                     |                      |                     |              | Tetrachloroethene         | 200 ug/mL     |
|                      |          |           |                     |                      |                     |              | Toluene                   | 200 ug/mL     |
|                      |          |           |                     |                      |                     |              | trans-1,2-Dichloroethene  | 200 ug/mL     |
|                      |          |           |                     |                      |                     |              | trans-1,3-Dichloropropene | 200 ug/mL     |
|                      |          |           |                     |                      |                     |              | Trichloroethene           | 200 ug/mL     |
| ..VOA8260MEGA2_00034 | 02/01/16 |           | Restek, Lot A093733 |                      | (Purchased Reagent) |              | 1,1,1-Trichloroethane     | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | 1,1,2,2-Tetrachloroethane | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | 1,1,2-Trichloroethane     | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | 1,1-Dichloroethane        | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | 1,1-Dichloroethene        | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | 1,2-Dichlorobenzene       | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | 1,2-Dichloroethane        | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | 1,2-Dichloropropane       | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | 1,3-Dichlorobenzene       | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | 1,4-Dichlorobenzene       | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Acrylonitrile             | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Benzene                   | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Bromoform                 | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Carbon tetrachloride      | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Chlorobenzene             | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Chlorodibromomethane      | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Chloroform                | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | cis-1,3-Dichloropropene   | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Dichlorobromomethane      | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Ethylbenzene              | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Methylene Chloride        | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Tetrachloroethene         | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Toluene                   | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | trans-1,2-Dichloroethene  | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | trans-1,3-Dichloropropene | 2000 ug/mL    |
|                      |          |           |                     |                      |                     |              | Trichloroethene           | 2000 ug/mL    |
| VOA8260VOAPRI_00108  | 04/06/15 | 03/30/15  | Methanol, Lot 85233 | 10 mL                | VOA8260GAS1ST_00092 | 0.1 mL       | Bromomethane              | 25 ug/mL      |
|                      |          |           |                     |                      |                     |              | Butadiene                 | 25 ug/mL      |
|                      |          |           |                     |                      |                     |              | Chloroethane              | 25 ug/mL      |
|                      |          |           |                     |                      |                     |              | Chloromethane             | 25 ug/mL      |
|                      |          |           |                     |                      |                     |              | Dichlorodifluoromethane   | 25 ug/mL      |
|                      |          |           |                     |                      |                     |              | Dichlorofluoromethane     | 25 ug/mL      |
|                      |          |           |                     |                      |                     |              | Trichlorofluoromethane    | 25 ug/mL      |
|                      |          |           |                     |                      |                     |              | Vinyl chloride            | 25 ug/mL      |
|                      |          |           |                     |                      | VOA8260VOAPRI_00106 | 1.25 mL      | 2-Butanone (MEK)          | 25 ug/mL      |
|                      |          |           |                     |                      |                     |              | 2-Hexanone                | 25 ug/mL      |
|                      |          |           |                     |                      |                     |              |                           |               |
|                      |          |           |                     |                      |                     |              |                           |               |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent |              | Analyte                               | Concentration |
|------------|----------|-----------|---------------|----------------------|----------------|--------------|---------------------------------------|---------------|
|            |          |           |               |                      | Reagent ID     | Volume Added |                                       |               |
|            |          |           |               |                      |                |              | 4-Methyl-2-pentanone (MIBK)           | 25 ug/mL      |
|            |          |           |               |                      |                |              | Acetone                               | 25 ug/mL      |
|            |          |           |               |                      |                |              | 1,1,1,2-Tetrachloroethane             | 25 ug/mL      |
|            |          |           |               |                      |                |              | 1,1,1-Trichloroethane                 | 25 ug/mL      |
|            |          |           |               |                      |                |              | 1,1,2,2-Tetrachloroethane             | 25 ug/mL      |
|            |          |           |               |                      |                |              | 1,1,2-Trichloro-1,2,2-trifluoroethane | 25 ug/mL      |
|            |          |           |               |                      |                |              | 1,1,2-Trichloroethane                 | 25 ug/mL      |
|            |          |           |               |                      |                |              | 1,1-Dichloroethane                    | 25 ug/mL      |
|            |          |           |               |                      |                |              | 1,1-Dichloroethene                    | 25 ug/mL      |
|            |          |           |               |                      |                |              | 1,1-Dichloropropene                   | 25 ug/mL      |
|            |          |           |               |                      |                |              | 1,2,3-Trichlorobenzene                | 25 ug/mL      |
|            |          |           |               |                      |                |              | 1,2,3-Trichloropropane                | 25 ug/mL      |
|            |          |           |               |                      |                |              | 1,2,4-Trichlorobenzene                | 25 ug/mL      |
|            |          |           |               |                      |                |              | 1,2,4-Trimethylbenzene                | 25 ug/mL      |
|            |          |           |               |                      |                |              | 1,2-Dibromo-3-Chloropropane           | 25 ug/mL      |
|            |          |           |               |                      |                |              | 1,2-Dichlorobenzene                   | 25 ug/mL      |
|            |          |           |               |                      |                |              | 1,2-Dichloroethane                    | 25 ug/mL      |
|            |          |           |               |                      |                |              | 1,2-Dichloropropane                   | 25 ug/mL      |
|            |          |           |               |                      |                |              | 1,3,5-Trimethylbenzene                | 25 ug/mL      |
|            |          |           |               |                      |                |              | 1,3-Dichlorobenzene                   | 25 ug/mL      |
|            |          |           |               |                      |                |              | 1,3-Dichloropropane                   | 25 ug/mL      |
|            |          |           |               |                      |                |              | 1,4-Dichlorobenzene                   | 25 ug/mL      |
|            |          |           |               |                      |                |              | 1,4-Dioxane                           | 500 ug/mL     |
|            |          |           |               |                      |                |              | 2,2-Dichloropropane                   | 25 ug/mL      |
|            |          |           |               |                      |                |              | 2-Chlorotoluene                       | 25 ug/mL      |
|            |          |           |               |                      |                |              | 2-Methyl-2-propanol                   | 250 ug/mL     |
|            |          |           |               |                      |                |              | 3-Chloro-1-propene                    | 25 ug/mL      |
|            |          |           |               |                      |                |              | 4-Chlorotoluene                       | 25 ug/mL      |
|            |          |           |               |                      |                |              | 4-Isopropyltoluene                    | 25 ug/mL      |
|            |          |           |               |                      |                |              | Acrylonitrile                         | 250 ug/mL     |
|            |          |           |               |                      |                |              | Benzene                               | 25 ug/mL      |
|            |          |           |               |                      |                |              | Bromobenzene                          | 25 ug/mL      |
|            |          |           |               |                      |                |              | Bromoform                             | 25 ug/mL      |
|            |          |           |               |                      |                |              | Carbon disulfide                      | 25 ug/mL      |
|            |          |           |               |                      |                |              | Carbon tetrachloride                  | 25 ug/mL      |
|            |          |           |               |                      |                |              | Chlorobenzene                         | 25 ug/mL      |
|            |          |           |               |                      |                |              | Chlorobromomethane                    | 25 ug/mL      |
|            |          |           |               |                      |                |              | Chlorodibromomethane                  | 25 ug/mL      |
|            |          |           |               |                      |                |              | Chloroform                            | 25 ug/mL      |
|            |          |           |               |                      |                |              | cis-1,2-Dichloroethene                | 25 ug/mL      |
|            |          |           |               |                      |                |              | cis-1,3-Dichloropropene               | 25 ug/mL      |
|            |          |           |               |                      |                |              | Cyclohexane                           | 25 ug/mL      |
|            |          |           |               |                      |                |              | Dibromomethane                        | 25 ug/mL      |
|            |          |           |               |                      |                |              | Dichlorobromomethane                  | 25 ug/mL      |
|            |          |           |               |                      |                |              | Ethyl ether                           | 25 ug/mL      |
|            |          |           |               |                      |                |              | Ethyl methacrylate                    | 25 ug/mL      |
|            |          |           |               |                      |                |              | Ethylbenzene                          | 25 ug/mL      |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID           | Exp Date | Prep Date | Dilutant Used        | Reagent Final Volume | Parent Reagent      |              | Analyte                               | Concentration |
|----------------------|----------|-----------|----------------------|----------------------|---------------------|--------------|---------------------------------------|---------------|
|                      |          |           |                      |                      | Reagent ID          | Volume Added |                                       |               |
|                      |          |           |                      |                      |                     |              | Ethylene Dibromide                    | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | Hexachlorobutadiene                   | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | Hexane                                | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | Iodomethane                           | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | Isobutyl alcohol                      | 625 ug/mL     |
|                      |          |           |                      |                      |                     |              | Isopropylbenzene                      | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | m-Xylene & p-Xylene                   | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | Methyl acetate                        | 125 ug/mL     |
|                      |          |           |                      |                      |                     |              | Methyl tert-butyl ether               | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | Methylcyclohexane                     | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | Methylene Chloride                    | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | n-Butylbenzene                        | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | n-Heptane                             | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | N-Propylbenzene                       | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | Naphthalene                           | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | o-Xylene                              | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | sec-Butylbenzene                      | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | Styrene                               | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | tert-Butylbenzene                     | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | Tetrachloroethene                     | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | Tetrahydrofuran                       | 50 ug/mL      |
|                      |          |           |                      |                      |                     |              | Toluene                               | 25 ug/mL      |
| .VOA8260GAS1ST_00092 | 09/30/16 |           | Restek, Lot A0108198 |                      | (Purchased Reagent) |              | Bromomethane                          | 2500 ug/mL    |
|                      |          |           |                      |                      |                     |              | Butadiene                             | 2500 ug/mL    |
|                      |          |           |                      |                      |                     |              | Chloroethane                          | 2500 ug/mL    |
|                      |          |           |                      |                      |                     |              | Chloromethane                         | 2500 ug/mL    |
|                      |          |           |                      |                      |                     |              | Dichlorodifluoromethane               | 2500 ug/mL    |
|                      |          |           |                      |                      |                     |              | Dichlorofluoromethane                 | 2500 ug/mL    |
|                      |          |           |                      |                      |                     |              | Trichlorofluoromethane                | 2500 ug/mL    |
|                      |          |           |                      |                      |                     |              | Vinyl chloride                        | 2500 ug/mL    |
|                      |          |           |                      |                      |                     |              |                                       |               |
| .VOA8260VOAPRI_00106 | 04/19/15 | 03/19/15  | Methanol, Lot 85233  | 10 mL                | VOA8260KET1ST_00038 | 0.16 mL      | 2-Butanone (MEK)                      | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | 2-Hexanone                            | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | 4-Methyl-2-pentanone (MIBK)           | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | Acetone                               | 200 ug/mL     |
|                      |          |           |                      |                      | VOA8260MEGA1_00014  | 1 mL         | 1,1,1,2-Tetrachloroethane             | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | 1,1,1-Trichloroethane                 | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | 1,1,2,2-Tetrachloroethane             | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | 1,1,2-Trichloro-1,2,2-trifluoroethane | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | 1,1,2-Trichloroethane                 | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | 1,1-Dichloroethane                    | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | 1,1-Dichloroethene                    | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | 1,1-Dichloropropene                   | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | 1,2,3-Trichlorobenzene                | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              |                                       |               |
|                      |          |           |                      |                      |                     |              |                                       |               |
|                      |          |           |                      |                      |                     |              |                                       |               |
|                      |          |           |                      |                      |                     |              |                                       |               |
|                      |          |           |                      |                      |                     |              |                                       |               |
|                      |          |           |                      |                      |                     |              |                                       |               |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID | Exp Date | Prep Date | Dilutant Used | Reagent Final Volume | Parent Reagent |              | Analyte                     | Concentration |
|------------|----------|-----------|---------------|----------------------|----------------|--------------|-----------------------------|---------------|
|            |          |           |               |                      | Reagent ID     | Volume Added |                             |               |
|            |          |           |               |                      |                |              | 1,2,3-Trichloropropane      | 200 ug/mL     |
|            |          |           |               |                      |                |              | 1,2,4-Trichlorobenzene      | 200 ug/mL     |
|            |          |           |               |                      |                |              | 1,2,4-Trimethylbenzene      | 200 ug/mL     |
|            |          |           |               |                      |                |              | 1,2-Dibromo-3-Chloropropane | 200 ug/mL     |
|            |          |           |               |                      |                |              | 1,2-Dichlorobenzene         | 200 ug/mL     |
|            |          |           |               |                      |                |              | 1,2-Dichloroethane          | 200 ug/mL     |
|            |          |           |               |                      |                |              | 1,2-Dichloropropane         | 200 ug/mL     |
|            |          |           |               |                      |                |              | 1,3,5-Trimethylbenzene      | 200 ug/mL     |
|            |          |           |               |                      |                |              | 1,3-Dichlorobenzene         | 200 ug/mL     |
|            |          |           |               |                      |                |              | 1,3-Dichloropropane         | 200 ug/mL     |
|            |          |           |               |                      |                |              | 1,4-Dichlorobenzene         | 200 ug/mL     |
|            |          |           |               |                      |                |              | 1,4-Dioxane                 | 4000 ug/mL    |
|            |          |           |               |                      |                |              | 2,2-Dichloropropane         | 200 ug/mL     |
|            |          |           |               |                      |                |              | 2-Chlorotoluene             | 200 ug/mL     |
|            |          |           |               |                      |                |              | 2-Methyl-2-propanol         | 2000 ug/mL    |
|            |          |           |               |                      |                |              | 3-Chloro-1-propene          | 200 ug/mL     |
|            |          |           |               |                      |                |              | 4-Chlorotoluene             | 200 ug/mL     |
|            |          |           |               |                      |                |              | 4-Isopropyltoluene          | 200 ug/mL     |
|            |          |           |               |                      |                |              | Acrylonitrile               | 2000 ug/mL    |
|            |          |           |               |                      |                |              | Benzene                     | 200 ug/mL     |
|            |          |           |               |                      |                |              | Bromobenzene                | 200 ug/mL     |
|            |          |           |               |                      |                |              | Bromoform                   | 200 ug/mL     |
|            |          |           |               |                      |                |              | Carbon disulfide            | 200 ug/mL     |
|            |          |           |               |                      |                |              | Carbon tetrachloride        | 200 ug/mL     |
|            |          |           |               |                      |                |              | Chlorobenzene               | 200 ug/mL     |
|            |          |           |               |                      |                |              | Chlorobromomethane          | 200 ug/mL     |
|            |          |           |               |                      |                |              | Chlorodibromomethane        | 200 ug/mL     |
|            |          |           |               |                      |                |              | Chloroform                  | 200 ug/mL     |
|            |          |           |               |                      |                |              | cis-1,2-Dichloroethene      | 200 ug/mL     |
|            |          |           |               |                      |                |              | cis-1,3-Dichloropropene     | 200 ug/mL     |
|            |          |           |               |                      |                |              | Cyclohexane                 | 200 ug/mL     |
|            |          |           |               |                      |                |              | Dibromomethane              | 200 ug/mL     |
|            |          |           |               |                      |                |              | Dichlorobromomethane        | 200 ug/mL     |
|            |          |           |               |                      |                |              | Ethyl ether                 | 200 ug/mL     |
|            |          |           |               |                      |                |              | Ethyl methacrylate          | 200 ug/mL     |
|            |          |           |               |                      |                |              | Ethylbenzene                | 200 ug/mL     |
|            |          |           |               |                      |                |              | Ethylene Dibromide          | 200 ug/mL     |
|            |          |           |               |                      |                |              | Hexachlorobutadiene         | 200 ug/mL     |
|            |          |           |               |                      |                |              | Hexane                      | 200 ug/mL     |
|            |          |           |               |                      |                |              | Iodomethane                 | 200 ug/mL     |
|            |          |           |               |                      |                |              | Isobutyl alcohol            | 5000 ug/mL    |
|            |          |           |               |                      |                |              | Isopropylbenzene            | 200 ug/mL     |
|            |          |           |               |                      |                |              | m-Xylene & p-Xylene         | 200 ug/mL     |
|            |          |           |               |                      |                |              | Methyl acetate              | 1000 ug/mL    |
|            |          |           |               |                      |                |              | Methyl tert-butyl ether     | 200 ug/mL     |
|            |          |           |               |                      |                |              | Methylcyclohexane           | 200 ug/mL     |
|            |          |           |               |                      |                |              | Methylene Chloride          | 200 ug/mL     |
|            |          |           |               |                      |                |              | n-Butylbenzene              | 200 ug/mL     |



REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID            | Exp Date | Prep Date | Dilutant Used        | Reagent Final Volume | Parent Reagent      |              | Analyte                               | Concentration |
|-----------------------|----------|-----------|----------------------|----------------------|---------------------|--------------|---------------------------------------|---------------|
|                       |          |           |                      |                      | Reagent ID          | Volume Added |                                       |               |
|                       |          |           |                      |                      |                     |              | n-Heptane                             | 200 ug/mL     |
|                       |          |           |                      |                      |                     |              | N-Propylbenzene                       | 200 ug/mL     |
|                       |          |           |                      |                      |                     |              | Naphthalene                           | 200 ug/mL     |
|                       |          |           |                      |                      |                     |              | o-Xylene                              | 200 ug/mL     |
|                       |          |           |                      |                      |                     |              | sec-Butylbenzene                      | 200 ug/mL     |
|                       |          |           |                      |                      |                     |              | Styrene                               | 200 ug/mL     |
|                       |          |           |                      |                      |                     |              | tert-Butylbenzene                     | 200 ug/mL     |
|                       |          |           |                      |                      |                     |              | Tetrachloroethene                     | 200 ug/mL     |
|                       |          |           |                      |                      |                     |              | Tetrahydrofuran                       | 400 ug/mL     |
|                       |          |           |                      |                      |                     |              | Toluene                               | 200 ug/mL     |
|                       |          |           |                      |                      |                     |              | trans-1,2-Dichloroethene              | 200 ug/mL     |
|                       |          |           |                      |                      |                     |              | trans-1,3-Dichloropropene             | 200 ug/mL     |
|                       |          |           |                      |                      |                     |              | trans-1,4-Dichloro-2-butene           | 200 ug/mL     |
|                       |          |           |                      |                      |                     |              | Trichloroethene                       | 200 ug/mL     |
| ..VOA8260KET1ST_00038 | 01/31/18 |           | Restek, Lot A0108151 |                      | (Purchased Reagent) |              | 2-Butanone (MEK)                      | 12500 ug/mL   |
|                       |          |           |                      |                      |                     |              | 2-Hexanone                            | 12500 ug/mL   |
|                       |          |           |                      |                      |                     |              | 4-Methyl-2-pentanone (MIBK)           | 12500 ug/mL   |
|                       |          |           |                      |                      |                     |              | Acetone                               | 12500 ug/mL   |
| ..VOA8260MEGA1_00014  | 02/28/16 |           | Restek, Lot A093581  |                      | (Purchased Reagent) |              | 1,1,1,2-Tetrachloroethane             | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 1,1,1-Trichloroethane                 | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 1,1,2,2-Tetrachloroethane             | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 1,1,2-Trichloro-1,2,2-trifluoroethane | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 1,1,2-Trichloroethane                 | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 1,1-Dichloroethane                    | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 1,1-Dichloroethene                    | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 1,1-Dichloropropene                   | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 1,2,3-Trichlorobenzene                | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 1,2,3-Trichloropropane                | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 1,2,4-Trichlorobenzene                | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 1,2,4-Trimethylbenzene                | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 1,2-Dibromo-3-Chloropropane           | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 1,2-Dichlorobenzene                   | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 1,2-Dichloroethane                    | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 1,2-Dichloropropane                   | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 1,3,5-Trimethylbenzene                | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 1,3-Dichlorobenzene                   | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 1,3-Dichloropropane                   | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 1,4-Dichlorobenzene                   | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 1,4-Dioxane                           | 40000 ug/mL   |
|                       |          |           |                      |                      |                     |              | 2,2-Dichloropropane                   | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 2-Chlorotoluene                       | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 2-Methyl-2-propanol                   | 20000 ug/mL   |
|                       |          |           |                      |                      |                     |              | 3-Chloro-1-propene                    | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 4-Chlorotoluene                       | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | 4-Isopropyltoluene                    | 2000 ug/mL    |
|                       |          |           |                      |                      |                     |              | Acrylonitrile                         | 20000 ug/mL   |
|                       |          |           |                      |                      |                     |              | Benzene                               | 2000 ug/mL    |

REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID          | Exp Date | Prep Date | Dilutant Used       | Reagent Final Volume | Parent Reagent      |              | Analyte                     | Concentration |
|---------------------|----------|-----------|---------------------|----------------------|---------------------|--------------|-----------------------------|---------------|
|                     |          |           |                     |                      | Reagent ID          | Volume Added |                             |               |
|                     |          |           |                     |                      |                     |              | Bromobenzene                | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Bromoform                   | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Carbon disulfide            | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Carbon tetrachloride        | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Chlorobenzene               | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Chlorobromomethane          | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Chlorodibromomethane        | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Chloroform                  | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | cis-1,2-Dichloroethene      | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | cis-1,3-Dichloropropene     | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Cyclohexane                 | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Dibromomethane              | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Dichlorobromomethane        | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Ethyl ether                 | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Ethyl methacrylate          | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Ethylbenzene                | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Ethylene Dibromide          | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Hexachlorobutadiene         | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Hexane                      | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Iodomethane                 | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Isobutyl alcohol            | 50000 ug/mL   |
|                     |          |           |                     |                      |                     |              | Isopropylbenzene            | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | m-Xylene & p-Xylene         | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Methyl acetate              | 10000 ug/mL   |
|                     |          |           |                     |                      |                     |              | Methyl tert-butyl ether     | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Methylcyclohexane           | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Methylene Chloride          | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | n-Butylbenzene              | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | n-Heptane                   | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | N-Propylbenzene             | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Naphthalene                 | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | o-Xylene                    | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | sec-Butylbenzene            | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Styrene                     | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | tert-Butylbenzene           | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Tetrachloroethene           | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Tetrahydrofuran             | 4000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Toluene                     | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | trans-1,2-Dichloroethene    | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | trans-1,3-Dichloropropene   | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | trans-1,4-Dichloro-2-butene | 2000 ug/mL    |
|                     |          |           |                     |                      |                     |              | Trichloroethene             | 2000 ug/mL    |
| VOA8260VOAPRI_00112 | 04/30/15 | 04/23/15  | Methanol, Lot 85233 | 10 mL                | VOA8260GAS1ST_00097 | 0.1 mL       | Bromomethane                | 25 ug/mL      |
|                     |          |           |                     |                      |                     |              | Chloroethane                | 25 ug/mL      |
|                     |          |           |                     |                      |                     |              | Chloromethane               | 25 ug/mL      |
|                     |          |           |                     |                      |                     |              | Vinyl chloride              | 25 ug/mL      |
|                     |          |           |                     |                      | VOA8260VOAPRI_00111 | 1.25 mL      | 1,1,1-Trichloroethane       | 25 ug/mL      |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID           | Exp Date | Prep Date | Dilutant Used        | Reagent Final Volume | Parent Reagent      |              | Analyte                   | Concentration |
|----------------------|----------|-----------|----------------------|----------------------|---------------------|--------------|---------------------------|---------------|
|                      |          |           |                      |                      | Reagent ID          | Volume Added |                           |               |
|                      |          |           |                      |                      |                     |              | 1,1,2,2-Tetrachloroethane | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | 1,1,2-Trichloroethane     | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | 1,1-Dichloroethane        | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | 1,1-Dichloroethene        | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | 1,2-Dichlorobenzene       | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | 1,2-Dichloroethane        | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | 1,2-Dichloropropane       | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | 1,3-Dichlorobenzene       | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | 1,4-Dichlorobenzene       | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | Acrylonitrile             | 250 ug/mL     |
|                      |          |           |                      |                      |                     |              | Benzene                   | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | Bromoform                 | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | Carbon tetrachloride      | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | Chlorobenzene             | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | Chlorodibromomethane      | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | Chloroform                | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | cis-1,3-Dichloropropene   | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | Dichlorobromomethane      | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | Ethylbenzene              | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | Methylene Chloride        | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | Tetrachloroethene         | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | Toluene                   | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | trans-1,2-Dichloroethene  | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | trans-1,3-Dichloropropene | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | Trichloroethene           | 25 ug/mL      |
| .VOA8260GAS1ST_00097 | 01/31/18 |           | Restek, Lot A0108198 |                      | (Purchased Reagent) |              | Bromomethane              | 2500 ug/mL    |
|                      |          |           |                      |                      |                     |              | Chloroethane              | 2500 ug/mL    |
|                      |          |           |                      |                      |                     |              | Chloromethane             | 2500 ug/mL    |
|                      |          |           |                      |                      |                     |              | Vinyl chloride            | 2500 ug/mL    |
| .VOA8260VOAPRI_00111 | 05/17/15 | 04/17/15  | Methanol, Lot 85233  | 10 mL                | VOA8260MEGA1_00031  | 1 mL         | 1,1,1-Trichloroethane     | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | 1,1,2,2-Tetrachloroethane | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | 1,1,2-Trichloroethane     | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | 1,1-Dichloroethane        | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | 1,1-Dichloroethene        | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | 1,2-Dichlorobenzene       | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | 1,2-Dichloroethane        | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | 1,2-Dichloropropane       | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | 1,3-Dichlorobenzene       | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | 1,4-Dichlorobenzene       | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | Acrylonitrile             | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | Benzene                   | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | Bromoform                 | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | Carbon tetrachloride      | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | Chlorobenzene             | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | Chlorodibromomethane      | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | Chloroform                | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | cis-1,3-Dichloropropene   | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | Dichlorobromomethane      | 200 ug/mL     |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID           | Exp Date | Prep Date | Dilutant Used        | Reagent Final Volume | Parent Reagent      |              | Analyte                   | Concentration |
|----------------------|----------|-----------|----------------------|----------------------|---------------------|--------------|---------------------------|---------------|
|                      |          |           |                      |                      | Reagent ID          | Volume Added |                           |               |
|                      |          |           |                      |                      |                     |              | Ethylbenzene              | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | Methylene Chloride        | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | Tetrachloroethene         | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | Toluene                   | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | trans-1,2-Dichloroethene  | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | trans-1,3-Dichloropropene | 200 ug/mL     |
|                      |          |           |                      |                      |                     |              | Trichloroethene           | 200 ug/mL     |
| ..VOA8260MEGA1_00031 | 02/28/16 |           | Restek, Lot A093581  |                      | (Purchased Reagent) |              | 1,1,1-Trichloroethane     | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | 1,1,2,2-Tetrachloroethane | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | 1,1,2-Trichloroethane     | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | 1,1-Dichloroethane        | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | 1,1-Dichloroethene        | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | 1,2-Dichlorobenzene       | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | 1,2-Dichloroethane        | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | 1,2-Dichloropropane       | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | 1,3-Dichlorobenzene       | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | 1,4-Dichlorobenzene       | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | Acrylonitrile             | 20000 ug/mL   |
|                      |          |           |                      |                      |                     |              | Benzene                   | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | Bromoform                 | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | Carbon tetrachloride      | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | Chlorobenzene             | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | Chlorodibromomethane      | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | Chloroform                | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | cis-1,3-Dichloropropene   | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | Dichlorobromomethane      | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | Ethylbenzene              | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | Methylene Chloride        | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | Tetrachloroethene         | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | Toluene                   | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | trans-1,2-Dichloroethene  | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | trans-1,3-Dichloropropene | 2000 ug/mL    |
|                      |          |           |                      |                      |                     |              | Trichloroethene           | 2000 ug/mL    |
| VOAACRO2ND_00007     | 04/30/15 | 03/30/15  | Methanol, Lot 85233  | 50 mL                | VOAACRRES2ND_00057  | 0.0625 mL    | Acrolein                  | 25 ug/mL      |
| .VOAACRRES2ND_00057  | 03/31/15 |           | Restek, Lot A0107340 |                      | (Purchased Reagent) |              | Acrolein                  | 20000 ug/mL   |
| VOAACRPRI_00005      | 04/30/15 | 03/30/15  | Methanol, Lot 85233  | 50 mL                | VOAACRORES_00065    | 0.0625 mL    | Acrolein                  | 25 ug/mL      |
| .VOAACRORES_00065    | 03/31/15 |           | Restek, Lot A0107338 |                      | (Purchased Reagent) |              | Acrolein                  | 20000 ug/mL   |
| VOAAPFIXPRI_00008    | 04/17/15 | 03/17/15  | Methanol, Lot 85233  | 10 mL                | VOACYCLORES_00022   | 0.25 mL      | Cyclohexanone             | 500 ug/mL     |
|                      |          |           |                      |                      | VOALIST2STD1P_00024 | 0.125 mL     | 1,2,3-Trimethylbenzene    | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | 1,3,5-Trichlorobenzene    | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | 2-Chloro-1,3-butadiene    | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | 2-Nitropropane            | 50 ug/mL      |
|                      |          |           |                      |                      |                     |              | Benzyl chloride           | 25 ug/mL      |
|                      |          |           |                      |                      |                     |              | Ethyl acetate             | 50 ug/mL      |
|                      |          |           |                      |                      |                     |              | Ethyl acrylate            | 25 ug/mL      |

## REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh

Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID           | Exp Date | Prep Date | Dilutant Used                 | Reagent Final Volume | Parent Reagent      |              | Analyte                   | Concentration |
|----------------------|----------|-----------|-------------------------------|----------------------|---------------------|--------------|---------------------------|---------------|
|                      |          |           |                               |                      | Reagent ID          | Volume Added |                           |               |
|                      |          |           |                               |                      |                     |              | Isooctane                 | 25 ug/mL      |
|                      |          |           |                               |                      |                     |              | Isopropyl alcohol         | 250 ug/mL     |
|                      |          |           |                               |                      |                     |              | Methacrylonitrile         | 250 ug/mL     |
|                      |          |           |                               |                      |                     |              | Methyl methacrylate       | 50 ug/mL      |
|                      |          |           |                               |                      |                     |              | n-Butanol                 | 625 ug/mL     |
|                      |          |           |                               |                      |                     |              | n-Butyl acetate           | 25 ug/mL      |
|                      |          |           |                               |                      | VOALIST3STD1P_00013 | 0.125 mL     | Acetonitrile              | 250 ug/mL     |
|                      |          |           |                               |                      |                     |              | Ethanol                   | 1250 ug/mL    |
|                      |          |           |                               |                      |                     |              | Isopropyl ether           | 25 ug/mL      |
|                      |          |           |                               |                      |                     |              | Propionitrile             | 250 ug/mL     |
|                      |          |           |                               |                      |                     |              | Tert-amyl methyl ether    | 25 ug/mL      |
|                      |          |           |                               |                      |                     |              | Tert-butyl ethyl ether    | 25 ug/mL      |
| .VOACYCLORES_00022   | 12/31/17 |           | Restek, Lot A0108012          |                      | (Purchased Reagent) |              | Cyclohexanone             | 20000 ug/mL   |
| .VOALIST2STD1P_00024 | 09/30/15 |           | Restek, Lot A0101694          |                      | (Purchased Reagent) |              | 1,2,3-Trimethylbenzene    | 2000 ug/mL    |
|                      |          |           |                               |                      |                     |              | 1,3,5-Trichlorobenzene    | 2000 ug/mL    |
|                      |          |           |                               |                      |                     |              | 2-Chloro-1,3-butadiene    | 2000 ug/mL    |
|                      |          |           |                               |                      |                     |              | 2-Nitropropane            | 4000 ug/mL    |
|                      |          |           |                               |                      |                     |              | Benzyl chloride           | 2000 ug/mL    |
|                      |          |           |                               |                      |                     |              | Ethyl acetate             | 4000 ug/mL    |
|                      |          |           |                               |                      |                     |              | Ethyl acrylate            | 2000 ug/mL    |
|                      |          |           |                               |                      |                     |              | Isooctane                 | 2000 ug/mL    |
|                      |          |           |                               |                      |                     |              | Isopropyl alcohol         | 20000 ug/mL   |
|                      |          |           |                               |                      |                     |              | Methacrylonitrile         | 20000 ug/mL   |
|                      |          |           |                               |                      |                     |              | Methyl methacrylate       | 4000 ug/mL    |
|                      |          |           |                               |                      |                     |              | n-Butanol                 | 50000 ug/mL   |
|                      |          |           |                               |                      |                     |              | n-Butyl acetate           | 2000 ug/mL    |
| .VOALIST3STD1P_00013 | 11/30/16 |           | Restek, Lot A0107304          |                      | (Purchased Reagent) |              | Acetonitrile              | 20000 ug/mL   |
|                      |          |           |                               |                      |                     |              | Ethanol                   | 100000 ug/mL  |
|                      |          |           |                               |                      |                     |              | Isopropyl ether           | 2000 ug/mL    |
|                      |          |           |                               |                      |                     |              | Propionitrile             | 20000 ug/mL   |
|                      |          |           |                               |                      |                     |              | Tert-amyl methyl ether    | 2000 ug/mL    |
|                      |          |           |                               |                      |                     |              | Tert-butyl ethyl ether    | 2000 ug/mL    |
| VOACEVE(PRI)_00001   | 05/04/15 | 04/27/15  | Methanol, Lot 85233           | 10 mL                | VOACEVERES_00067    | 0.2 mL       | 2-Chloroethyl vinyl ether | 50 ug/mL      |
| .VOACEVERES_00067    | 01/31/18 |           | Restek, Lot A0108172          |                      | (Purchased Reagent) |              | 2-Chloroethyl vinyl ether | 2500 ug/mL    |
| VOAVAPRI_00005       | 04/13/15 | 03/13/15  | Methanol, Lot 85233           | 50 mL                | VOA8260VARES_00050  | 0.25 mL      | Vinyl acetate             | 25 ug/mL      |
| .VOA8260VARES_00050  | 07/31/15 |           | Restek, Lot A0108225          |                      | (Purchased Reagent) |              | Vinyl acetate             | 5000 ug/mL    |
| voaW2CLEpRest_00001  | 03/25/15 | 03/18/15  | Methanol, Lot 85233           | 10 mL                | VOACEVERES_00060    | 0.25 mL      | 2-Chloroethyl vinyl ether | 50 ug/mL      |
| .VOACEVERES_00060    | 02/28/16 |           | Restek, Lot A093368           |                      | (Purchased Reagent) |              | 2-Chloroethyl vinyl ether | 2000 ug/mL    |
| WCN0.1L3_00041       | 04/28/15 | 04/28/15  | Sodium Hydroxide, Lot 2410822 | 100 mL               | WCN10Pi_00483       | 1 mL         | Cyanide, Total            | 0.1 mg/L      |
| .WCN10Pi_00483       | 05/03/15 | 04/27/15  | Sodium Hydroxide, Lot 2410822 | 100 mL               | WCN1000P_00024      | 1 mL         | Cyanide, Total            | 10 mg/L       |
| ..WCN1000P_00024     | 05/20/15 |           | LabChem Inc., Lot D322-27     |                      | (Purchased Reagent) |              | Cyanide, Total            | 1000 mg/L     |
| WCN0.2ICV_00326      | 04/28/15 | 04/28/15  | Sodium Hydroxide, Lot 2410822 | 100 mL               | WCN10Si_00486       | 2 mL         | Cyanide, Total            | 0.2 mg/L      |
| .WCN10Si_00486       | 05/03/15 | 04/27/15  | Sodium Hydroxide, Lot 2410822 | 100 mL               | WCN1000S_00017      | 1 mL         | Cyanide, Total            | 10 mg/L       |

# REAGENT TRACEABILITY SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Reagent ID                | Exp Date | Prep Date | Dilutant Used                    | Reagent Final Volume | Parent Reagent      |              | Analyte                             | Concentration |
|---------------------------|----------|-----------|----------------------------------|----------------------|---------------------|--------------|-------------------------------------|---------------|
|                           |          |           |                                  |                      | Reagent ID          | Volume Added |                                     |               |
| ..WCN1000S_00017          | 08/31/15 |           | Ricca Chemical Co., Lot 4502438  |                      | (Purchased Reagent) |              | Cyanide, Total                      | 1000 mg/L     |
| <b>WCN0.5L1_00491</b>     | 04/28/15 | 04/28/15  | Sodium Hydroxide, Lot 2410822    | 100 mL               | WCN10Pi_00483       | 5 mL         | Cyanide, Total                      | 0.5 mg/L      |
| .WCN10Pi_00483            | 05/03/15 | 04/27/15  | Sodium Hydroxide, Lot 2410822    | 100 mL               | WCN1000P_00024      | 1 mL         | Cyanide, Total                      | 10 mg/L       |
| ..WCN1000P_00024          | 05/20/15 |           | LabChem Inc., Lot D322-27        |                      | (Purchased Reagent) |              | Cyanide, Total                      | 1000 mg/L     |
| <b>WCN10Pi_00483</b>      | 05/03/15 | 04/27/15  | Sodium Hydroxide, Lot 2410822    | 100 mL               | WCN1000P_00024      | 1 mL         | Cyanide, Total                      | 10 mg/L       |
| .WCN1000P_00024           | 05/20/15 |           | LabChem Inc., Lot D322-27        |                      | (Purchased Reagent) |              | Cyanide, Total                      | 1000 mg/L     |
| <b>WCNSoilLCS_00015</b>   | 11/30/17 |           | ERA, Lot D085-541                |                      | (Purchased Reagent) |              | Cyanide, Total                      | 70.3 mg/Kg    |
| <b>WH2SO4ConcP_00038</b>  | 07/07/19 |           | Macron Chemicals, Lot 0000086315 |                      | (Purchased Reagent) |              | Sulfuric acid                       | 18 mol/L      |
| <b>WHemPSP_00183</b>      | 06/03/21 |           | J.T.Baker, Lot 0000076186        |                      | (Purchased Reagent) |              | Acetone                             | 0.002 mg/L    |
|                           |          |           |                                  |                      |                     |              | HEM                                 | 4000 mg/L     |
|                           |          |           |                                  |                      |                     |              | HEM Polar (Oil and Grease - Polar)  | 4000 mg/L     |
|                           |          |           |                                  |                      |                     |              | Hexadecane                          | 2000 mg/L     |
|                           |          |           |                                  |                      |                     |              | SGT HEM (Oil and Grease - Nonpolar) | 2000 mg/L     |
|                           |          |           |                                  |                      |                     |              | SGT-HEM                             | 2000 mg/L     |
|                           |          |           |                                  |                      |                     |              | Stearic Acid                        | 2000 mg/L     |
| <b>WSULFPSP_00201</b>     | 05/06/15 | 04/29/15  | DI Water, Lot Super Q            | 250 mL               | WSulfide 00001      | 1.8 g        | Acid Volatile Sulfides (AVS)        | 961.2 mg/L    |
| .WSulfide_00001           | 08/28/16 |           | GFS Chemicals, Lot C359966       |                      | (Purchased Reagent) |              | Acid Volatile Sulfides (AVS)        | 0.1335 g/g    |
| <b>WSULFSICVCCV_00204</b> | 05/06/15 | 04/29/15  | DI Water, Lot Super Q            | 250 mL               | WSulfideprim_00001  | 1.8 g        | Acid Volatile Sulfides (AVS)        | 961.2 mg/L    |
| .WSulfideprim_00001       | 01/11/17 |           | Fisher, Lot 143808               |                      | (Purchased Reagent) |              | Acid Volatile Sulfides (AVS)        | 0.1335 g/g    |

Reagent

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**GCMATRIXSPK\_00001**



# Certificate of Composition

110 Benner Circle  
Bellefonte, PA 16823-8812  
Tel: (800)356-1688  
Fax: (814)353-1309

## FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

Catalog No. : 561323 Lot No.: A076606  
Description : Custom Aroclor 1016/1260 Standard  
Expiration Date<sup>1</sup>: September 2017 Storage: Refrigerate  
Handling: This product contains PCB's

| Elution Order | Compound     | CAS #      | Percent Purity <sup>2</sup> | Concentration (weight/volume) <sup>3</sup> | % Uncertainty (95% C.L.; K=2) <sup>4</sup> |
|---------------|--------------|------------|-----------------------------|--|--|
| 1             | Aroclor 1016 | 12674-11-2 | ----%                       | 10,000.000 ug/ml                           | +/-0.59 %                                  |
| 2             | Aroclor 1260 | 11096-82-5 | ----%                       | 10,000.000 ug/ml                           | +/-0.59 %                                  |
| Solvent:      | Isooctane    | 540-84-1   | 99%                         |  |  |

### Column:

30m x .25mm x .2um  
Rtx-CLP II (cat.# 11323)

### Carrier Gas:

helium-constant pressure 20 psi.

### Temp. Program:

200°C to 300°C  
@ 25°C/min. ( hold 10 min.)

### Inj. Temp:

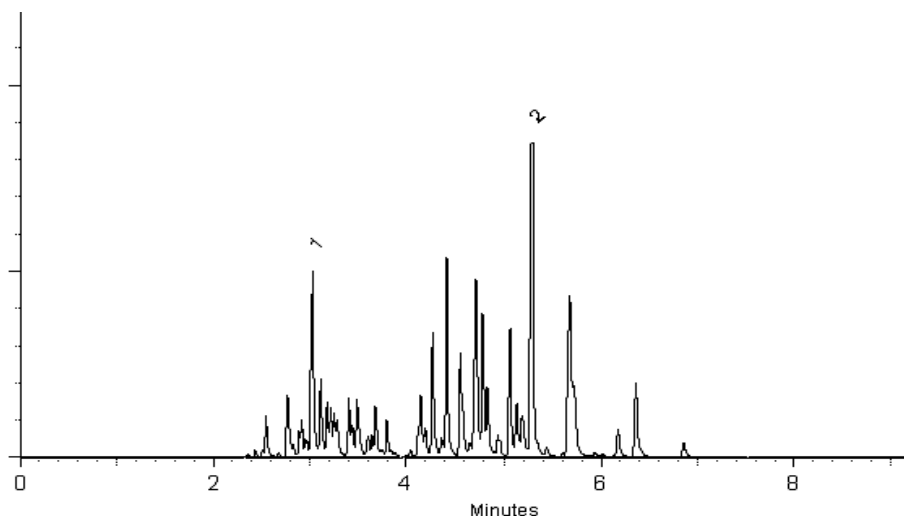
250°C

### Det. Temp:

300°C

### Det. Type:

ECD



*Diane Shaffer*  
Diane Shaffer - QA Analyst

Date Passed: 01-Sep-2010 Balance: 1128342313

APPROVED  
By: [Signature] on: 01-Sep-2010

Manufactured under Restek's ISO 9001:2008  
Registered Quality System  
Certificate #FM 80397

- Expiration date of the unopened ampule stored at the recommended storage condition.
- A Purity is determined by one or more of the following techniques: GC/FID, HPLC, GC/ECD, GC/MS. Value is rounded to the nearest whole number. Chemical identity is confirmed using GC/MS. See data pack or contact provider for further details.
- B Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities.
- C The following types of compounds will have a listed purity of less than 99%: Aldehyde/Ketone-DNPH compounds, Bromides, Chlorides, HCL salts, HBR salts, sulfates, hydrates, and other compounds as necessary. The listed purity is a correction factor that is equivalent to the percentage of parent compound in the molecule. This correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution. The concentration listed on the certificate is the concentration of the parent compound in the solution.
- D Purity of isomeric compounds is reported as the sum of the isomers. Value is rounded to the nearest whole number after summation.
- Based upon gravimetric preparation with balance calibration verified using NIST traceable weights (seven mass levels) and/or class A glassware used for dilutions.
- Uncertainties determined using data for balances and glassware from measurement systems analysis methodology, raw material purity, and, when significant, equipment tolerances or calibration results.



Reagent

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**GCNa2SO3\_00004**



1 Reagent Lane  
Fair Lawn, NJ 07410  
201.796.7100 tel  
201.796.1329 fax

## Certificate of Analysis

Fisher Scientific's Quality System has been found to conform to Quality Management System  
Standard ISO9001:2008 standard by DNV Certificate number CERT-08052-2006-AQ-HOU-ANAB

This is to certify that units of the above mentioned lot number were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Certain products (USP/FCC/NF/EP/BP/JP grades) are sold for use in food, drug, or medical device manufacturing. Fisher does not claim regulatory coverage under 21 CFR nor maintain DMF's with the FDA. The following are the actual analytical results obtained:

|                   |   |                             |           |
|-------------------|---|-----------------------------|-----------|
| Catalog Number    | S430  | Quality Test / Release Date | 7/22/2013 |
| Lot Number        | 132468  |                             |           |
| Description       | SODIUM SULFITE, A.C.S.  |                             |           |
| Country of Origin | Italy   | Recommended Retest Date     | Jul-2018  |
| Chemical Origin   | Inorganic-non animal  |                             |           |
| BSE/TSE Comment   | No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product. |                             |           |

| Result name          | Units     | Specifications | Test Value     |
|----------------------|-----------|----------------|----------------|
| APPEARANCE           |           | REPORT         | White crystals |
| ASSAY                | %         | >= 98          | 98.6           |
| CHLORIDE             | %         | <= 0.02        | <0.020         |
| FREE ACID            | PASS/FAIL | = PASS TEST    | PASS TEST      |
| HEAVY METALS (as Pb) | %         | <= 0.001       | <0.0010        |
| IDENTIFICATION       | PASS/FAIL | = PASS TEST    | PASS TEST      |
| INSOLUBLE MATTER     | %         | <= 0.005       | <0.005         |
| IRON (Fe)            | %         | <= 0.001       | <0.0010        |
| TITRATABLE FREE BASE | mEq/g     | <= 0.03        | 0.020          |



*Edgar E. Hana*

Lab Manager Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as a extension of this catalog number listed above. If there are any questions with this certificate, please call Chemical Services at (800) 227-6701.

Reagent

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**GCPCBI1221STD\_00002**



110 Benner Circle  
Bellefonte, PA 16823-8812  
Tel: (800)356-1688  
Fax: (814)353-1309

www.Restek.com



## Certificate of Analysis

### FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 32007 **Lot No.:** A090667

**Description :** Aroclor® 1221 Standard

Aroclor 1221 1000µg/mL, Hexane, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** December 2018 **Storage:** 25°C nominal

**Handling:** Contains PCBs - sonicate prior to use.

### CERTIFIED VALUES

| Elution Order | Compound     |            | Grav. Conc.<br>(weight/volume) |       | Expanded Uncertainty<br>(95% C.L.; K=2) |         |       |             |
|---------------|--------------|------------|--------------------------------|-------|---|---------|-------|-------------|
| 1             | Aroclor 1221 |            | 1,000.0                        | µg/mL | +/-                                     | 5.8686  | µg/mL | Gravimetric |
|               | CAS #        | 11104-28-2 |                                |       | +/-                                     | 20.8758 | µg/mL | Unstressed  |
|               | Purity       | ----%      |                                |       | +/-                                     | 34.3670 | µg/mL | Stressed    |
| Solvent:      | Hexane       |            |                                |       |   |         |       |             |
|               | CAS #        | 110-54-3   |                                |       |   |         |       |             |
|               | Purity       | 99%        |                                |       |   |         |       |             |

**Column:**

30m x .25mm x .2um  
Rtx-CLP II (cat.# 11323)

**Carrier Gas:**

helium-constant pressure 20 psi.

**Temp. Program:**

200°C to 300°C  
@ 25°C/min. ( hold 10 min.)

**Inj. Temp:**

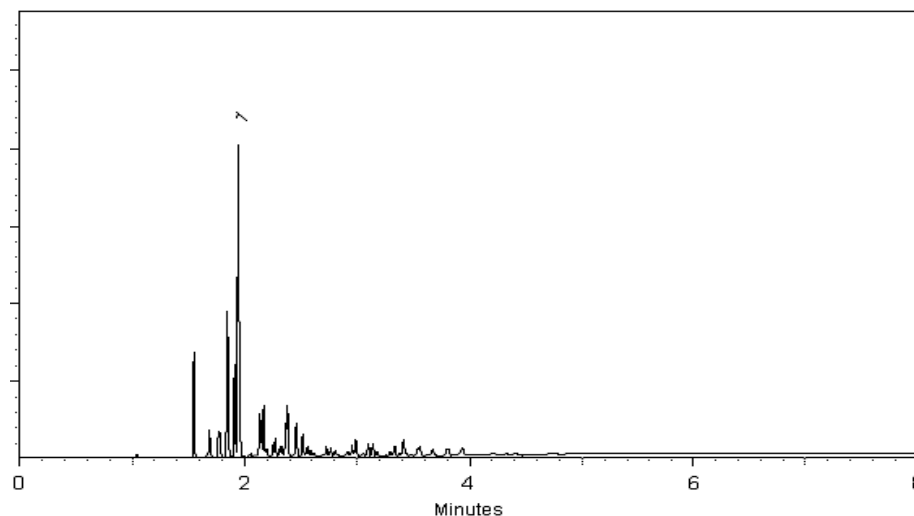
250°C

**Det. Temp:**

300°C

**Det. Type:**

ECD



*Jodi E. Breon*  
Jodi E. Breon - QA Analyst

Date Passed: 13-Sep-2012

Balance: 1125113331

Manufactured under Restek's ISO 9001:2008  
Registered Quality System  
Certificate #FM 80397

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date of the unopened ampul stored at the recommended storage condition is the last day of the month listed in the expiration date field.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value ( includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k \sqrt{U_{gravimetric}^2 + U_{homogeneity}^2 + U_{storage\ stability}^2 + U_{shipping\ stability}^2}$$

$k$  is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at [www.restek.com/Contact-Us](http://www.restek.com/Contact-Us) for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

| Label Conditions                | Standard Conditions | Non-Standard Conditions |
|---------------------------------|---------------------|-------------------------|
| 25°C Nominal (Room Temperature) | < 60°C              | ≥ 60°C up to 7 days     |
| 10°C or colder (Refrigerate)    | < 40°C              | ≥ 40°C up to 7 days     |
| 0°C or colder (Freezer)         | < 25°C              | ≥ 25°C up to 7 days     |

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at [www.restek.com/Contact-Us](http://www.restek.com/Contact-Us).
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

---

**GCPCBI1232STD\_00003**



110 Benner Circle  
Bellefonte, PA 16823-8812  
Tel: (800)356-1688  
Fax: (814)353-1309

www.Restek.com



## Certificate of Analysis

**FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 32008 **Lot No.:** A090290  
**Description :** Aroclor® 1232 Standard  
Aroclor 1232 1000ug/mL, Hexane, 1mL/ampul  
**Container Size :** 2 mL **Pkg Amt:** > 1 mL  
**Expiration Date :** November 2018 **Storage:** 25°C nominal  
**Handling:** Contains PCBs - sonicate prior to use.

### CERTIFIED VALUES

| Elution Order | Compound     |            | Grav. Conc.<br>(weight/volume) | Expanded Uncertainty<br>(95% C.L.; K=2) |         |       |             |
|---------------|--------------|------------|--------------------------------|---|---------|-------|-------------|
| 1             | Aroclor 1232 |            | 1,000.0    μg/mL               | +/-                                     | 5.8686  | μg/mL | Gravimetric |
|               | CAS #        | 11141-16-5 |                                | +/-                                     | 20.8758 | μg/mL | Unstressed  |
|               | Purity       | 99%        |                                | +/-                                     | 34.3670 | μg/mL | Stressed    |
| Solvent:      | Hexane       |            |                                |   |         |       |             |
|               | CAS #        | 110-54-3   |                                |   |         |       |             |
|               | Purity       | 99%        |                                |   |         |       |             |



**Column:**

30m x .25mm x .2um  
Rtx-CLP II (cat.# 11323)

**Carrier Gas:**

helium-constant pressure 20 psi.

**Temp. Program:**

200°C to 300°C  
@ 25°C/min. ( hold 10 min.)

**Inj. Temp:**

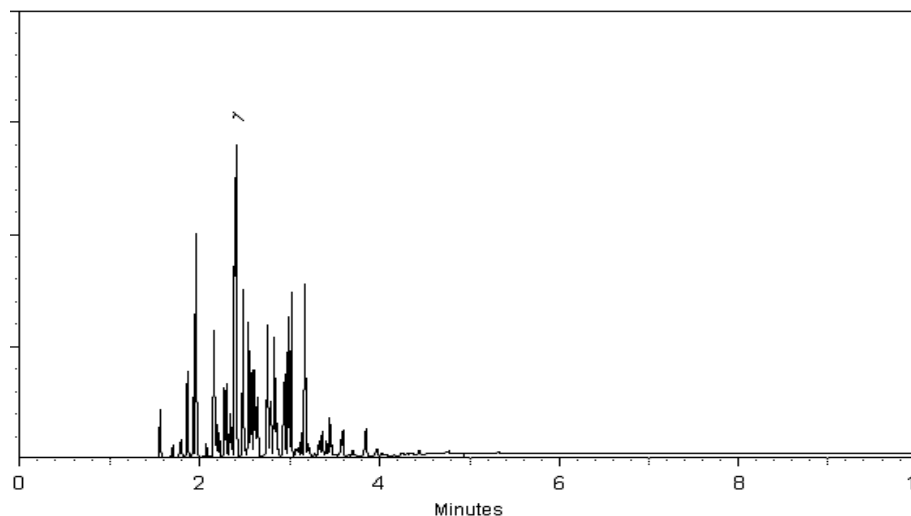
250°C

**Det. Temp:**

300°C

**Det. Type:**

ECD



*Jodi E. Breon*  
Jodi E. Breon - QA Analyst

Date Passed: 27-Aug-2012

Balance: 1128342314

Manufactured under Restek's ISO 9001:2008  
Registered Quality System  
Certificate #FM 80397

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date of the unopened ampul stored at the recommended storage condition is the last day of the month listed in the expiration date field.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value ( includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k \sqrt{U_{gravimetric}^2 + U_{homogeneity}^2 + U_{storage\ stability}^2 + U_{shipping\ stability}^2}$$

$k$  is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at [www.restek.com/Contact-Us](http://www.restek.com/Contact-Us) for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

| Label Conditions                | Standard Conditions | Non-Standard Conditions |
|---------------------------------|---------------------|-------------------------|
| 25°C Nominal (Room Temperature) | < 60°C              | ≥ 60°C up to 7 days     |
| 10°C or colder (Refrigerate)    | < 40°C              | ≥ 40°C up to 7 days     |
| 0°C or colder (Freezer)         | < 25°C              | ≥ 25°C up to 7 days     |

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at [www.restek.com/Contact-Us](http://www.restek.com/Contact-Us).
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

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**GCPCBI1242STD\_00003**

110 Benner Circle  
Bellefonte, PA 16823-8812  
Tel: (800)356-1688  
Fax: (814)353-1309

www.restek.com

## Certificate of Analysis



### FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 32009 **Lot No.:** A090182

**Description :** Aroclor® 1242 Standard  
Aroclor® 1242 Standard 1,000 µg/mL, Hexane, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** November 30, 2018 **Storage:** 25°C nominal

**Handling:** This product contains PCB's

### CERTIFIED VALUES

| Elution Order | Compound   | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2)  |
|---------------|--|-----------------------------|---|
| 1             | Aroclor 1242<br>CAS # 53469-21-9 (Lot 01141-A)<br>Purity ----% | 1,000.0 µg/mL               | <div>+/- 5.8275 µg/mL Gravimetric</div> <div>+/- 20.8643 µg/mL Unstressed</div> <div>+/- 34.3600 µg/mL Stressed</div> |

**Solvent:** Hexane  
CAS # 110-54-3  
Purity 99%

**Column:**  
30m x .25mm x .2um  
Rtx-CLP II (cat.# 11323)

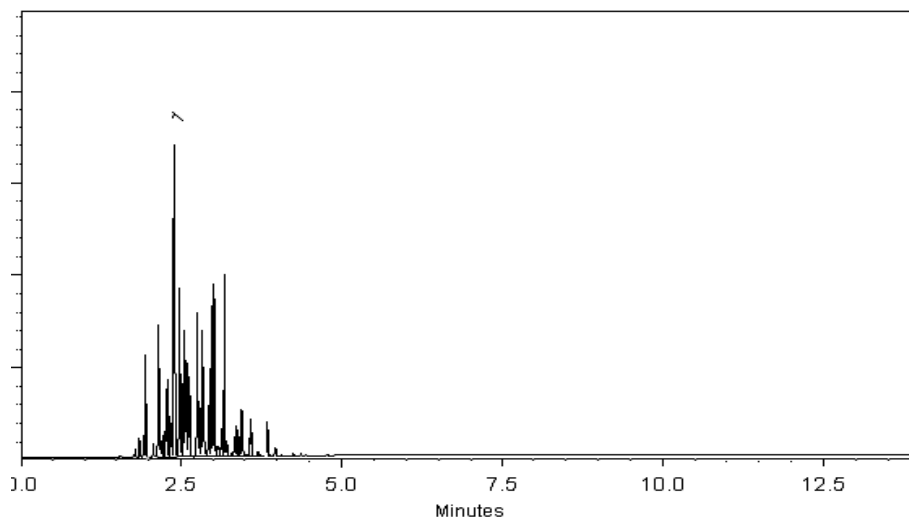
**Carrier Gas:**  
helium-constant pressure 20 psi.

**Temp. Program:**  
200°C to 300°C  
@ 25°C/min. ( hold 10 min.)

**Inj. Temp:**  
250°C

**Det. Temp:**  
300°C

**Det. Type:**  
ECD



This chromatogram represents a general set of testing conditions chosen to guarantee product quality. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

*Rebecca Sawyer*

**Date Mixed:** 10-Aug-2012      **Balance:** 1128360905

*Jennifer L. Pollino*

Jennifer L. Pollino - QC Analyst

**Date Passed:** 15-Aug-2012

Manufactured under Restek's ISO 9001:2008  
Registered Quality System  
Certificate #FM 80397

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value ( includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k \sqrt{U_{gravimetric}^2 + U_{homogeneity}^2 + U_{storage\ stability}^2 + U_{shipping\ stability}^2}$$

$k$  is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at [www.restek.com/Contact-Us](http://www.restek.com/Contact-Us) for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

| Label Conditions                | Standard Conditions | Non-Standard Conditions |
|---------------------------------|---------------------|-------------------------|
| 25°C Nominal (Room Temperature) | < 60°C              | ≥ 60°C up to 7 days     |
| 10°C or colder (Refrigerate)    | < 40°C              | ≥ 40°C up to 7 days     |
| 0°C or colder (Freezer)         | < 25°C              | ≥ 25°C up to 7 days     |

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at [www.restek.com/Contact-Us](http://www.restek.com/Contact-Us).
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

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**GCPCBI1248STD\_00003**



110 Benner Circle  
Bellefonte, PA 16823-8812  
Tel: (800)356-1688  
Fax: (814)353-1309

www.restek.com



## Certificate of Analysis

### FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 32010 **Lot No.:** A092864

**Description :** Aroclor® 1248 Standard

Aroclor 1248 1000µg/mL, Hexane, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** April 2019 **Storage:** 25°C nominal

**Handling:** This product contains PCB's

### CERTIFIED VALUES

| Elution Order | Compound     |            | Grav. Conc.<br>(weight/volume) |       | Expanded Uncertainty<br>(95% C.L.; K=2) |         |       |             |
|---------------|--------------|------------|--------------------------------|-------|---|---------|-------|-------------|
| 1             | Aroclor 1248 |            | 1,000.0                        | µg/mL | +/-                                     | 5.8686  | µg/mL | Gravimetric |
|               | CAS #        | 12672-29-6 |                                |       | +/-                                     | 20.8758 | µg/mL | Unstressed  |
|               | Purity       | ----%      |                                |       | +/-                                     | 34.3670 | µg/mL | Stressed    |
| Solvent:      | Hexane       |            |                                |       |   |         |       |             |
|               | CAS #        | 110-54-3   |                                |       |   |         |       |             |
|               | Purity       | 99%        |                                |       |   |         |       |             |



**Column:**

30m x .25mm x .2um  
Rtx-CLP II (cat.# 11323)

**Carrier Gas:**

helium-constant pressure 20 psi.

**Temp. Program:**

200°C to 300°C  
@ 25°C/min. ( hold 10 min.)

**Inj. Temp:**

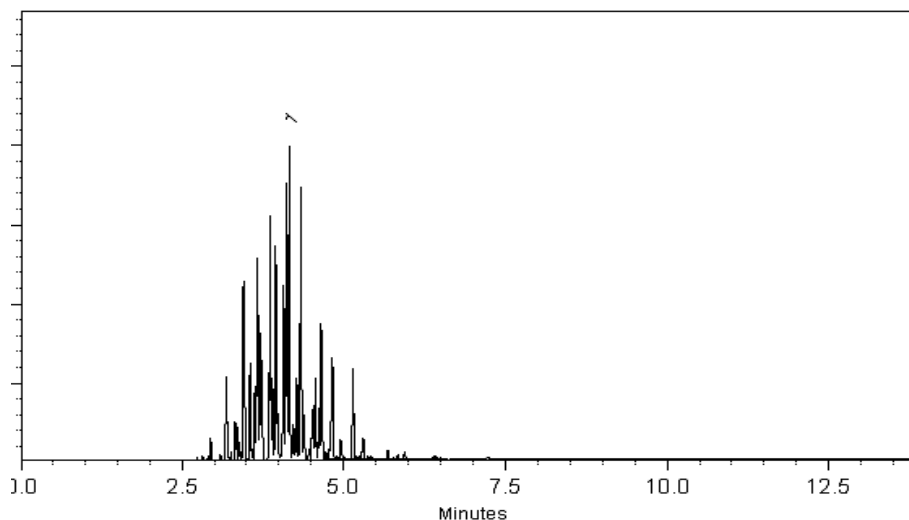
250°C

**Det. Temp:**

300°C

**Det. Type:**

ECD



*Diane Shaffer*  
Diane Shaffer - QA Analyst

Date Passed: 14-Jan-2013

Balance: 1125113331

Manufactured under Restek's ISO 9001:2008  
Registered Quality System  
Certificate #FM 80397

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date of the unopened ampul stored at the recommended storage condition is the last day of the month listed in the expiration date field.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value ( includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k \sqrt{U_{gravimetric}^2 + U_{homogeneity}^2 + U_{storage\ stability}^2 + U_{shipping\ stability}^2}$$

$k$  is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at [www.restek.com/Contact-Us](http://www.restek.com/Contact-Us) for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

| Label Conditions                | Standard Conditions | Non-Standard Conditions |
|---------------------------------|---------------------|-------------------------|
| 25°C Nominal (Room Temperature) | < 60°C              | ≥ 60°C up to 7 days     |
| 10°C or colder (Refrigerate)    | < 40°C              | ≥ 40°C up to 7 days     |
| 0°C or colder (Freezer)         | < 25°C              | ≥ 25°C up to 7 days     |

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at [www.restek.com/Contact-Us](http://www.restek.com/Contact-Us).
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

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**GCPCBI1254STD\_00003**



110 Benner Circle  
Bellefonte, PA 16823-8812  
Tel: (800)356-1688  
Fax: (814)353-1309

www.restek.com



## Certificate of Analysis

### FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 32011 **Lot No.:** A092005

**Description :** Aroclor® 1254 Standard

Aroclor 1254 1000µg/mL, Hexane, 1mL/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** February 2019 **Storage:** 25°C nominal

**Handling:** This product contains PCB's

### CERTIFIED VALUES

| Elution Order | Compound     |            | Grav. Conc.<br>(weight/volume) |       | Expanded Uncertainty<br>(95% C.L.; K=2) |         |       |             |
|---------------|--------------|------------|--------------------------------|-------|---|---------|-------|-------------|
| 1             | Aroclor 1254 |            | 1,000.0                        | µg/mL | +/-                                     | 5.8686  | µg/mL | Gravimetric |
|               | CAS #        | 11097-69-1 |                                |       | +/-                                     | 20.8758 | µg/mL | Unstressed  |
|               | Purity       | 99%        |                                |       | +/-                                     | 34.3670 | µg/mL | Stressed    |
| Solvent:      | Hexane       |            |                                |       |   |         |       |             |
|               | CAS #        | 110-54-3   |                                |       |   |         |       |             |
|               | Purity       | 99%        |                                |       |   |         |       |             |

**Column:**

30m x .25mm x .2um  
Rtx-CLP II (cat.# 11323)

**Carrier Gas:**

helium-constant pressure 20 psi.

**Temp. Program:**

200°C to 300°C  
@ 25°C/min. ( hold 10 min.)

**Inj. Temp:**

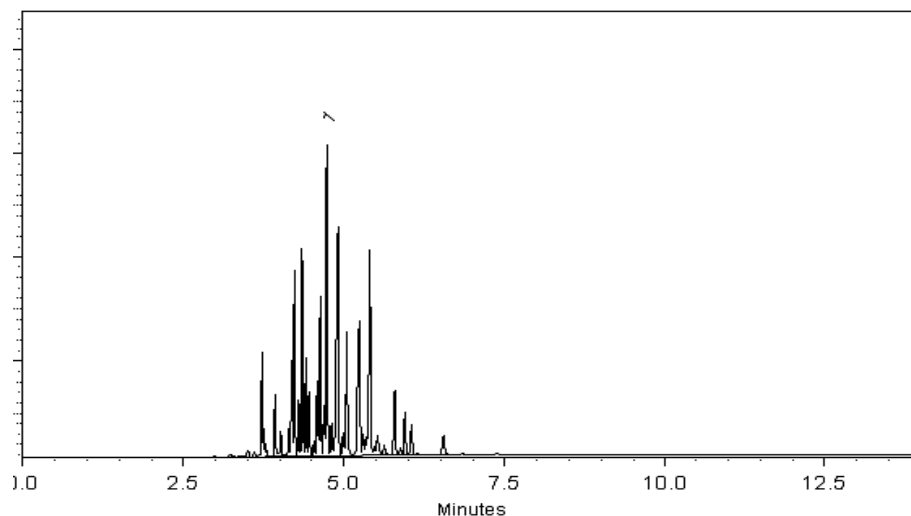
250°C

**Det. Temp:**

300°C

**Det. Type:**

ECD



*Jennifer L. Pollino*

Jennifer L. Pollino - QC Analyst

Date Passed: 21-Nov-2012

Balance: 1128342313

Manufactured under Restek's ISO 9001:2008  
Registered Quality System  
Certificate #FM 80397

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date of the unopened ampul stored at the recommended storage condition is the last day of the month listed in the expiration date field.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value ( includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k \sqrt{U_{gravimetric}^2 + U_{homogeneity}^2 + U_{storage\ stability}^2 + U_{shipping\ stability}^2}$$

$k$  is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at [www.restek.com/Contact-Us](http://www.restek.com/Contact-Us) for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

| Label Conditions                | Standard Conditions | Non-Standard Conditions |
|---------------------------------|---------------------|-------------------------|
| 25°C Nominal (Room Temperature) | < 60°C              | ≥ 60°C up to 7 days     |
| 10°C or colder (Refrigerate)    | < 40°C              | ≥ 40°C up to 7 days     |
| 0°C or colder (Freezer)         | < 25°C              | ≥ 25°C up to 7 days     |

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at [www.restek.com/Contact-Us](http://www.restek.com/Contact-Us).
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

---

**GCPCBI1262STD\_00003**



110 Benner Circle  
Bellefonte, PA 16823-8812  
Tel: (800)356-1688  
Fax: (814)353-1309

www.restek.com



## Certificate of Analysis

### FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 32409 **Lot No.:** A094073  
**Description :** Aroclor® 1262 Standard  
Aroclor® 1262 Standard 1,000 µg/mL, 1mL/ampul, Hexane  
**Container Size :** 2 mL **Pkg Amt:** > 1 mL  
**Expiration Date :** June 2019 **Storage:** 25°C nominal  
**Handling:** This product contains PCB's

### CERTIFIED VALUES

| Elution Order | Compound     |            | Grav. Conc.<br>(weight/volume) |       | Expanded Uncertainty<br>(95% C.L.; K=2) |         |       |             |
|---------------|--------------|------------|--------------------------------|-------|---|---------|-------|-------------|
| 1             | Aroclor 1262 |            | 1,000.0                        | µg/mL | +/-                                     | 5.9397  | µg/mL | Gravimetric |
|               | CAS #        | 37324-23-5 |                                |       | +/-                                     | 20.8959 | µg/mL | Unstressed  |
|               | Purity       | ----%      |                                |       | +/-                                     | 34.3792 | µg/mL | Stressed    |
| Solvent:      | Hexane       |            |                                |       |   |         |       |             |
|               | CAS #        | 110-54-3   |                                |       |   |         |       |             |
|               | Purity       | 99%        |                                |       |   |         |       |             |



**Column:**

30m x .25mm x .2um  
Rtx-CLP II (cat.# 11323)

**Carrier Gas:**

helium-constant pressure 20 psi.

**Temp. Program:**

200°C to 300°C  
@ 25°C/min. ( hold 10 min.)

**Inj. Temp:**

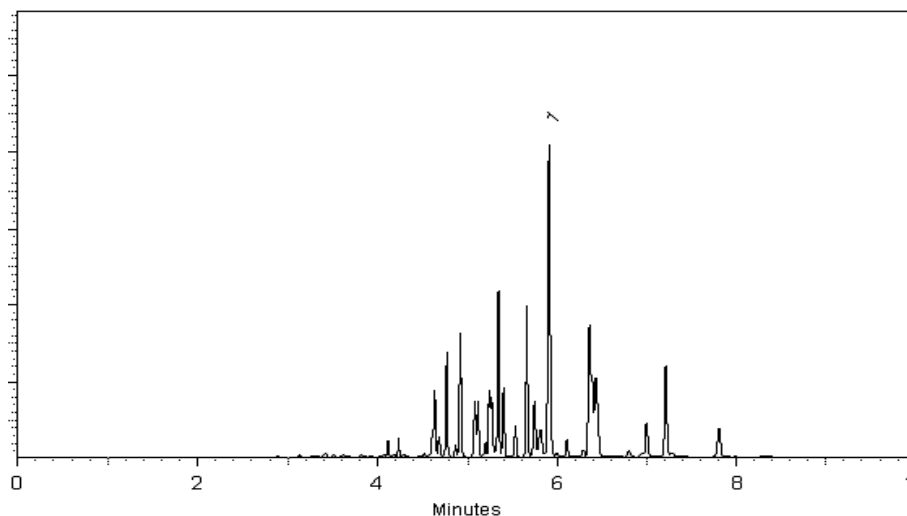
250°C

**Det. Temp:**

300°C

**Det. Type:**

ECD



*Jennifer L. Pollino*  
Jennifer L. Pollino - QC Analyst

Date Passed: 15-Mar-2013

Balance: B251644995

Manufactured under Restek's ISO 9001:2008  
Registered Quality System  
Certificate #FM 80397

## **General Certified Reference Material Notes**

### **Expiration Notes:**

- Expiration date of the unopened ampul stored at the recommended storage condition is the last day of the month listed in the expiration date field.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### **Purity Notes:**

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### **Certified Uncertainty Value Notes:**

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value ( includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k \sqrt{U_{gravimetric}^2 + U_{homogeneity}^2 + U_{storage\ stability}^2 + U_{shipping\ stability}^2}$$

*k* is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at [www.restek.com/Contact-Us](http://www.restek.com/Contact-Us) for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

| Label Conditions                | Standard Conditions | Non-Standard Conditions |
|---------------------------------|---------------------|-------------------------|
| 25°C Nominal (Room Temperature) | < 60°C              | ≥ 60°C up to 7 days     |
| 10°C or colder (Refrigerate)    | < 40°C              | ≥ 40°C up to 7 days     |
| 0°C or colder (Freezer)         | < 25°C              | ≥ 25°C up to 7 days     |

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at [www.restek.com/Contact-Us](http://www.restek.com/Contact-Us).
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### **Manufacturing Notes:**

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### **Handling Notes:**

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

---

**GCPCBI1268STD\_00003**



110 Benner Circle  
Bellefonte, PA 16823-8812  
Tel: (800)356-1688  
Fax: (814)353-1309

www.restek.com



## Certificate of Analysis

### FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 32410 **Lot No.:** A091468  
**Description :** Aroclor® 1268 Standard  
Aroclor 1268 Std 1000µg/mL, 1mL/ampul, Hexane  
**Container Size :** 2 mL **Pkg Amt:** > 1 mL  
**Expiration Date :** January 2019 **Storage:** 25°C nominal  
**Handling:** This product contains PCB's

### CERTIFIED VALUES

| Elution Order | Compound     |            | Grav. Conc.<br>(weight/volume) | Expanded Uncertainty<br>(95% C.L.; K=2) |         |       |             |
|---------------|--------------|------------|--------------------------------|---|---------|-------|-------------|
| 1             | Aroclor 1268 |            | 1,000.0    μg/mL               | +/-                                     | 5.9397  | μg/mL | Gravimetric |
|               | CAS #        | 11100-14-4 |                                | +/-                                     | 20.8959 | μg/mL | Unstressed  |
|               | Purity       | ----%      |                                | +/-                                     | 34.3792 | μg/mL | Stressed    |
| Solvent:      | Hexane       |            |                                |   |         |       |             |
|               | CAS #        | 110-54-3   |                                |   |         |       |             |
|               | Purity       | 99%        |                                |   |         |       |             |

**Column:**  
30m x .25mm x .2um  
Rtx-CLP II (cat.# 11323)

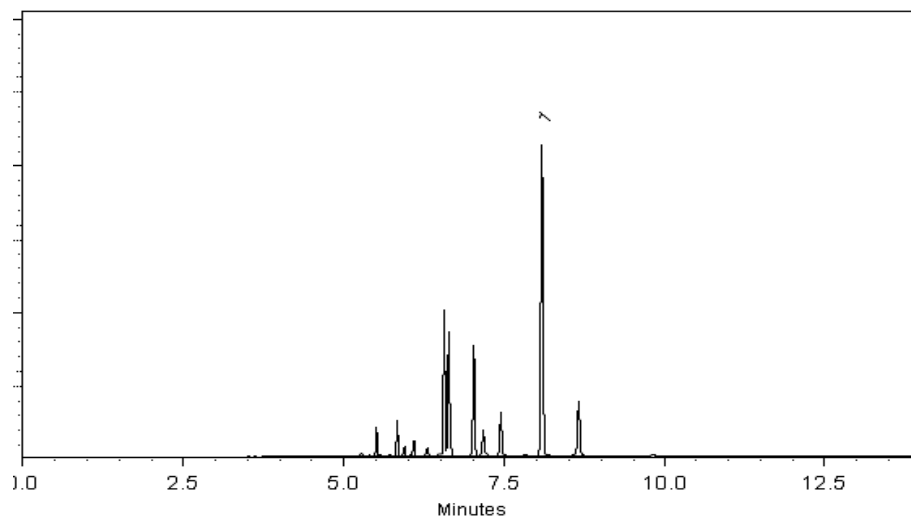
**Carrier Gas:**  
helium-constant pressure 20 psi.

**Temp. Program:**  
200°C to 300°C  
@ 25°C/min. ( hold 10 min.)

**Inj. Temp:**  
250°C

**Det. Temp:**  
300°C

**Det. Type:**  
ECD



*Jodi E. Breon*  
Jodi E. Breon - QA Analyst

Date Passed: 01-Nov-2012

Balance: 1128353505

Manufactured under Restek's ISO 9001:2008  
Registered Quality System  
Certificate #FM 80397

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date of the unopened ampul stored at the recommended storage condition is the last day of the month listed in the expiration date field.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value ( includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k \sqrt{U_{gravimetric}^2 + U_{homogeneity}^2 + U_{storage\ stability}^2 + U_{shipping\ stability}^2}$$

$k$  is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at [www.restek.com/Contact-Us](http://www.restek.com/Contact-Us) for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

| Label Conditions                | Standard Conditions | Non-Standard Conditions |
|---------------------------------|---------------------|-------------------------|
| 25°C Nominal (Room Temperature) | < 60°C              | ≥ 60°C up to 7 days     |
| 10°C or colder (Refrigerate)    | < 40°C              | ≥ 40°C up to 7 days     |
| 0°C or colder (Freezer)         | < 25°C              | ≥ 25°C up to 7 days     |

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at [www.restek.com/Contact-Us](http://www.restek.com/Contact-Us).
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

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**GCPCBICAL STD\_00001**



110 Benner Circle  
Bellefonte, PA 16823-8812  
Tel: (800)356-1688  
Fax: (814)353-1309

www.restek.com



## Certificate of Analysis

### FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 32039 **Lot No.:** A092844  
**Description :** Aroclor® 1016/1260 Mix  
Aroclor 1016/1260 1000µg/mL, Hexane, 1mL/ampul  
**Container Size :** 2 mL **Pkg Amt:** > 1 mL  
**Expiration Date :** April 2019 **Storage:** 25°C nominal  
**Handling:** This product contains PCB's

### CERTIFIED VALUES

| Elution Order | Compound     |            | Grav. Conc.<br>(weight/volume) |       | Expanded Uncertainty<br>(95% C.L.; K=2) |         |       |             |
|---------------|--------------|------------|--------------------------------|-------|---|---------|-------|-------------|
| 1             | Aroclor 1016 |            | 1,000.0                        | µg/mL | +/-                                     | 5.8275  | µg/mL | Gravimetric |
|               | CAS #        | 12674-11-2 |                                |       | +/-                                     | 20.8643 | µg/mL | Unstressed  |
|               | Purity       | 99%        |                                |       | +/-                                     | 34.3600 | µg/mL | Stressed    |
| 2             | Aroclor 1260 |            | 1,000.0                        | µg/mL | +/-                                     | 5.8275  | µg/mL | Gravimetric |
|               | CAS #        | 11096-82-5 |                                |       | +/-                                     | 20.8643 | µg/mL | Unstressed  |
|               | Purity       | ----%      |                                |       | +/-                                     | 34.3600 | µg/mL | Stressed    |
| Solvent:      | Hexane       |            |                                |       |   |         |       |             |
|               | CAS #        | 110-54-3   |                                |       |   |         |       |             |
|               | Purity       | 99%        |                                |       |   |         |       |             |



**Column:**

30m x .25mm x .2um  
Rtx-CLP II (cat.# 11323)

**Carrier Gas:**

helium-constant pressure 20 psi.

**Temp. Program:**

200°C to 300°C  
@ 25°C/min. ( hold 10 min.)

**Inj. Temp:**

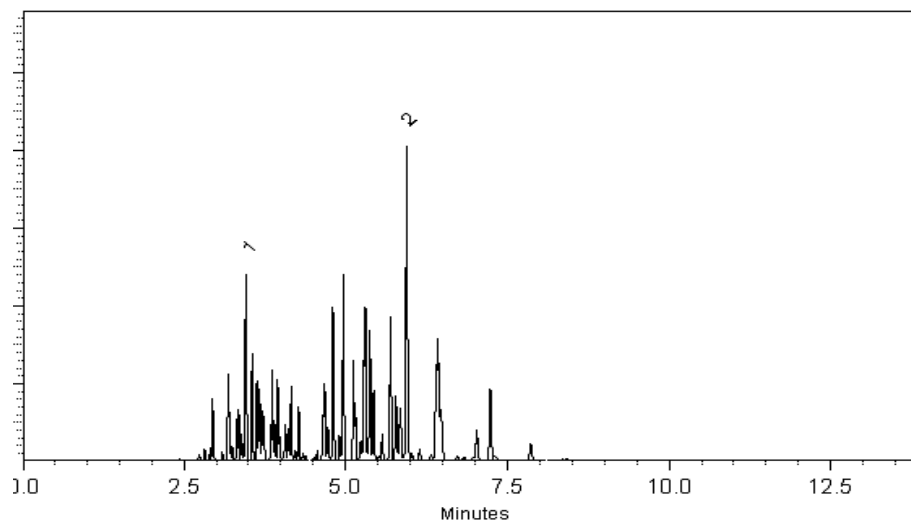
250°C

**Det. Temp:**

300°C

**Det. Type:**

ECD



*Diane Shaffer*  
Diane Shaffer - QA Analyst

Date Passed: 14-Jan-2013

Balance: 1125113331

Manufactured under Restek's ISO 9001:2008  
Registered Quality System  
Certificate #FM 80397

## General Certified Reference Material Notes

### Expiration Notes:

- Expiration date of the unopened ampul stored at the recommended storage condition is the last day of the month listed in the expiration date field.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

### Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value ( includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k \sqrt{U_{gravimetric}^2 + U_{homogeneity}^2 + U_{storage\ stability}^2 + U_{shipping\ stability}^2}$$

$k$  is a coverage factor of 2, which gives a level of confidence of approximately 95%.

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- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

| Label Conditions                | Standard Conditions | Non-Standard Conditions |
|---------------------------------|---------------------|-------------------------|
| 25°C Nominal (Room Temperature) | < 60°C              | ≥ 60°C up to 7 days     |
| 10°C or colder (Refrigerate)    | < 40°C              | ≥ 40°C up to 7 days     |
| 0°C or colder (Freezer)         | < 25°C              | ≥ 25°C up to 7 days     |

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at [www.restek.com/Contact-Us](http://www.restek.com/Contact-Us).
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

### Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### Handling Notes:

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31840, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

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**LKTOCKHP\_00010**



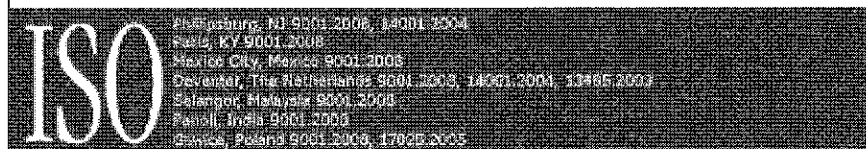
## Potassium Biphthalate, Crystal

**BAKER ANALYZED® A.C.S. Reagent**  
**Acidimetric Standard**  
**(potassium hydrogen phthalate)**

Product No. 2958  
Lot No. J10595  
Release Date 03/05/2010

# Certificate of Analysis

| TEST  | SPECIFICATION    | RESULT    |
|---|------------------|-----------|
| Meets A.C.S. Specifications                                       |                  |           |
| Meets Reagent Specifications for testing USP/NF monographs        |                  |           |
| Assay (1-KOCOC <sub>6</sub> H <sub>4</sub> -2-COOH) (dried basis) | 99.95 - 100.05 % | 100.04 %  |
| Insoluble Matter  | 0.005 % max.     | < 0.002 % |
| pH of 0.05M Solution at 25°C                                      | 4.00 - 4.02      | 4.01      |
| Chlorinated Compounds (as Cl)                                     | 0.003 % max.     | < 0.002 % |
| Sulfur Compounds (as S)   | 0.002 % max.     | < 0.002 % |
| Sodium (Na)   | 0.005 % max.     | 0.002 %   |
| <b>Trace Impurities (in ppm):</b>                                 |                  |           |
| Heavy Metals (as Pb)  | 5 max.           | < 3       |
| Iron (Fe)   | 5 max.           | < 3       |
| For Laboratory, Research or Manufacturing Use                     |                  |           |
| Country of Origin:  | USA              |           |



*Marcy M. Matheny*  
 Marcy M. Matheny  
 One DuPont Circle, N.W.  
 Washington, D.C. 20036

For questions on this Certificate of Analysis please contact Technical Services at 1-800-582-2537 or 908-859-2151  
Avantor™ Performance Materials, Inc. (formerly Mallinckrodt Baker, Inc.)  
222 Red School Lane • Phillipsburg, NJ 08865 • Phone: 908.859.2151 • Fax: 908.859.6905

Reagent

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**M6020ICS-0A\_00005**

**1.0 INORGANIC VENTURES** is an ISO Guide 34 "General Requirements for the Competence of Reference Material Producers" and ISO 9001 registered manufacturer. Our manufacturing laboratory is accredited to ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories."



**2.0 DESCRIPTION OF CRM**      **Stock Solution**

Catalog No.:                      6020ICS-0A

Lot Number:                      **G2-MEB476152MCA**

Matrix:                              1.4% HNO<sub>3</sub>(v/v)

10,000 µg/mL ea:

Chloride,

2,000 µg/mL ea:

C,

1,000 µg/mL ea:

Al,                      Ca,                      Fe,                      K,                      Mg,                      Na,                      P,                      S,

20 µg/mL ea:

Mo,                      Ti

### 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ELEMENT            | CERTIFIED VALUE       | ELEMENT       | CERTIFIED VALUE | ELEMENT       | CERTIFIED VALUE    |
|--------------------|-----------------------|---------------|-----------------|---------------|--------------------|
| Aluminum, Al       | 1,002 ± 6 µg/mL       | Calcium, Ca   | 1,002 ± 6 µg/mL | Carbon, C     | 2,004 ± 13 µg/mL   |
| Chloride, Chloride | 10,020.0 ± 50.0 µg/mL | Iron, Fe      | 1,002 ± 7 µg/mL | Magnesium, Mg | 1,002 ± 4 µg/mL    |
| Molybdenum, Mo     | 20.04 ± 0.14 µg/mL    | Phosphorus, P | 1,002 ± 7 µg/mL | Potassium, K  | 1,002 ± 4 µg/mL    |
| Sodium, Na         | 1,002 ± 7 µg/mL       | Sulfur, S     | 1,002 ± 5 µg/mL | Titanium, Ti  | 20.04 ± 0.13 µg/mL |

**Certified Density:**      1.034      g/mL (measured at 20 ± 1° C)

The following equations are used in the calculation of the certified value and the uncertainty.      Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n}$$

( $\bar{x}$ ) = mean

$x_i$  = individual results

n = number of measurements

$$\text{Uncertainty } (\pm) = 2 \left[ \sum (s_i)^2 \right]^{1/2}$$

2 = the coverage factor.

$\left[ \sum (s_i)^2 \right]^{1/2}$  = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

#### 4.0 TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS

- "Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." (ISO VIM, 2nd ed., 1993, definition 6.10)
- This product is Traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRMs are available, the term 'in-house std.' is specified.
- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a NIST SRM/RM. See section 4.2 for balance traceability.

#### 4.1 ASSAY INFORMATION

| ELEMENT  | METHOD      | NIST SRM# | SRM LOT#     |
|----------|-------------|-----------|--------------|
| Al       | ICP Assay   | 3101a     | 060502       |
| Al       | EDTA        | 928       | 928          |
| C        | Gravimetric |           | See Sec. 4.2 |
| Ca       | ICP Assay   | 3109a     | 050825       |
| Ca       | EDTA        | 928       | 928          |
| Chloride | Acidimetric | 84L       | 84L          |
| Fe       | ICP Assay   | 3126a     | 051031       |
| Fe       | EDTA        | 928       | 928          |
| K        | Gravimetric |           | See Sec. 4.2 |
| K        | ICP Assay   | 3141a     | 051220       |
| Mg       | ICP Assay   | 3131a     | 050302       |
| Mg       | EDTA        | 928       | 928          |
| Mo       | Calculated  |           | See Sec. 4.2 |
| Mo       | ICP Assay   | 3134      | 891307       |
| Na       | Gravimetric |           | See Sec. 4.2 |
| Na       | ICP Assay   | 3152a     | 010728       |
| P        | ICP Assay   | 3139a     | 060717       |
| P        | Acidimetric | 84L       | 84L          |
| S        | Acidimetric | 84k       | 84k          |
| Ti       | ICP Assay   | 3162a     | 060808       |

- 4.2 BALANCE CALIBRATION** - All analytical balances are calibrated yearly by an accredited calibration laboratory and are traceable to a class E 2 analytical weight set with NIST Traceability. All balances are checked daily using an in-house procedure. The weights used for testing are annually compared to master weights and are traceable to the National Institute of Standards and Technology (NIST).
- 4.3 THERMOMETER CALIBRATION** - All thermometers are NIST traceable through thermometers that are calibrated by an A2LA accredited calibration laboratory.
- 4.4 GLASSWARE CALIBRATION** - An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM's.

## 5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES IN µg/mL

Custom-Grade solutions are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

|                        |                        |                        |                        |                        |
|------------------------|------------------------|------------------------|------------------------|------------------------|
| <u>s</u> Al            | <u>M</u> Dy < 0.000100 | <u>O</u> Li 0.002000   | <u>M</u> Pr < 0.000100 | <u>M</u> Te < 0.012007 |
| <u>M</u> Sb < 0.000600 | <u>M</u> Er < 0.000100 | <u>M</u> Lu < 0.000100 | <u>M</u> Re < 0.000100 | <u>M</u> Tb < 0.000100 |
| <u>O</u> As < 0.020000 | <u>M</u> Eu < 0.000100 | <u>s</u> Mg            | <u>M</u> Rh < 0.000100 | <u>M</u> Tl < 0.000100 |
| <u>O</u> Ba < 0.000200 | <u>M</u> Gd < 0.000100 | <u>O</u> Mn 0.003000   | <u>M</u> Rb < 0.020012 | <u>M</u> Th < 0.000100 |
| <u>O</u> Be < 0.000090 | <u>M</u> Ga < 0.001001 | <u>O</u> Hg < 0.005000 | <u>M</u> Ru < 0.000100 | <u>M</u> Tm < 0.000100 |
| <u>M</u> Bi < 0.005003 | <u>O</u> Ge < 0.015000 | <u>s</u> Mo            | <u>M</u> Sm < 0.000100 | <u>M</u> Sn < 0.003002 |
| <u>O</u> B < 0.005000  | <u>M</u> Au < 0.001001 | <u>M</u> Nd < 0.000100 | <u>O</u> Sc < 0.000700 | <u>s</u> Ti            |
| <u>O</u> Cd 0.003400   | <u>M</u> Hf < 0.002001 | <u>O</u> Ni < 0.002000 | <u>M</u> Se < 0.050029 | <u>O</u> W < 0.007000  |
| <u>s</u> Ca            | <u>M</u> Ho < 0.000100 | <u>M</u> Nb < 0.002001 | <u>n</u> Si            | <u>M</u> U < 0.000100  |
| <u>M</u> Ce < 0.000500 | <u>M</u> In < 0.001001 | <u>n</u> Os            | <u>M</u> Ag < 0.001001 | <u>O</u> V < 0.004000  |
| <u>M</u> Cs < 0.001001 | <u>M</u> Ir < 0.000100 | <u>M</u> Pd < 0.003002 | <u>s</u> Na            | <u>M</u> Yb < 0.000100 |
| <u>O</u> Cr < 0.010000 | <u>s</u> Fe            | <u>s</u> P             | <u>O</u> Sr 0.005000   | <u>M</u> Y < 0.000100  |
| <u>M</u> Co < 0.001001 | <u>M</u> La < 0.000200 | <u>M</u> Pt < 0.000100 | <u>s</u> S             | <u>M</u> Zn 0.016610   |
| <u>O</u> Cu < 0.020000 | <u>M</u> Pb 0.002001   | <u>s</u> K             | <u>M</u> Ta < 0.001001 | <u>M</u> Zr < 0.004002 |

M - Checked by ICP-MS

O - Checked by ICP-OES

i - Spectral Interference

n - Not Checked For

s - Solution Standard Element

## 6.0 INTENDED USE

For the calibration of analytical instruments including but not limited to the following:  
HPLC, IC, TLC, ISE, IR, NMR, UV/VIS, MS, Capillary Electrophoresis, Potentiometry, Wet Chemistry and Voltammetry  
For the validation of analytical methods  
For the preparation of "working reference samples"  
For interference studies and the determination of correction coefficients  
For detection limit and linearity studies  
For additional intended uses, contact Technical Staff

This CRM was manufactured using 18 megohm doubly deionized water that has been filtered through a 0.2 micron filter.

## 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

**Storage & Handling** - Keep **Tightly** sealed when not in use. Store and use at 20 ± 4°C. **Do Not** pipette from the container. **Do Not** return portions removed from pipetting to container.

Element Specific Information - For specific information regarding any element: Contact technical staff.

**Uranium Note:** If uranium is present in this standard, it is natural abundance unless specified in Section 3.0.

## 8.0 HAZARDOUS INFORMATION - Please refer to the enclosed Material Safety Data sheet for information regarding this CRM.

## 9.0 HOMOGENEITY - This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous.

Inorganic Ventures homogeneity data indicate that the end user should take a minimum sample size of 0.2mL to assure homogeneity.



## 10.0 QUALITY STANDARD DOCUMENTATION

- 10.1 ISO 9001 Quality Management System Registration
  - SAI Global File Number 010105
- 10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration"
  - Chemical Testing - Accredited A2LA Certificate Number 883.01
- 10.3 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"
  - Reference Materials Production - Accredited A2LA Certificate Number 883.02
- 10.4 10CFR50 Appendix B - Nuclear Regulatory Commission
  - Domestic Licensing of Production and Utilization Facilities
- 10.5 10CFR21 - Nuclear Regulatory Commission
  - Reporting Defects and Non-Compliance

## 11.0 DATE OF CERTIFICATION AND PERIOD OF VALIDITY

**11.1 Shelf Life** - The period of time during which the concentration of the analyte(s) in a properly packaged, unopened, and unused standard stored under environmentally controlled and monitored conditions will remain within the specified uncertainty range. Shelf life is limited primarily by transpiration (loss of water from the solution) and infrequently, by chemical instability. Transpiration studies of chemically-stable solutions performed at the manufacturer's facility show a CRM shelf-life of twenty one months for solutions packaged in 125-mL low density polyethylene bottles. When stored under special conditions that minimize transpiration and instability, the shelf life can be extended past this limit.

**11.2 Expiration Date** - The date after which a CRM should not be used. Routine laboratory use of a CRM increases transpiration losses and the chance of contamination which affect the integrity of the CRM and limit its useful life. Manufacturer concurs with state and federal regulatory agencies' recommendations that solution standards be assigned a one-year expiration date.

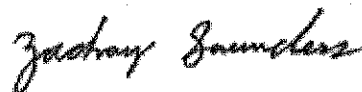
**11.3 Chemical Stability** - Studies have been conducted on this or similar CRMs and it has been demonstrated that this CRM is chemically stable for a period of not less than two years provided the "Storage & Handling" conditions are followed that are described in section 7.0.

Certification Date: July 12, 2013

Expiration Date: **EXPIRES**  
01<sup>st</sup> 2015

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By: Zach Saunders  
Product Documentation Technician



Certificate Approved By: Allyson Guillems  
Quality Control Supervisor



Certifying Officer: Paul Gaines  
PhD., Senior Technical Director



Reagent

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**M6020ICS-0B\_00006**

**1.0 INORGANIC VENTURES** is an ISO Guide 34 "General Requirements for the Competence of Reference Material Producers" and ISO 9001 registered manufacturer. Our manufacturing laboratory is accredited to ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories."



**2.0 DESCRIPTION OF CRM      Stock Solution**  
Catalog No.:                      6020ICS-0B  
Lot Number:                      **G2-MEB463151**  
Matrix:                              3% HNO<sub>3</sub>(v/v)

2 µg/mL ea:

Ag,                      As,                      Cd,                      Co,                      Cr<sub>3</sub>,                      Cu,                      Mn,                      Ni,                      Zn

### 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ELEMENT     | CERTIFIED VALUE     | ELEMENT     | CERTIFIED VALUE     | ELEMENT                     | CERTIFIED VALUE     |
|-------------|---------------------|-------------|---------------------|-----------------------------|---------------------|
| Arsenic, As | 2.000 ± 0.013 µg/mL | Cadmium, Cd | 2.000 ± 0.013 µg/mL | Chromium+3, Cr <sub>3</sub> | 2.000 ± 0.013 µg/mL |
| Cobalt, Co  | 2.000 ± 0.013 µg/mL | Copper, Cu  | 2.000 ± 0.013 µg/mL | Manganese, Mn               | 2.000 ± 0.013 µg/mL |
| Nickel, Ni  | 2.000 ± 0.013 µg/mL | Silver, Ag  | 2.000 ± 0.013 µg/mL | Zinc, Zn                    | 2.000 ± 0.013 µg/mL |

**Certified Density:**      1.012      g/mL (measured at 20 ± 1° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n}$$

(  $\bar{x}$  ) = mean

$x_i$  = individual results

$n$  = number of measurements

$$\text{Uncertainty } (\pm) = 2 [ \sum (s_i)^2 ]^{1/2}$$

2 = the coverage factor.

$[ \sum (s_i)^2 ]^{1/2}$  = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

### 4.0 TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS

· "Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." (ISO VIM, 2nd ed., 1993, definition 6.10)

· This product is Traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRMs are available, the term 'in-house std.' is specified.

· The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a NIST SRM/RM. See section 4.2 for balance traceability.

#### 4.1 ASSAY INFORMATION

| ELEMENT | METHOD     | NIST SRM# | SRM LOT#     |
|---------|------------|-----------|--------------|
| Ag      | ICP Assay  | 3151      | 992212       |
| Ag      | Volhard    | 999b      | 999b         |
| As      | Calculated |           | See Sec. 4.2 |
| As      | ICP Assay  | 3103a     | 100818       |
| Cd      | ICP Assay  | 3108      | 060531       |
| Cd      | EDTA       | 928       | 928          |
| Co      | ICP Assay  | 3113      | 00630        |
| Co      | EDTA       | 928       | 928          |
| Cr3     | Calculated |           | See Sec. 4.2 |
| Cr3     | ICP Assay  | 3112a     | 030730       |
| Cu      | ICP Assay  | 3114      | 011017       |
| Cu      | EDTA       | 928       | 928          |
| Mn      | ICP Assay  | 3132      | 050429       |
| Mn      | EDTA       | 928       | 928          |
| Ni      | ICP Assay  | 3136      | 000612       |
| Ni      | EDTA       | 928       | 928          |
| Zn      | ICP Assay  | 3168a     | 080123       |
| Zn      | EDTA       | 928       | 928          |

**4.2 BALANCE CALIBRATION** - All analytical balances are calibrated yearly by an accredited calibration laboratory and are traceable to a class E 2 analytical weight set with NIST Traceability. All balances are checked daily using an in-house procedure. The weights used for testing are annually compared to master weights and are traceable to the National Institute of Standards and Technology (NIST).

**4.3 THERMOMETER CALIBRATION** - All thermometers are NIST traceable through thermometers that are calibrated by an A2LA accredited calibration laboratory.

**4.4 GLASSWARE CALIBRATION** - An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM's.

#### 5.0 TRACE METALLIC IMPURITIES (TMI ) DETERMINED BY ICP-MS AND ICP-OES IN µg/mL - N/A

#### 6.0 INTENDED USE

For the calibration of analytical instruments including but not limited to the following:  
HPLC, IC, TLC, ISE, IR, NMR, UV/VIS, MS, Capillary Electrophoresis, Potentiometry, Wet Chemistry and Voltammetry  
For the validation of analytical methods  
For the preparation of "working reference samples"  
For interference studies and the determination of correction coefficients  
For detection limit and linearity studies  
For additional intended uses, contact Technical Staff

This CRM was manufactured using 18 megohm doubly deionized water that has been filtered through a 0.2 micron filter.

#### 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

**Storage & Handling** - Keep **Tightly** sealed when not in use. Store and use at 20 ± 4°C. **Do Not** pipette from the container. **Do Not** return portions removed from pipetting to container.

Element Specific Information - For specific information regarding any element: Contact technical staff.

**Uranium Note:** If uranium is present in this standard, it is natural abundance unless specified in Section 3.0.

**Low Silver Note:** This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

#### 8.0 HAZARDOUS INFORMATION - Please refer to the enclosed Material Safety Data sheet for information regarding this CRM.

#### 9.0 HOMOGENEITY - This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Inorganic Ventures homogeneity data indicate that the end user should take a minimum sample size of 0.2mL to assure homogeneity.

## 10.0 QUALITY STANDARD DOCUMENTATION

### 10.1 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

### 10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration"

- Chemical Testing - Accredited A2LA Certificate Number 883.01

### 10.3 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Materials Production - Accredited A2LA Certificate Number 883.02

### 10.4 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

### 10.5 10CFR21 - Nuclear Regulatory Commission

- Reporting Defects and Non-Compliance

## 11.0 DATE OF CERTIFICATION AND PERIOD OF VALIDITY

**11.1 Shelf Life** - The period of time during which the concentration of the analyte(s) in a properly packaged, unopened, and unused standard stored under environmentally controlled and monitored conditions will remain within the specified uncertainty range. Shelf life is limited primarily by transpiration (loss of water from the solution) and infrequently, by chemical instability. Transpiration studies of chemically-stable solutions performed at the manufacturer's facility show a CRM shelf-life of twenty one months for solutions packaged in 125-mL low density polyethylene bottles. When stored under special conditions that minimize transpiration and instability, the shelf life can be extended past this limit.

**11.2 Expiration Date** - The date after which a CRM should not be used. Routine laboratory use of a CRM increases transpiration losses and the chance of contamination which affect the integrity of the CRM and limit its useful life. Manufacturer concurs with state and federal regulatory agencies' recommendations that solution standards be assigned a one-year expiration date.

**11.3 Chemical Stability** - Studies have been conducted on this or similar CRMs and it has been demonstrated that this CRM is chemically stable for a period of not less than two years provided the "Storage & Handling" conditions are followed that are described in section 7.0.

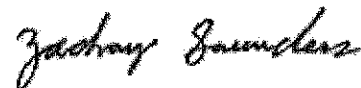
**Certification Date:** March 25, 2013

**Expiration Date:** **EXPIRES**

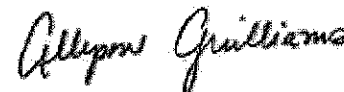
01<sup>st</sup> 2015

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

**Certificate Prepared By:** Zach Saunders  
Product Documentation Technician



**Certificate Approved By:** Allyson Guilliams  
Quality Control Supervisor



**Certifying Officer:** Paul Gaines  
PhD., Senior Technical Director



Reagent

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**MCALSPECAREV\_00005**

**1.0** INORGANIC VENTURES is an ISO Guide 34 "General Requirements for the Competence of Reference Material Producers" and ISO 9001 registered manufacturer. Our manufacturing laboratory is accredited to ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories."



**2.0 DESCRIPTION OF CRM**      **Custom Solution**  
Catalog No.:      TAPITT-CAL-SPECA-REV  
Lot Number:      H2-MEB524026  
Matrix:      3% HNO<sub>3</sub>(v/v)

2,500 µg/mL ea:

Ca,      K,      Mg,      Na,

1,250 µg/mL ea:

Fe,

25 µg/mL ea:

Al,      Mn,

5 µg/mL ea:

Ag,      As,      Ba,      Be,      Cd,      Co,      Cr<sub>3</sub>,      Cu,      Ni,  
Pb,      Se,      Sr,      Ti,      V,      Zn

### 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ELEMENT                     | CERTIFIED VALUE     | ELEMENT      | CERTIFIED VALUE     | ELEMENT       | CERTIFIED VALUE     |
|-----------------------------|---------------------|--------------|---------------------|---------------|---------------------|
| Aluminum, Al                | 24.99 ± 0.18 µg/mL  | Arsenic, As  | 4.998 ± 0.032 µg/mL | Barium, Ba    | 5.000 ± 0.032 µg/mL |
| Beryllium, Be               | 5.000 ± 0.028 µg/mL | Cadmium, Cd  | 4.998 ± 0.032 µg/mL | Calcium, Ca   | 2,500 ± 11 µg/mL    |
| Chromium+3, Cr <sub>3</sub> | 5.000 ± 0.028 µg/mL | Cobalt, Co   | 4.999 ± 0.032 µg/mL | Copper, Cu    | 4.999 ± 0.032 µg/mL |
| Iron, Fe                    | 1,250 ± 6 µg/mL     | Lead, Pb     | 4.998 ± 0.025 µg/mL | Magnesium, Mg | 2,500 ± 16 µg/mL    |
| Manganese, Mn               | 24.99 ± 0.17 µg/mL  | Nickel, Ni   | 5.003 ± 0.028 µg/mL | Potassium, K  | 2,500 ± 11 µg/mL    |
| Selenium, Se                | 5.002 ± 0.028 µg/mL | Silver, Ag   | 5.000 ± 0.036 µg/mL | Sodium, Na    | 2,499 ± 11 µg/mL    |
| Strontium, Sr               | 5.000 ± 0.032 µg/mL | Thallium, Tl | 5.000 ± 0.032 µg/mL | Vanadium, V   | 5.000 ± 0.032 µg/mL |
| Zinc, Zn                    | 5.004 ± 0.032 µg/mL |              |                     |               |                     |

**Certified Density:**      1.051      g/mL (measured at 20 ± 1° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of  $k = 2$ .

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n}$$

$(\bar{x})$  = mean

$x_i$  = individual results

$n$  = number of measurements

$$\text{Uncertainty } (\pm) = 2 \left[ \sum (s_i)^2 \right]^{1/2}$$

2 = the coverage factor.

$\left[ \sum (s_i)^2 \right]^{1/2}$  = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

#### 4.0 TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS

• "Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." (ISO VIM, 2nd ed., 1993, definition 6.10)

• This product is Traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRMs are available, the term 'in-house std.' is specified.

• The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a NIST SRM/RM. See section 4.2 for balance traceability.



## 4.1 ASSAY INFORMATION

| ELEMENT | METHOD      | NIST SRM# | SRM LOT#     |
|---------|-------------|-----------|--------------|
| Ag      | ICP Assay   | 3151      | 992212       |
| Ag      | Volhard     | 999b      | 999b         |
| Al      | ICP Assay   | 3101a     | 060502       |
| Al      | EDTA        | 928       | 928          |
| As      | Calculated  |           | See Sec. 4.2 |
| As      | ICP Assay   | 3103a     | 100818       |
| Ba      | Gravimetric |           | See Sec. 4.2 |
| Ba      | ICP Assay   | 3104a     | 070222       |
| Be      | Calculated  |           | See Sec. 4.2 |
| Be      | ICP Assay   | 3105a     | 090514       |
| Ca      | ICP Assay   | 3109a     | 050825       |
| Ca      | EDTA        | 928       | 928          |
| Cd      | ICP Assay   | 3108      | 060531       |
| Cd      | EDTA        | 928       | 928          |
| Co      | ICP Assay   | 3113      | 00630        |
| Co      | EDTA        | 928       | 928          |
| Cr3     | Calculated  |           | See Sec. 4.2 |
| Cr3     | ICP Assay   | 3112a     | 030730       |
| Cu      | ICP Assay   | 3114      | 011017       |
| Cu      | EDTA        | 928       | 928          |
| Fe      | ICP Assay   | 3126a     | 051031       |
| Fe      | EDTA        | 928       | 928          |
| K       | Gravimetric |           | See Sec. 4.2 |
| K       | ICP Assay   | 3141a     | 051220       |
| Mg      | ICP Assay   | 3131a     | 050302       |
| Mg      | EDTA        | 928       | 928          |
| Mn      | ICP Assay   | 3132      | 050429       |
| Mn      | EDTA        | 928       | 928          |
| Na      | Gravimetric |           | See Sec. 4.2 |
| Na      | ICP Assay   | 3152a     | 120715       |
| Ni      | ICP Assay   | 3136      | 000612       |
| Ni      | EDTA        | 928       | 928          |
| Pb      | ICP Assay   | 3128      | 101026       |
| Pb      | EDTA        | 928       | 928          |
| Se      | Calculated  |           | See Sec. 4.2 |
| Se      | ICP Assay   | 3149      | 100901       |
| Sr      | ICP Assay   | 3153a     | 990906       |
| Sr      | EDTA        | 928       | 928          |
| Ti      | Calculated  |           | See Sec. 4.2 |
| Ti      | ICP Assay   | 3158      | 993012       |
| V       | ICP Assay   | 3165      | 992706       |
| V       | EDTA        | 928       | 928          |
| Zn      | ICP Assay   | 3168a     | 080123       |
| Zn      | EDTA        | 928       | 928          |

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of  $k = 2$ .

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n}$$

$(\bar{x})$  = mean

$x_i$  = individual results

$n$  = number of measurements

$$\text{Uncertainty } (\pm) = 2 \left[ \sum (s_i)^2 \right]^{1/2}$$

2 = the coverage factor.

$\left[ \sum (s_i)^2 \right]^{1/2}$  = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

#### 4.0 TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS

• "Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." (ISO VIM, 2nd ed., 1993, definition 6.10)

• This product is Traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRMs are available, the term 'in-house std.' is specified.

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a NIST SRM/RM. See section 4.2 for balance traceability.

- 4.2 **BALANCE CALIBRATION** - All analytical balances are calibrated yearly by an accredited calibration laboratory and are traceable to a class E 2 analytical weight set with NIST Traceability. All balances are checked daily using an in-house procedure. The weights used for testing are annually compared to master weights and are traceable to the National Institute of Standards and Technology (NIST).
- 4.3 **THERMOMETER CALIBRATION** - All thermometers are NIST traceable through thermometers that are calibrated by an A2LA accredited calibration laboratory.
- 4.4 **GLASSWARE CALIBRATION** - An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM's.
- 5.0 **TRACE METALLIC IMPURITIES (TMI ) DETERMINED BY ICP-MS AND ICP-OES IN  $\mu\text{g/mL}$  - N/A**
- 6.0 **INTENDED USE**
- For the calibration of analytical instruments including but not limited to the following:  
 HPLC, IC, TLC, ISE, IR, NMR, UV/VIS, MS, Capillary Electrophoresis, Potentiometry, Wet Chemistry and Voltammetry  
 For the validation of analytical methods  
 For the preparation of "working reference samples"  
 For interference studies and the determination of correction coefficients  
 For detection limit and linearity studies  
 For additional intended uses, contact Technical Staff
- This CRM was manufactured using 18 megohm doubly deionized water that has been filtered through a 0.2 micron filter.
- 7.0 **INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL**
- Storage & Handling** - Keep Tightly sealed when not in use. Store and use at  $20 \pm 4^\circ\text{C}$ . Do Not pipette from the container. Do Not return portions removed from pipetting to container.
- Element Specific Information - For specific information regarding any element: Contact technical staff.
- Uranium Note: If uranium is present in this standard, it is natural abundance unless specified in Section 3.0.
- Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.
- 8.0 **HAZARDOUS INFORMATION** - Please refer to the enclosed Material Safety Data sheet for information regarding this CRM.
- 9.0 **HOMOGENEITY** - This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Inorganic Ventures homogeneity data indicate that the end user should take a minimum sample size of 0.2mL to assure homogeneity.
- 10.0 **QUALITY STANDARD DOCUMENTATION**
- 10.1 **ISO 9001 Quality Management System Registration**  
 - SAI Global File Number 010105
- 10.2 **ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration"**  
 - Chemical Testing - Accredited A2LA Certificate Number 883.01
- 10.3 **ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"**  
 - Reference Materials Production - Accredited A2LA Certificate Number 883.02
- 10.4 **10CFR50 Appendix B - Nuclear Regulatory Commission**  
 - Domestic Licensing of Production and Utilization Facilities
- 10.5 **10CFR21 - Nuclear Regulatory Commission**  
 - Reporting Defects and Non-Compliance

## 11.0 DATE OF CERTIFICATION AND PERIOD OF VALIDITY

**11.1 Shelf Life** - The period of time during which the concentration of the analyte(s) in a properly packaged, unopened, and unused standard stored under environmentally controlled and monitored conditions will remain within the specified uncertainty range. Shelf life is limited primarily by transpiration (loss of water from the solution) and infrequently, by chemical instability. Transpiration studies of chemically-stable solutions performed at the manufacturer's facility show a CRM shelf-life of twenty one months for solutions packaged in 125-mL low density polyethylene bottles. When stored under special conditions that minimize transpiration and instability, the shelf life can be extended past this limit.

**11.2 Expiration Date** - The date after which a CRM should not be used. Routine laboratory use of a CRM increases transpiration losses and the chance of contamination which affect the integrity of the CRM and limit its useful life. Manufacturer concurs with state and federal regulatory agencies' recommendations that solution standards be assigned a one-year expiration date.

**11.3 Chemical Stability** - Studies have been conducted on this or similar CRMs and it has been demonstrated that this CRM is chemically stable for a period of not less than two years provided the "Storage & Handling" conditions are followed that are described in section 7.0.

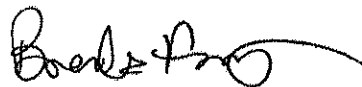
**Certification Date:** April 04, 2014

**Expiration Date:**

**EXPIRES**  
01/1/2015

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

**Certificate Prepared By:** Brenda Francis  
Product Documentation Technician



**Certificate Approved By:** Brian Alexander  
PhD., Technical Process Director



**Certifying Officer:** Paul Gaines  
PhD., Senior Technical Director



Reagent

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**MCALSPECB\_00007**

**1.0** **INORGANIC VENTURES** is an ISO Guide 34 "General Requirements for the Competence of Reference Material Producers" and ISO 9001 registered manufacturer. Our manufacturing laboratory is accredited to ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories."



**2.0** **DESCRIPTION OF CRM** **Custom Solution**  
Catalog No.: TAPITT-CAL-SPECB  
Lot Number: H2-MEB524027  
Matrix: 3% HNO<sub>3</sub>(v/v),  
tr. HF

250 µg/mL ea:

Si,

5 µg/mL ea:

B,

Mo,

Sb,

Sn,

Ti

### 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ELEMENT      | CERTIFIED VALUE     | ELEMENT  | CERTIFIED VALUE     | ELEMENT        | CERTIFIED VALUE     |
|--------------|---------------------|----------|---------------------|----------------|---------------------|
| Antimony, Sb | 4.999 ± 0.044 µg/mL | Boron, B | 5.000 ± 0.032 µg/mL | Molybdenum, Mo | 4.999 ± 0.041 µg/mL |
| Silicon, Si  | 250.0 ± 1.6 µg/mL   | Tin, Sn  | 4.999 ± 0.041 µg/mL | Titanium, Ti   | 4.999 ± 0.040 µg/mL |

**Certified Density:** 1.017 g/mL (measured at 20 ± 1° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n}$$

( $\bar{x}$ ) = mean

$x_i$  = individual results

n = number of measurements

$$\text{Uncertainty } (\pm) = 2 \left[ \sum (s_i)^2 \right]^{1/2}$$

2 = the coverage factor.

$\left[ \sum (s_i)^2 \right]^{1/2}$  = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

### 4.0 TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS

· "Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." (ISO VIM, 2nd ed., 1993, definition 6.10)

· This product is Traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRMs are available, the term 'in-house std.' is specified.

· The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a NIST SRM/RM. See section 4.2 for balance traceability.

#### 4.1 ASSAY INFORMATION

| ELEMENT | METHOD     | NIST SRM# | SRM LOT#     |
|---------|------------|-----------|--------------|
| B       | Calculated |           | See Sec. 4.2 |
| B       | ICP Assay  | 3107      | 070514       |
| Mo      | Calculated |           | See Sec. 4.2 |
| Mo      | ICP Assay  | 3134      | 891307       |
| Sb      | Calculated |           | See Sec. 4.2 |
| Sb      | ICP Assay  | 3102A     | 061229       |
| Si      | Calculated |           | See Sec. 4.2 |
| Si      | ICP Assay  | 3150      | 071204       |
| Sn      | Calculated |           | See Sec. 4.2 |
| Sn      | ICP Assay  | 3161a     | 070330       |
| Ti      | ICP Assay  | 3162a     | 060808       |

**4.2 BALANCE CALIBRATION** - All analytical balances are calibrated yearly by an accredited calibration laboratory and are traceable to a class E 2 analytical weight set with NIST Traceability. All balances are checked daily using an in-house procedure. The weights used for testing are annually compared to master weights and are traceable to the National Institute of Standards and Technology (NIST).

**4.3 THERMOMETER CALIBRATION** - All thermometers are NIST traceable through thermometers that are calibrated by an A2LA accredited calibration laboratory.

**4.4 GLASSWARE CALIBRATION** - An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM's.

#### 5.0 TRACE METALLIC IMPURITIES (TMI ) DETERMINED BY ICP-MS AND ICP-OES IN µg/mL - N/A

#### 6.0 INTENDED USE

For the calibration of analytical instruments including but not limited to the following:  
HPLC, IC, TLC, ISE, IR, NMR, UV/VIS, MS, Capillary Electrophoresis, Potentiometry, Wet Chemistry and Voltammetry  
For the validation of analytical methods  
For the preparation of "working reference samples"  
For interference studies and the determination of correction coefficients  
For detection limit and linearity studies  
For additional intended uses, contact Technical Staff

This CRM was manufactured using 18 megohm doubly deionized water that has been filtered through a 0.2 micron filter.

#### 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

**Storage & Handling** - Keep **Tightly** sealed when not in use. Store and use at 20 ± 4°C. **Do Not** pipette from the container. **Do Not** return portions removed from pipetting to container.

**Element Specific Information** - For specific information regarding any element: Contact technical staff.

**Uranium Note:** If uranium is present in this standard, it is natural abundance unless specified in Section 3.0.

**HF Note:** This standard should not be prepared or stored in glass.

#### 8.0 HAZARDOUS INFORMATION - Please refer to the enclosed Material Safety Data sheet for information regarding this CRM.

#### 9.0 HOMOGENEITY - This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Inorganic Ventures homogeneity data indicate that the end user should take a minimum sample size of 0.2mL to assure homogeneity.

## 10.0 QUALITY STANDARD DOCUMENTATION

- 10.1 ISO 9001 Quality Management System Registration
  - SAI Global File Number 010105
- 10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration"
  - Chemical Testing - Accredited A2LA Certificate Number 883.01
- 10.3 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"
  - Reference Materials Production - Accredited A2LA Certificate Number 883.02
- 10.4 10CFR50 Appendix B - Nuclear Regulatory Commission
  - Domestic Licensing of Production and Utilization Facilities
- 10.5 10CFR21 - Nuclear Regulatory Commission
  - Reporting Defects and Non-Compliance

## 11.0 DATE OF CERTIFICATION AND PERIOD OF VALIDITY

**11.1 Shelf Life** - The period of time during which the concentration of the analyte(s) in a properly packaged, unopened, and unused standard stored under environmentally controlled and monitored conditions will remain within the specified uncertainty range. Shelf life is limited primarily by transpiration (loss of water from the solution) and infrequently, by chemical instability. Transpiration studies of chemically-stable solutions performed at the manufacturer's facility show a CRM shelf-life of twenty one months for solutions packaged in 125-mL low density polyethylene bottles. When stored under special conditions that minimize transpiration and instability, the shelf life can be extended past this limit.

**11.2 Expiration Date** - The date after which a CRM should not be used. Routine laboratory use of a CRM increases transpiration losses and the chance of contamination which affect the integrity of the CRM and limit its useful life. Manufacturer concurs with state and federal regulatory agencies' recommendations that solution standards be assigned a one-year expiration date.

**11.3 Chemical Stability** - Studies have been conducted on this or similar CRMs and it has been demonstrated that this CRM is chemically stable for a period of not less than two years provided the "Storage & Handling" conditions are followed that are described in section 7.0.

Certification Date: April 04, 2014

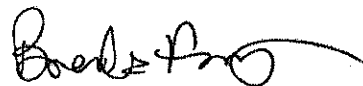
Expiration Date: **EXPIRES**  
01~~4~~2015

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By: Brenda Francis  
Product Documentation Technician

Certificate Approved By: Brian Alexander  
PhD., Technical Process Director

Certifying Officer: Paul Gaines  
PhD., Senior Technical Director





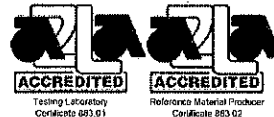
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**MCGHG1-1\_00009**

**1.0 ACCREDITATION / REGISTRATION**

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number (010105)).

**2.0 PRODUCT DESCRIPTION**

Product Code: Single Analyte Custom Grade Solution  
Catalog Number: CGHG1  
Lot Number: H2-HG02128  
Matrix: 5% (v/v) HNO<sub>3</sub>  
Value / Analyte(s): 1 000 µg/mL ea:  
Hg  
Starting Material: Hg Metal  
Starting Material Lot#: 1780  
Starting Material Purity: 99.9997%

Rec'd 1/8/15  
RJR

**3.0 CERTIFIED VALUES AND UNCERTAINTIES**

Certified Value: 1 007 ± 3 µg/mL - weighted mean  
Certified Density: 1.026 g/mL (measured at 20 ± 1 °C)

**Assay Information:**

Assay Method #1 1 004 ± 5 µg/mL  
ICP Assay NIST SRM 3133 Lot Number: 061204  
Assay Method #2 1 009 ± 3 µg/mL  
EDTA NIST SRM 928 Lot Number: 928

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of  $k = 2$ .

## Characterization of CRM/RM by Two Methods

Certified Value,  $X_{\text{CRM/RM}}$ , where two methods of characterization are used is the weighted mean of the two results:

$$X_{\text{CRM/RM}} = (w_a)(X_a) + (w_b)(X_b)$$

$X_a$  = mean of Assay Method A with standard uncertainty  $u_{\text{char a}}$

$X_b$  = mean of Assay Method B with standard uncertainty  $u_{\text{char b}}$

$w_a$  and  $w_b$  = the weighting factors for each method calculated using the inverse square of the variance:

$$w_a = (1/u_{\text{char a}})^2 / ((1/u_{\text{char a}})^2 + (1/u_{\text{char b}})^2)$$

$$w_b = (1/u_{\text{char b}})^2 / ((1/u_{\text{char a}})^2 + (1/u_{\text{char b}})^2)$$

$$\text{CRM/RM Expanded Uncertainty (t)} = U_{\text{CRM/RM}} = k(u_{\text{char a\&b}}^2 + u_{\text{bb}}^2 + u_{\text{Its}}^2 + u_{\text{sts}}^2)^{1/2}$$

$k$  = coverage factor = 2 in all cases at Inorganic Ventures

$u_{\text{char a\&b}} = [(w_a)^2(u_{\text{char a}})^2 + (w_b)^2(u_{\text{char b}})^2]^{1/2}$  where  $u_{\text{char a}}$  and  $u_{\text{char b}}$  are the square root of the sum of the squares of errors from characterization which include instrument measurement, density, NIST SRM uncertainty, weighing, and volume

$u_{\text{bb}}$  = bottle to bottle homogeneity standard uncertainty

$u_{\text{Its}}$  = long term stability standard uncertainty (storage)

$u_{\text{sts}}$  = short term stability standard uncertainty (transportation)

No correction has been applied for transpiration that will occur after the CRM/RM bottle has been removed from the sealed aluminized bag. See Sec. 7.0 (Instructions for the Correct Use of this Reference Material) for more information.

## Characterization of CRM/RM by One Method

Certified Value,  $X_{\text{CRM/RM}}$ , where one method of characterization is used is the mean of individual results:

$$X_{\text{CRM/RM}} = \text{mean of Assay Method A with standard uncertainty } u_{\text{char a}}$$

$$\text{CRM/RM Expanded Uncertainty (t)} = U_{\text{CRM/RM}} = k(u_{\text{char a}}^2 + u_{\text{bb}}^2 + u_{\text{Its}}^2 + u_{\text{sts}}^2)^{1/2}$$

$k$  = coverage factor = 2 in all cases at Inorganic Ventures

$u_{\text{char a}}$  = square root of the sum of the squares of the errors from characterization which include instrumental measurement, density, NIST SRM uncertainty, weighing, and volume

$u_{\text{bb}}$  = bottle to bottle homogeneity standard uncertainty

$u_{\text{Its}}$  = long term stability standard uncertainty (storage)

$u_{\text{sts}}$  = short term stability standard uncertainty (transportation)

## 4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

### 4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

### 4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

### 4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

## 5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

|                 |                 |                 |                 |                 |
|-----------------|-----------------|-----------------|-----------------|-----------------|
| M Ag < 0.003050 | M Er < 0.000203 | O Mn < 0.000161 | O S < 0.005380  | O V < 0.000538  |
| O Al < 0.000753 | M Eu < 0.000203 | M Mo < 0.002033 | M Sb < 0.002033 | M W < 0.001017  |
| M As < 0.001017 | O Fe < 0.001614 | O Na < 0.000787 | O Sc < 0.000430 | M Y < 0.000203  |
| M Au < 0.002033 | M Ga < 0.000203 | M Nb < 0.000610 | M Se < 0.014233 | M Yb < 0.000203 |
| M B < 0.004067  | M Gd < 0.000203 | M Nd < 0.000203 | O Si < 0.000899 | O Zn < 0.000146 |
| M Ba < 0.000610 | M Ge < 0.001627 | O Ni < 0.001614 | M Sm < 0.000203 | O Zr < 0.001614 |
| O Be < 0.000108 | M Hf < 0.000610 | n Os <          | M Sn < 0.000203 |                 |
| M Bi < 0.002033 | s Hg <          | O P < 0.010760  | O Sr < 0.000215 |                 |
| O Ca < 0.001068 | M Ho < 0.000203 | M Pb < 0.000610 | M Ta < 0.000610 |                 |
| M Cd < 0.000203 | M In < 0.000407 | M Pd < 0.003050 | M Tb < 0.000203 |                 |
| M Ce < 0.000203 | M Ir < 0.000203 | M Pr < 0.000203 | M Te < 0.004067 |                 |
| M Co < 0.000407 | O K < 0.000562  | M Pt < 0.000203 | M Th < 0.000407 |                 |
| O Cr < 0.000538 | M La < 0.000203 | M Rb < 0.000203 | O Ti < 0.000646 |                 |
| M Cs < 0.004067 | O Li < 0.000215 | M Re < 0.000203 | O Tl < 0.005380 |                 |
| O Cu < 0.002152 | M Lu < 0.000203 | M Rh < 0.000203 | M Tm < 0.000203 |                 |
| M Dy < 0.000203 | O Mg < 0.000169 | M Ru < 0.000203 | M U < 0.004067  |                 |

## 6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

## 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

### 7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30°C while in sealed TCT bag.
- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.
- After opening the sealed TCT bag keep cap tightly sealed when not in use. Store and use at 20° ± 4°C. Do not pipette from the container. Do not return removed aliquots to container.
- For more information, visit [www.inorganicventures.com/TCT](http://www.inorganicventures.com/TCT).

**Atomic Weight; Valence; Coordination Number; Chemical Form in Solution** - 200.59 +2 4

Hg(OH)(aq) 1+

**Chemical Compatibility** - Stable in HNO<sub>3</sub>. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.

**Stability** - 2-100 ppb levels not stable in 1% HNO<sub>3</sub> / LDPE container, stable in 10% HNO<sub>3</sub> packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO<sub>3</sub> packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO<sub>3</sub> / LDPE container.

**Hg Containing Samples (Preparation and Solution)** - Metal (soluble in HNO<sub>3</sub>); Oxide (Soluble in HNO<sub>3</sub>); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).

**Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):**

| Technique/Line     | Estimated D.L.     | Order | Interferences (underlined indicates severe) |
|--------------------|--------------------|-------|---|
| ICP-MS 202 amu     | 9 ppt              | n/a   | 186W16O                                     |
| ICP-OES 184.950 nm | 0.03 / 0.005 µg/mL | 1     |   |
| ICP-OES 194.227 nm | 0.03 / 0.005 µg/mL | 1     | V   |
| ICP-OES 253.652 nm | 0.1 / 0.03 µg/mL   | 1     | Ta, Co, Th, Rh, Fe, U                       |

## 8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

## 9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

## 10.0 QUALITY STANDARD DOCUMENTATION

### 10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

### 10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

### 10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

- August 28, 2014

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec. 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Period of Validity

- Sealed TCT Bag Open Date: 2/2/2015

- This CRM/RM should not be used longer than one year from the date of opening the sealed TCT bag or after the date given in Sec. 11.3, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

11.3 Lot Expiration Date

- August 28, 2017

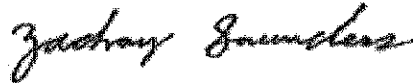
- The date after which this CRM/RM should not be used (See Sec. 11.2).

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

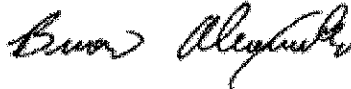
Certificate Prepared By:

Zach Saunders  
Product Documentation Technician



Certificate Approved By:

Brian Alexander  
PhD., Technical Process Director



Certifying Officer:

Paul Gaines  
PhD., Senior Technical Director



Reagent

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**MHGICV-1\_00005**

**Material Safety Data Sheet**

ULTRA Scientific · 250 Smith Street · North Kingstown, RI, USA 02852 · 401-294-9400

Product #: ICP-080

Last Update: 4/7/2014

**Section I Product Identification**

Name: Mercury Standard

Matrix : water with dilute nitric acid

**Section II Composition / Information on Ingredients**

| Component                          | CAS#        | % by Wt. | LD50               | OSHA PEL  | ACGIH TLV  | RTECS #   | Codes |
|------------------------------------|-------------|----------|--------------------|-----------|------------|-----------|-------|
| water                              | 007732-18-5 | 97.9     | >90 mL/kg oral rat | N/A       | N/A        | ZC0110000 |       |
| nitric acid                        | 007697-37-2 | 2        | N/A                | 5 mg/m3   | 5.2 mg/m3  | QU5775000 | G     |
| mercury, inorganic compounds as Hg | 007439-97-6 | 0.1      | 26 mg/kg oral rat  | 0.1 mg/m3 | .025 mg/m3 | OV4550000 |       |

Codes: A-OSHA regulated carcinogen; B-IARC Group 1 carcinogen; C-IARC Group 2A carcinogen; D-IARC Group 2B carcinogen;  
E-NTP Group 1 carcinogen; F-NTP Group 2 carcinogen; G-SARA Title III compound; H-California Proposition 65 compound.

**Section III Hazards Identification**

Irritant

All chemicals should be considered hazardous - direct physical contact should be avoided.

**Section IV First Aid Measures**

Inhalation: If inhaled, remove to fresh air. Give oxygen, if necessary. Contact a physician.

Skin: In case of skin contact, flush with copious amounts of water. Remove contaminated clothing.

Contact: Contact a physician.

Eye Contact: In case of eye contact, flush with copious amounts of water, lifting eyelids occasionally. Contact a physician.

Ingestion: If ingested, contact poison center immediately for recommended procedure. Contact a physician.

**Section V Fire Fighting Measures**

Fire and Explosion Hazard Data for Matrix

Fire Hazard: non-combustible

Extinguishing Media: Carbon dioxide, dry chemical powder, or water spray.

**Section VI Accidental Release Measures**

Ventilate area of the leak or spill. Wear appropriate personal protective equipment as specified in Section VIII. A leaking bottle, vial, or ampule may be placed in a plastic bag, and normal disposal procedures followed. Take up spilled material with sand or other non-combustible absorbant material, and place in an appropriate container for later disposal. Flush spill area with water.

**Section VII Handling and Storage**

Store at Room Temperature (18-25°C)

Keep in a tightly closed container, and store in a corrosion proof area.

This product should only be used by persons trained in the safe handling of hazardous chemicals.

**Section VIII Exposure Controls / Personal Protection**

Ensure that there is adequate ventilation to prevent airborne levels from exceeding recommended exposure limits (see Section II). Use appropriate MSHA/NIOSH approved safety equipment. Wear chemical goggles, face shield, gloves, and chemical resistant clothing, such as a laboratory coat and/or a rubber apron, to prevent contact with eyes, skin, and clothing.

**Section IX Physical and Chemical Properties**

Physical Data for Matrix

Melting Pt.: 0°C

Boiling Pt.: 100°C  
Page 209 of 2010

Density: 1

Vapor Pressure: N/A

Vapor Density: N/A

Water Solubility: soluble

Appearance: colorless liquid

Odor: none

Flash Point: none

Auto-Ignition Temperature: N/A

LEL: N/A

UEL: N/A

**Section X Stability and Reactivity**

Reactivity Data for Matrix

Stability: stable

Incompatibilities:

organic materials

str. reducing agents

alkalies

antimony salts

Hazardous Decomposition Products: NO<sub>2</sub>, NO<sub>3</sub>

Hazardous Effects of Polymerization: none

**Section XI Toxicological Information**

See Section II for specific toxicological information for the ingredients of this product.

**Section XII Ecological Information**

No information is available.

**Section XIII Disposal Considerations**

Recycle, if possible. Any material which cannot be saved for recovery or recycling should be disposed of at an appropriate and approved waste disposal facility. Processing, use, and/or contamination of this product may change waste management requirements. Observe all applicable federal, state, and local environmental regulations concerning disposal.

**Section XIV Transport Information**

Shipment Type: Corrosive liquid, acidic, inorganic, n.o.s. (nitric acid)

UN Number: UN3264

Shipping Class: 8

Packing Group: III

**Section XV Regulatory Information**

EU Directives Classification

R: 34

Risk Statements: Causes burns.

S: 23-26-36-45

Safety Statements: Do not breathe gas/fumes/vapour/spray. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**Section XVI Other Information**

The above information is believed to be correct, but does not purport to be all-inclusive. This data should be used only as a guide in handling this material. ULTRA Scientific, Inc., shall not be held liable for any damage resulting from handling or from contact with the above product.

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Reagent

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**MICPMSICV\_00018**



Reference Materials Producer  
Cert #2495.01

# SPEXertificate®

## Certificate of Reference Material



Chemical Testing  
Cert #2495.02

**Catalog Number:** ZCAL-60-250 **Lot No.** 7-230WL  
**Description:** Custom Claritas Standard  
**Matrix:** 5% HNO<sub>3</sub> / Tr. Tart. Acid / Tr. HF

This CLARITAS PPT® Certified Reference Material, CRM, is intended primarily for use as a calibration standard or quality control standard for inorganic spectroscopic instrumentation such as ICP-OES, DCP, AA, ICP-MS, and XRF. It can be employed in USEPA, ASTM and other methods relevant to the certified properties listed below.

The CRM is prepared from high purity single element concentrates of individual elements using Class A laboratory ware to give precise concentrations.

### Instrumental Analysis by ICP Spectrometer:

| Analyte | Labeled    | Uncertainty | SRM    | Analyte | Labeled | Uncertainty | SRM    |
|---------|------------|-------------|--------|---------|---------|-------------|--------|
| Ca      | 1000 µg/mL | ±5 µg/mL    | 3109a* | Co      | 2 µg/mL | ±0.01 µg/mL | 3113*  |
| K       | 1000 µg/mL | ±5 µg/mL    | 3141a* | Cr      | 2 µg/mL | ±0.01 µg/mL | 3112a* |
| Mg      | 1000 µg/mL | ±5 µg/mL    | 3131a* | Cu      | 2 µg/mL | ±0.01 µg/mL | 3114*  |
| Na      | 1000 µg/mL | ±5 µg/mL    | 3152a* | Mo      | 2 µg/mL | ±0.01 µg/mL | 3134*  |
| Fe      | 500 µg/mL  | ±3 µg/mL    | 3126a* | Ni      | 2 µg/mL | ±0.01 µg/mL | 3136*  |
| Si      | 100 µg/mL  | ±0.5 µg/mL  | 3150*  | Pb      | 2 µg/mL | ±0.01 µg/mL | 3128*  |
| Al      | 10 µg/mL   | ±0.05 µg/mL | 3101a* | Sb      | 2 µg/mL | ±0.01 µg/mL | 3102a* |
| Mn      | 10 µg/mL   | ±0.05 µg/mL | 3132*  | Se      | 2 µg/mL | ±0.01 µg/mL | 3149*  |
| Ag      | 2 µg/mL    | ±0.01 µg/mL | 3151*  | Sn      | 2 µg/mL | ±0.01 µg/mL | 3161a* |
| As      | 2 µg/mL    | ±0.01 µg/mL | 3103a* | Sr      | 2 µg/mL | ±0.01 µg/mL | 3153a* |
| B       | 2 µg/mL    | ±0.01 µg/mL | 3107*  | Ti      | 2 µg/mL | ±0.01 µg/mL | 3162a* |
| Ba      | 2 µg/mL    | ±0.01 µg/mL | 3104a* | Tl      | 2 µg/mL | ±0.01 µg/mL | 3158*  |
| Be      | 2 µg/mL    | ±0.01 µg/mL | 3105a* | V       | 2 µg/mL | ±0.01 µg/mL | 3165*  |
| Cd      | 2 µg/mL    | ±0.01 µg/mL | 3108*  | Zn      | 2 µg/mL | ±0.01 µg/mL | 3168a* |

\* - indicates NIST SRM

† - Indicates SPEX CertiPrep CRM (when NIST SRM is not available)

SPEX CertiPrep Reference Multi: Lot# ALL 8

### Trace Metallic Impurities in the Actual Solution via ICP-MS Analysis:

| Element | µg/L  | Element | µg/L | Element | µg/L | Element | µg/L | Element | µg/L | Element | µg/L |
|---------|-------|---------|------|---------|------|---------|------|---------|------|---------|------|
| Au      | <0.4  | Ga      | <2   | Ir      | <0.1 | Pd      | <1   | Sc      | 30   | Tm      | 5    |
| Bi      | <1    | Gd      | 4    | La      | 5    | Pr      | 5    | Sm      | <4   | U       | 0.08 |
| Ce      | 6     | Ge      | <8   | Li      | <4   | Pt      | <0.1 | Ta      | 7    | W       | 10   |
| Cs      | <0.08 | Hf      | 0.7  | Lu      | 4    | Rb      | 30   | Tb      | 5    | Y       | 5    |
| Dy      | 4     | Hg      | <0.6 | Nb      | 5    | Re      | 4    | Te      | <4   | Yb      | 4    |
| Er      | <0.4  | Ho      | 5    | Nd      | <3   | Rh      | <0.2 | Th      | 4    | Zr      | 7    |
| Eu      | <0.5  | In      | <0.2 | P       | <300 | Ru      | <2   |         |      |         |      |

Balances are calibrated regularly with weight sets traceable to NIST#s 32856, 32867 and others. This CRM is guaranteed stable and accurate to ±0.5% of the labeled value. This includes uncertainty components due to preparation, measurement, homogeneity, short-term and long-term stability, as well as transpiration loss. This guarantee is valid for a period of one year from the date of certification only when the material is unopened and stored under ambient laboratory conditions.

Date of Certification: NOV 2014

Certifying Officer: Lang Hinfay

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# Report of Certification

This Certified Reference Material (CRM) has been prepared and certified under an ISO 9001:2008, ISO 17025:2005, and ISO Guide 34:2009 quality system consistent with the following guides:

- ISO 9001: Quality management systems – Requirements – certified by UL-DQS
- ISO 17025: General requirements for the competence of testing and calibration laboratories – accredited by A2LA
- ISO Guide 34: General requirements for the competence of reference material producers – accredited by A2LA
- ISO Guide 31: Reference Materials – Contents of certificates and labels
- ISO Guide 35: Reference Materials – General & Statistical Principles for Certification
- Guide To The Expression Of Uncertainty In Measurement 1997
- EURACHEM/CITAC Guide: Quantifying Uncertainty in Analytical Measurement – Second Edition
- ASTM Guide D6362-98
- NIST Technical Note 1297
- ILAC-G12-2000: Guidelines for the requirements for the competence of reference materials producers
- ISO/REMCO N280

## Material Source:

All analytes and matrix materials are obtained and verified by SPEX CertiPrep from pre-qualified vendors as per ISO 9001:2008, ISO 17025:2005, and ISO Guide 34:2009 guidelines. Vendor identifications are proprietary, however sources of all materials used in the preparation and testing of SPEX CertiPrep CRMs are tracked and documented. For further assistance, please contact the Sales Support Department at [crmsales@spexcsp.com](mailto:crmsales@spexcsp.com).

## Instructions for Use:

Primary usage of this CRM is in neat form or diluted serially with matrix of a purity at or greater than the purity of the original matrix solution. If dilution is required the diluent must be compatible with all certified analytes and contain stabilizers appropriate for the period of intended use. The CRM can also be used as a spike or with a spike, again with appropriate compatibility considerations. All solutions should be thoroughly mixed, by shaking, prior to use and never pipetted directly from the bottle. All surfaces that come in contact with the solution must be thoroughly cleaned and leached prior to use. Dilutions should be performed only with Class A volumetric glassware.

## Method of Preparation:

Clean laboratory procedures and techniques have been used throughout the preparation. All materials, equipment, analytical instrumentation and personnel have been qualified prior to use. The highest purity acids applicable, 18 megohm, double deionized water, acid-leached triple-rinsed bottles (where appropriate), and Class A/calibrated volumetrics have been used in all preparations.

## Homogeneity:

The homogeneity of the CRM has been confirmed by procedures consistent with ISO 17025:2005, ISO Guide 34:2009, and ASTM D6362-98 Appendix X2. Random, replicate samples of the final, packaged material have been analyzed to prove homogeneity in accordance with our internal procedure 4600-HOMOGEN-1A. Since the product is highly homogeneous, any sample size taken for analysis would be within the uncertainty budget. This is consistent with the intended use of the CRM.

## Statistical Estimator and Confidence Limits:

The certified value 'X' listed on the reverse of this document is at the 95% level of confidence and can be expressed as:

- $X = x \pm U$  where  $X$  = certified value,  $U$  = expanded uncertainty,  $x$  = property value
- $U = k u_c$  where  $k = 2$  is the coverage factor at the 95% confidence level
- $u_c$  is obtained by combining the individual element standard uncertainty components  $u_i$ , and  $u_c = \sqrt{\sum u_i^2}$

## Certification Traveler Report:

All certified values reported were derived from the Traveler Report (SPEX CertiPrep's traceability documentation) identified by the lot number of this CRM. During the stated period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution. For further assistance, please contact the Sales Support Department at [crmsales@spexcsp.com](mailto:crmsales@spexcsp.com).

## Legal Notice:

SPEX CertiPrep reference materials are not for any cosmetic, drug or household application and are to be used only by qualified individuals who are trained in appropriate procedures. No claims against SPEX CertiPrep, Inc. of any kind whatsoever, whether based on breach of warranty, alleged negligence, or otherwise, with respect to this Reference Material shall be greater than the purchase price. In no event shall SPEX CertiPrep, Inc. be liable for any loss of profits or any incidental, special, or consequential damages.

Reagent

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**MMSCRI-1B\_00005**

## 1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).



## 2.0 PRODUCT DESCRIPTION

|                     |                                     |     |     |     |
|---------------------|-------------------------------------|-----|-----|-----|
| Product Code:       | Multi Analyte Custom Grade Solution |     |     |     |
| Catalog Number:     | TAPITT-MSCRI-1B-REV1                |     |     |     |
| Lot Number:         | J2-MEB572092                        |     |     |     |
| Matrix:             | 3% (v/v) HNO <sub>3</sub>           |     |     |     |
| Value / Analyte(s): | 125 µg/mL ea:                       |     |     |     |
|                     | Ca,                                 | K,  | Mg, | Na, |
|                     | 12.5 µg/mL ea:                      |     |     |     |
|                     | Fe,                                 |     |     |     |
|                     | 7.5 µg/mL ea:                       |     |     |     |
|                     | Al,                                 |     |     |     |
|                     | 2.5 µg/mL ea:                       |     |     |     |
|                     | Ba,                                 |     |     |     |
|                     | 1.25 µg/mL ea:                      |     |     |     |
|                     | Mn,                                 | Se, | Sr, | Zn, |
|                     | 0.5 µg/mL ea:                       |     |     |     |
|                     | Cr <sub>3</sub> ,                   | Cu, |     |     |
|                     | 0.25 µg/mL ea:                      |     |     |     |
|                     | Ag,                                 | As, | Be, | Cd, |
|                     | Ni,                                 | Pb, | Tl, | V,  |
|                     | 0.125 µg/mL ea:                     |     |     |     |
|                     | Co                                  |     |     |     |

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE         | CERTIFIED VALUE       | ANALYTE       | CERTIFIED VALUE       |
|-----------------|-----------------------|---------------|-----------------------|
| Aluminum, Al    | 7.49 ± 0.05 µg/mL     | Arsenic, As   | 0.2501 ± 0.0021 µg/mL |
| Barium, Ba      | 2.500 ± 0.019 µg/mL   | Beryllium, Be | 0.2500 ± 0.0021 µg/mL |
| Cadmium, Cd     | 0.2501 ± 0.0019 µg/mL | Calcium, Ca   | 125.0 ± 0.6 µg/mL     |
| Chromium+3, Cr3 | 0.5000 ± 0.0041 µg/mL | Cobalt, Co    | 0.1250 ± 0.0011 µg/mL |
| Copper, Cu      | 0.5003 ± 0.0035 µg/mL | Iron, Fe      | 12.50 ± 0.07 µg/mL    |
| Lead, Pb        | 0.2501 ± 0.0017 µg/mL | Magnesium, Mg | 125.0 ± 0.6 µg/mL     |
| Manganese, Mn   | 1.250 ± 0.010 µg/mL   | Nickel, Ni    | 0.2500 ± 0.0020 µg/mL |
| Potassium, K    | 125.0 ± 0.6 µg/mL     | Selenium, Se  | 1.250 ± 0.010 µg/mL   |
| Silver, Ag      | 0.2500 ± 0.0023 µg/mL | Sodium, Na    | 125.0 ± 0.6 µg/mL     |
| Strontium, Sr   | 1.250 ± 0.008 µg/mL   | Thallium, Tl  | 0.2501 ± 0.0021 µg/mL |
| Vanadium, V     | 0.2499 ± 0.0018 µg/mL | Zinc, Zn      | 1.250 ± 0.010 µg/mL   |

Certified Density: 1.019 g/mL (measured at 20 ± 1 °C)

#### Assay Information:

| ANALYTE | METHOD      | NIST SRM# | SRM LOT#     |
|---------|-------------|-----------|--------------|
| Ag      | ICP Assay   | 3151      | 992212       |
| Ag      | Volhard     | 999b      | 999b         |
| Al      | ICP Assay   | 3101a     | 060502       |
| Al      | EDTA        | 928       | 928          |
| As      | Calculated  |           | See Sec. 4.2 |
| As      | ICP Assay   | 3103a     | 100818       |
| Ba      | Gravimetric |           | See Sec. 4.2 |
| Ba      | ICP Assay   | 3104a     | 070222       |
| Be      | Calculated  |           | See Sec. 4.2 |
| Be      | ICP Assay   | 3105a     | 892707       |
| Ca      | ICP Assay   | 3109a     | 050825       |
| Ca      | EDTA        | 928       | 928          |
| Cd      | ICP Assay   | 3108      | 060531       |
| Cd      | EDTA        | 928       | 928          |
| Co      | ICP Assay   | 3113      | 00630        |
| Co      | EDTA        | 928       | 928          |
| Cr3     | Calculated  |           | See Sec. 4.2 |
| Cr3     | ICP Assay   | 3112a     | 030730       |
| Cu      | ICP Assay   | 3114      | 011017       |
| Cu      | EDTA        | 928       | 928          |
| Fe      | ICP Assay   | 3126a     | 051031       |
| Fe      | EDTA        | 928       | 928          |
| K       | Gravimetric |           | See Sec. 4.2 |
| K       | ICP Assay   | 3141a     | 051220       |
| Mg      | ICP Assay   | 3131a     | 050302       |
| Mg      | EDTA        | 928       | 928          |
| Mn      | ICP Assay   | 3132      | 050429       |
| Mn      | EDTA        | 928       | 928          |
| Na      | Calculated  |           | See Sec. 4.2 |
| Na      | ICP Assay   | 3152a     | 120715       |
| Ni      | ICP Assay   | 3136      | 000612       |
| Ni      | EDTA        | 928       | 928          |
| Pb      | ICP Assay   | 3128      | 101026       |
| Pb      | EDTA        | 928       | 928          |
| Se      | Calculated  |           | See Sec. 4.2 |
| Se      | ICP Assay   | 3149      | 100901       |
| Sr      | ICP Assay   | 3153a     | 990906       |
| Sr      | EDTA        | 928       | 928          |
| Tl      | Calculated  |           | See Sec. 4.2 |
| Tl      | ICP Assay   | 3158      | 993012       |
| V       | ICP Assay   | 3165      | 992706       |
| V       | EDTA        | 928       | 928          |
| Zn      | ICP Assay   | 3168a     | 080123       |
| Zn      | EDTA        | 928       | 928          |

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of  $k = 2$ .

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n}$$

$(\bar{x})$  = mean  
 $x_i$  = individual results  
 $n$  = number of measurements

$$\text{Uncertainty } (\pm) = 2 \left[ \sum (s_i)^2 \right]^{1/2}$$

$2$  = the coverage factor.  
 $\left[ \sum (s_i)^2 \right]^{1/2}$  = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

#### 4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

#### **4.1 Thermometer Calibration**

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

#### **4.2 Balance Calibration**

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

#### **4.3 Glassware Calibration**

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

### **5.0 TRACE METALLIC IMPURITIES (TMI ) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)**

N/A

### **6.0 INTENDED USE**

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

### **7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL**

#### **7.1 Storage and Handling Recommendations**

- Keep cap tightly sealed when not in use. Store and use at  $20 \pm 4^\circ \text{C}$ . Do not pipette from the container. Do not return removed aliquots to container.

**Low Silver Note:** This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

### **8.0 HAZARDOUS INFORMATION**

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

### **9.0 HOMOGENEITY**

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

### **10.0 QUALITY STANDARD DOCUMENTATION**

#### **10.1 10CFR50 Appendix B - Nuclear Regulatory Commission**

- Domestic Licensing of Production and Utilization Facilities

#### **10.2 10CFR21 - Nuclear Regulatory Commission**

- Reporting defects and Non-Compliance

#### **10.3 ISO 9001 Quality Management System Registration**

- SAI Global File Number 010105

#### **10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"**

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

#### **10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"**

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

### **11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY**



**11.1 Certification Issue Date**

March 20, 2015

**11.2 Expiration Date**

EXPIRES

01<sup>st</sup> 2016

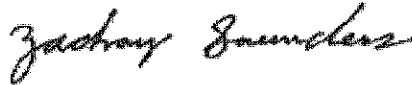
**11.3 Period of Validity**

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.2. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

**12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS**

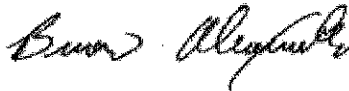
**Certificate Prepared By:**

Zach Saunders  
Product Documentation Technician



**Certificate Approved By:**

Brian Alexander  
PhD., Technical Process Director



**Certifying Officer:**

Paul Gaines  
PhD., Senior Technical Director



Reagent

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**MMSCRI-2\_00007**

## 1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).



## 2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution

Catalog Number: TAPITT-MSCRI-2-REV1

Lot Number: J2-MEB572093

Matrix: 5% (v/v) HNO<sub>3</sub>  
tr. HF

Value / Analyte(s): 125 µg/mL ea:  
Si,  
5 µg/mL ea:  
B,  
1.25 µg/mL ea:  
Mo, Sn, Ti,  
0.5 µg/mL ea:  
Sb

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE        | CERTIFIED VALUE       | ANALYTE      | CERTIFIED VALUE     |
|----------------|-----------------------|--------------|---------------------|
| Antimony, Sb   | 0.5004 ± 0.0037 µg/mL | Boron, B     | 4.998 ± 0.032 µg/mL |
| Molybdenum, Mo | 1.250 ± 0.011 µg/mL   | Silicon, Si  | 125.0 ± 1.0 µg/mL   |
| Tin, Sn        | 1.250 ± 0.010 µg/mL   | Titanium, Ti | 1.250 ± 0.010 µg/mL |

Certified Density: 1.023 g/mL (measured at 20 ± 1 °C)

### Assay Information:

| ANALYTE | METHOD     | NIST SRM# | SRM LOT#     |
|---------|------------|-----------|--------------|
| B       | Calculated |           | See Sec. 4.2 |
| B       | ICP Assay  | 3107      | 070514       |
| Mo      | Calculated |           | See Sec. 4.2 |
| Mo      | ICP Assay  | 3134      | 891307       |
| Sb      | Calculated |           | See Sec. 4.2 |
| Sb      | ICP Assay  | 3102A     | 061229       |
| Si      | Calculated |           | See Sec. 4.2 |
| Si      | ICP Assay  | 3150      | 071204       |
| Sn      | Calculated |           | See Sec. 4.2 |
| Sn      | ICP Assay  | 3161a     | 070330       |
| Ti      | Calculated |           | See Sec. 4.2 |
| Ti      | ICP Assay  | 3162a     | 060808       |

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of  $k = 2$ .

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n}$$

$(\bar{x})$  = mean

$x_i$  = individual results

$n$  = number of measurements

$$\text{Uncertainty } (\pm) = 2 \left[ \sum (s_i)^2 \right]^{1/2}$$

2 = the coverage factor.

$\left[ \sum (s_i)^2 \right]^{1/2}$  = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

#### 4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

##### 4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

##### 4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

##### 4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

#### 5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

#### 6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

#### 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

##### 7.1 Storage and Handling Recommendations

- Keep cap tightly sealed when not in use. Store and use at  $20 \pm 4^\circ \text{C}$ . Do not pipette from the container. Do not return removed aliquots to container.

HF Note: This standard should not be prepared or stored in glass.

#### 8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

#### 9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

#### 10.0 QUALITY STANDARD DOCUMENTATION

##### 10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

##### 10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

##### 10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

March 20, 2015

11.2 Expiration Date

EXPIRES  
01<sup>st</sup> 2016

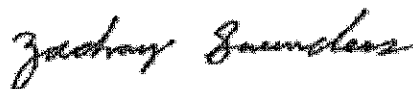
11.3 Period of Validity

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.2. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

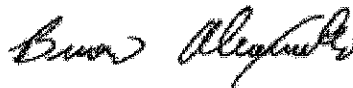
Certificate Prepared By:

Zach Saunders  
Product Documentation Technician



Certificate Approved By:

Brian Alexander  
PhD., Technical Process Director



Certifying Officer:

Paul Gaines  
PhD., Senior Technical Director



Reagent

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**MMSICSAB-1\_00007**

**1.0** INORGANIC VENTURES is an ISO Guide 34 "General Requirements for the Competence of Reference Material Producers" and ISO 9001 registered manufacturer. Our manufacturing laboratory is accredited to ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories."



**2.0 DESCRIPTION OF CRM**      **Custom Solution**  
Catalog No.:      TAPITT-MSICSAB-1  
Lot Number:      **H2-MEB524028**  
Matrix:      3% HNO<sub>3</sub>(v/v)

10 µg/mL ea:

Ba,      Be,      Pb,      Sr,      Tl,      V

### 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ELEMENT       | CERTIFIED VALUE    | ELEMENT       | CERTIFIED VALUE    | ELEMENT     | CERTIFIED VALUE    |
|---------------|--------------------|---------------|--------------------|-------------|--------------------|
| Barium, Ba    | 9.99 ± 0.06 µg/mL  | Beryllium, Be | 10.00 ± 0.06 µg/mL | Lead, Pb    | 10.01 ± 0.05 µg/mL |
| Strontium, Sr | 10.00 ± 0.06 µg/mL | Thallium, Tl  | 10.00 ± 0.06 µg/mL | Vanadium, V | 9.99 ± 0.06 µg/mL  |

**Certified Density:**      1.022      g/mL (measured at 20 ± 1° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n}$$

( $\bar{x}$ ) = mean

$x_i$  = individual results

n = number of measurements

$$\text{Uncertainty } (\pm) = 2 \left[ \sum (s_i)^2 \right]^{1/2}$$

2 = the coverage factor.

$\left[ \sum (s_i)^2 \right]^{1/2}$  = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

### 4.0 TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS

· "Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." (ISO VIM, 2nd ed., 1993, definition 6.10)

· This product is Traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRMs are available, the term 'in-house std.' is specified.

· The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a NIST SRM/RM. See section 4.2 for balance traceability.

#### 4.1 ASSAY INFORMATION

| ELEMENT | METHOD      | NIST SRM# | SRM LOT#     |
|---------|-------------|-----------|--------------|
| Ba      | Gravimetric |           | See Sec. 4.2 |
| Ba      | ICP Assay   | 3104a     | 070222       |
| Be      | Calculated  |           | See Sec. 4.2 |
| Be      | ICP Assay   | 3105a     | 090514       |
| Pb      | ICP Assay   | 3128      | 101026       |
| Pb      | EDTA        | 928       | 928          |
| Sr      | ICP Assay   | 3153a     | 990906       |
| Sr      | EDTA        | 928       | 928          |
| Ti      | Calculated  |           | See Sec. 4.2 |
| Ti      | ICP Assay   | 3158      | 993012       |
| V       | ICP Assay   | 3165      | 992706       |
| V       | EDTA        | 928       | 928          |

**4.2 BALANCE CALIBRATION** - All analytical balances are calibrated yearly by an accredited calibration laboratory and are traceable to a class E 2 analytical weight set with NIST Traceability. All balances are checked daily using an in-house procedure. The weights used for testing are annually compared to master weights and are traceable to the National Institute of Standards and Technology (NIST).

**4.3 THERMOMETER CALIBRATION** - All thermometers are NIST traceable through thermometers that are calibrated by an A2LA accredited calibration laboratory.

**4.4 GLASSWARE CALIBRATION** - An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM's.

#### 5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES IN µg/mL - N/A

#### 6.0 INTENDED USE

For the calibration of analytical instruments including but not limited to the following:  
HPLC, IC, TLC, ISE, IR, NMR, UV/VIS, MS, Capillary Electrophoresis, Potentiometry, Wet Chemistry and Voltammetry  
For the validation of analytical methods  
For the preparation of "working reference samples"  
For interference studies and the determination of correction coefficients  
For detection limit and linearity studies  
For additional intended uses, contact Technical Staff

This CRM was manufactured using 18 megohm doubly deionized water that has been filtered through a 0.2 micron filter.

#### 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

**Storage & Handling** - Keep **Tightly** sealed when not in use. Store and use at  $20 \pm 4^\circ\text{C}$ . **Do Not** pipette from the container. **Do Not** return portions removed from pipetting to container.

**Element Specific Information** - For specific information regarding any element: Contact technical staff.

**Uranium Note:** If uranium is present in this standard, it is natural abundance unless specified in Section 3.0.

#### 8.0 HAZARDOUS INFORMATION - Please refer to the enclosed Material Safety Data sheet for information regarding this CRM.

#### 9.0 HOMOGENEITY - This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Inorganic Ventures homogeneity data indicate that the end user should take a minimum sample size of 0.2mL to assure homogeneity.



## 10.0 QUALITY STANDARD DOCUMENTATION

### 10.1 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

### 10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration"

- Chemical Testing - Accredited A2LA Certificate Number 883.01

### 10.3 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Materials Production - Accredited A2LA Certificate Number 883.02

### 10.4 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

### 10.5 10CFR21 - Nuclear Regulatory Commission

- Reporting Defects and Non-Compliance

## 11.0 DATE OF CERTIFICATION AND PERIOD OF VALIDITY

**11.1 Shelf Life** - The period of time during which the concentration of the analyte(s) in a properly packaged, unopened, and unused standard stored under environmentally controlled and monitored conditions will remain within the specified uncertainty range. Shelf life is limited primarily by transpiration (loss of water from the solution) and infrequently, by chemical instability. Transpiration studies of chemically-stable solutions performed at the manufacturer's facility show a CRM shelf-life of twenty one months for solutions packaged in 125-mL low density polyethylene bottles. When stored under special conditions that minimize transpiration and instability, the shelf life can be extended past this limit.

**11.2 Expiration Date** - The date after which a CRM should not be used. Routine laboratory use of a CRM increases transpiration losses and the chance of contamination which affect the integrity of the CRM and limit its useful life. Manufacturer concurs with state and federal regulatory agencies' recommendations that solution standards be assigned a one-year expiration date.

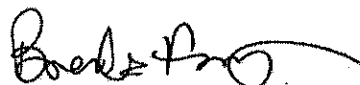
**11.3 Chemical Stability** - Studies have been conducted on this or similar CRMs and it has been demonstrated that this CRM is chemically stable for a period of not less than two years provided the "Storage & Handling" conditions are followed that are described in section 7.0.

Certification Date: April 04, 2014

Expiration Date: **EXPIRES**  
01/13/2015

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By: Brenda Francis  
Product Documentation Technician



Certificate Approved By: Brian Alexander  
PhD., Technical Process Director



Certifying Officer: Paul Gaines  
PhD., Senior Technical Director



Reagent

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**MMSICSAB-2\_00006**

**1.0** INORGANIC VENTURES is an ISO Guide 34 "General Requirements for the Competence of Reference Material Producers" and ISO 9001 registered manufacturer. Our manufacturing laboratory is accredited to ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories."



**2.0 DESCRIPTION OF CRM**      **Custom Solution**  
 Catalog No.:      TAPITT-MSICSAB-2  
 Lot Number:      G2-MEB467043  
 Matrix:      3% HNO<sub>3</sub>(v/v),  
                  tr. HF

250 µg/mL ea:

Si,

50 µg/mL ea:

Sn,

25 µg/mL ea:

B,      Se,

10 µg/mL ea:

Sb

### 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ELEMENT      | CERTIFIED VALUE    | ELEMENT  | CERTIFIED VALUE    | ELEMENT      | CERTIFIED VALUE    |
|--------------|--------------------|----------|--------------------|--------------|--------------------|
| Antimony, Sb | 10.00 ± 0.06 µg/mL | Boron, B | 24.98 ± 0.17 µg/mL | Selenium, Se | 25.01 ± 0.21 µg/mL |
| Silicon, Si  | 249.9 ± 1.6 µg/mL  | Tin, Sn  | 50.04 ± 0.36 µg/mL |              |                    |

**Certified Density:**      1.018      g/mL (measured at 20 ± 1° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n}$$

( $\bar{x}$ ) = mean

$x_i$  = individual results

n = number of measurements

$$\text{Uncertainty } (\pm) = 2 \left[ \sum (s_i)^2 \right]^{1/2}$$

2 = the coverage factor.

$\left[ \sum (s_i)^2 \right]^{1/2}$  = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

#### 4.0 TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS

- "Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." (ISO VIM, 2nd ed., 1993, definition 6.10)
- This product is Traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRMs are available, the term 'in-house std.' is specified.
- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a NIST SRM/RM. See section 4.2 for balance traceability.

#### 4.1 ASSAY INFORMATION

| ELEMENT | METHOD     | NIST SRM# | SRM LOT#     |
|---------|------------|-----------|--------------|
| B       | ICP Assay  | 3107      | 070514       |
| Sb      | Calculated |           | See Sec. 4.2 |
| Sb      | ICP Assay  | 3102A     | 061229       |
| Se      | Calculated |           | See Sec. 4.2 |
| Se      | ICP Assay  | 3149      | 992106       |
| Si      | Calculated |           | See Sec. 4.2 |
| Si      | ICP Assay  | 3150      | 071204       |
| Sn      | Calculated |           | See Sec. 4.2 |
| Sn      | ICP Assay  | 3161a     | 070330       |

- 4.2 BALANCE CALIBRATION** - All analytical balances are calibrated yearly by an accredited calibration laboratory and are traceable to a class E 2 analytical weight set with NIST Traceability. All balances are checked daily using an in-house procedure. The weights used for testing are annually compared to master weights and are traceable to the National Institute of Standards and Technology (NIST).
- 4.3 THERMOMETER CALIBRATION** - All thermometers are NIST traceable through thermometers that are calibrated by an A2LA accredited calibration laboratory.
- 4.4 GLASSWARE CALIBRATION** - An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM's.

#### 5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES IN µg/mL - N/A

#### 6.0 INTENDED USE

For the calibration of analytical instruments including but not limited to the following:  
HPLC, IC, TLC, ISE, IR, NMR, UV/VIS, MS, Capillary Electrophoresis, Potentiometry, Wet Chemistry and Voltammetry  
For the validation of analytical methods  
For the preparation of "working reference samples"  
For interference studies and the determination of correction coefficients  
For detection limit and linearity studies  
For additional intended uses, contact Technical Staff

This CRM was manufactured using 18 megohm doubly deionized water that has been filtered through a 0.2 micron filter.

#### 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

**Storage & Handling** - Keep **Tightly** sealed when not in use. Store and use at  $20 \pm 4^\circ\text{C}$ . **Do Not** pipette from the container. **Do Not** return portions removed from pipetting to container.

**Element Specific Information** - For specific information regarding any element; Contact technical staff.

**Uranium Note:** If uranium is present in this standard, it is natural abundance unless specified in Section 3.0.

**HF Note:** This standard should not be prepared or stored in glass.

#### 8.0 HAZARDOUS INFORMATION - Please refer to the enclosed Material Safety Data sheet for information regarding this CRM.

#### 9.0 HOMOGENEITY - This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Inorganic Ventures homogeneity data indicate that the end user should take a minimum sample size of 0.2mL to assure homogeneity.

## 10.0 QUALITY STANDARD DOCUMENTATION

- 10.1 ISO 9001 Quality Management System Registration  
- SAI Global File Number 010105
- 10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration"  
- Chemical Testing - Accredited A2LA Certificate Number 883.01
- 10.3 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"  
- Reference Materials Production - Accredited A2LA Certificate Number 883.02
- 10.4 10CFR50 Appendix B - Nuclear Regulatory Commission  
- Domestic Licensing of Production and Utilization Facilities
- 10.5 10CFR21 - Nuclear Regulatory Commission  
- Reporting Defects and Non-Compliance

## 11.0 DATE OF CERTIFICATION AND PERIOD OF VALIDITY

**11.1 Shelf Life** - The period of time during which the concentration of the analyte(s) in a properly packaged, unopened, and unused standard stored under environmentally controlled and monitored conditions will remain within the specified uncertainty range. Shelf life is limited primarily by transpiration (loss of water from the solution) and infrequently, by chemical instability. Transpiration studies of chemically-stable solutions performed at the manufacturer's facility show a CRM shelf-life of twenty one months for solutions packaged in 125-mL low density polyethylene bottles. When stored under special conditions that minimize transpiration and instability, the shelf life can be extended past this limit.

**11.2 Expiration Date** - The date after which a CRM should not be used. Routine laboratory use of a CRM increases transpiration losses and the chance of contamination which affect the integrity of the CRM and limit its useful life. Manufacturer concurs with state and federal regulatory agencies' recommendations that solution standards be assigned a one-year expiration date.

**11.3 Chemical Stability** - Studies have been conducted on this or similar CRMs and it has been demonstrated that this CRM is chemically stable for a period of not less than two years provided the "Storage & Handling" conditions are followed that are described in section 7.0.

**Certification Date:** March 08, 2013

**Expiration Date:** **EXPIRES**  
01/2015

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

**Certificate Prepared By:** Donna Senn  
Product Documentation Technician

*Donna Senn*

**Certificate Approved By:** Brian Alexander  
PhD., Technical Process Director

*Brian Alexander*

**Certifying Officer:** Paul Gaines  
PhD., Senior Technical Director

*Paul R. Gaines*

Reagent

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**MTAPITTCALTRA\_00006**

# 1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).



# 2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution  
Catalog Number: TAPITT-CAL-TRA  
Lot Number: H2-MEB538053  
Matrix: 3% (v/v) HNO<sub>3</sub>  
Value / Analyte(s): 100 µg/mL ea:  
Ag, TI,  
50 µg/mL ea:  
As, Cd, Pb, Sb, Se

REC 7.21.14

# 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE      | CERTIFIED VALUE    | ANALYTE      | CERTIFIED VALUE    | ANALYTE     | CERTIFIED VALUE    |
|--------------|--------------------|--------------|--------------------|-------------|--------------------|
| Antimony, Sb | 50.01 ± 0.38 µg/mL | Arsenic, As  | 49.99 ± 0.33 µg/mL | Cadmium, Cd | 50.01 ± 0.23 µg/mL |
| Lead, Pb     | 50.03 ± 0.25 µg/mL | Selenium, Se | 49.99 ± 0.31 µg/mL | Silver, Ag  | 100.0 ± 0.6 µg/mL  |
| Thallium, Tl | 100.0 ± 0.7 µg/mL  |              |                    |             |                    |

Certified Density: 1.014 g/mL (measured at 20 ± 1 °C)

# Assay Information:

| ANALYTE | METHOD     | NIST SRM# | SRM LOT#     |
|---------|------------|-----------|--------------|
| Ag      | ICP Assay  | 3151      | 992212       |
| Ag      | Volhard    | 999b      | 999b         |
| As      | Calculated |           | See Sec. 4.2 |
| As      | ICP Assay  | 3103a     | 100818       |
| Cd      | ICP Assay  | 3108      | 060531       |
| Cd      | EDTA       | 928       | 928          |
| Pb      | ICP Assay  | 3128      | 101026       |
| Pb      | EDTA       | 928       | 928          |
| Sb      | Calculated |           | See Sec. 4.2 |
| Sb      | ICP Assay  | 3102A     | 061229       |
| Se      | Calculated |           | See Sec. 4.2 |
| Se      | ICP Assay  | 3149      | 100901       |
| Tl      | Calculated |           | See Sec. 4.2 |
| Tl      | ICP Assay  | 3158      | 993012       |

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n}$$

( $\bar{x}$ ) = mean  
 $x_i$  = individual results  
n = number of measurements

$$\text{Uncertainty } (\pm) = 2 \left[ \sum (s_i)^2 \right]^{1/2}$$

2 = the coverage factor.  
 $\left[ \sum (s_i)^2 \right]^{1/2}$  = The square root of the sum of the squares of the most common errors (where s stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

# 4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

#### **4.1 Thermometer Calibration**

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

#### **4.2 Balance Calibration**

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

#### **4.3 Glassware Calibration**

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

### **5.0 TRACE METALLIC IMPURITIES (TMI ) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)**

N/A

### **6.0 INTENDED USE**

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

### **7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL**

#### **7.1 Storage and Handling Recommendations**

- Keep tightly sealed when not in use. Store and use at  $20 \pm 4^\circ\text{C}$ . Do not pipette from the container. Do not return removed aliquots to container.

### **8.0 HAZARDOUS INFORMATION**

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

### **9.0 HOMOGENEITY**

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

### **10.0 QUALITY STANDARD DOCUMENTATION**

#### **10.1 10CFR50 Appendix B - Nuclear Regulatory Commission**

- Domestic Licensing of Production and Utilization Facilities

#### **10.2 10CFR21 - Nuclear Regulatory Commission**

- Reporting defects and Non-Compliance

#### **10.3 ISO 9001 Quality Management System Registration**

- SAI Global File Number 010105

#### **10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"**

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

#### **10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"**

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

### **11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY**

#### **11.1 Certification Issue Date**

July 16, 2014

#### **11.2 Expiration Date**

**EXPIRES**  
01/02/2015

#### **11.3 Period of Validity**

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.2. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.



12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

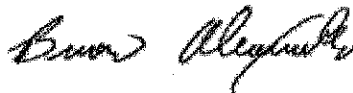
Certificate Prepared By:

Donna Senn  
Product Documentation Technician



Certificate Approved By:

Brian Alexander  
PhD., Technical Process Director



Certifying Officer:

Paul Gaines  
PhD., Senior Technical Director



Reagent

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**MTAPITTCALTRC\_00006**

### 1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).



### 2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution

Catalog Number: TAPITT-CAL-TRC-REV

Lot Number: H2-MEB538055

Matrix: 3% (v/v) HNO<sub>3</sub>

Value / Analyte(s): 200 µg/mL ea:

|     |     |     |     |      |     |
|-----|-----|-----|-----|------|-----|
| B,  | Ba, | Be, | Co, | Cr3, | Cu, |
| Li, | Mn, | Ni, | Sr, | V,   | Zn  |

REC 7-21-14

### 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE         | CERTIFIED VALUE   | ANALYTE       | CERTIFIED VALUE   | ANALYTE    | CERTIFIED VALUE   |
|-----------------|-------------------|---------------|-------------------|------------|-------------------|
| Barium, Ba      | 200.0 ± 1.0 µg/mL | Beryllium, Be | 200.0 ± 1.1 µg/mL | Boron, B   | 200.0 ± 1.3 µg/mL |
| Chromium+3, Cr3 | 200.1 ± 1.0 µg/mL | Cobalt, Co    | 200.0 ± 1.0 µg/mL | Copper, Cu | 200.1 ± 1.3 µg/mL |
| Lithium, Li     | 200.0 ± 1.3 µg/mL | Manganese, Mn | 200.0 ± 0.9 µg/mL | Nickel, Ni | 200.0 ± 1.0 µg/mL |
| Strontium, Sr   | 200.0 ± 1.3 µg/mL | Vanadium, V   | 200.0 ± 1.0 µg/mL | Zinc, Zn   | 200.0 ± 1.1 µg/mL |

Certified Density: 1.023 g/mL (measured at 20 ± 1 °C)

#### Assay Information:

| ANALYTE | METHOD      | NIST SRM# | SRM LOT#     |
|---------|-------------|-----------|--------------|
| B       | ICP Assay   | 3107      | 070514       |
| Ba      | Gravimetric |           | See Sec. 4.2 |
| Ba      | ICP Assay   | 3104a     | 070222       |
| Be      | Calculated  |           | See Sec. 4.2 |
| Be      | ICP Assay   | 3105a     | 090514       |
| Co      | ICP Assay   | 3113      | 000630 Co    |
| Co      | EDTA        | 928       | 928          |
| Cr3     | Calculated  |           | See Sec. 4.2 |
| Cr3     | ICP Assay   | 3112a     | 030730       |
| Cu      | ICP Assay   | 3114      | 011017       |
| Cu      | EDTA        | 928       | 928          |
| Li      | Gravimetric |           | See Sec. 4.2 |
| Li      | ICP Assay   | 3129a     | 100714       |
| Mn      | ICP Assay   | 3132      | 050429       |
| Mn      | EDTA        | 928       | 928          |
| Ni      | ICP Assay   | 3136      | 120619       |
| Ni      | EDTA        | 928       | 928          |
| Sr      | ICP Assay   | 3153a     | 990906       |
| Sr      | EDTA        | 928       | 928          |
| V       | ICP Assay   | 3165      | 992706       |
| V       | EDTA        | 928       | 928          |
| Zn      | ICP Assay   | 3168a     | 120629       |
| Zn      | EDTA        | 928       | 928          |

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n}$$

$$\text{Uncertainty } (\pm) = 2 \left[ \sum (s_i)^2 \right]^{1/2}$$

$(\bar{x})$  = mean

$x_i$  = individual results

$n$  = number of measurements

2 = the coverage factor.

$\left[ \sum (s_i)^2 \right]^{1/2}$  = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

#### 4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

##### 4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

##### 4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

##### 4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

#### 5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

#### 6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

#### 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

##### 7.1 Storage and Handling Recommendations

- Keep tightly sealed when not in use. Store and use at  $20 \pm 4^\circ\text{C}$ . Do not pipette from the container. Do not return removed aliquots to container.

#### 8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

#### 9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

#### 10.0 QUALITY STANDARD DOCUMENTATION

##### 10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

##### 10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

##### 10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

##### 10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

##### 10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

**11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY**

**11.1 Certification Issue Date**

July 16, 2014

**11.2 Expiration Date**

**EXPIRES**  
01/2015

**11.3 Period of Validity**

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.2. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

**12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS**

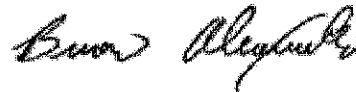
**Certificate Prepared By:**

Donna Senn  
Product Documentation Technician



**Certificate Approved By:**

Brian Alexander  
PhD., Technical Process Director



**Certifying Officer:**

Paul Gaines  
PhD., Senior Technical Director



Reagent

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**MTAPITTCRA1DO\_00003**

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**1.0 INORGANIC VENTURES** is an ISO Guide 34 "General Requirements for the Competence of Reference Material Producers" and ISO 9001 registered manufacturer. Our manufacturing laboratory is accredited to ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories."



**2.0 DESCRIPTION OF CRM**      **Custom Solution**  
Catalog No.:      TAPITT-CRA-1DOD  
Lot Number:      H2-MEB526045  
Matrix:      5% HNO<sub>3</sub>(v/v)

Rec 5.19.14

500 µg/mL ea:  
Ca,      K,      Mg,      Na,  
20 µg/mL ea:  
Al,      Ba,  
10 µg/mL ea:  
Fe,  
5 µg/mL ea:  
Co,      Li,      Sr,      V,  
4 µg/mL ea:  
Ni,  
2.5 µg/mL ea:  
Cu,  
2 µg/mL ea:  
Tl,      Zn,  
1.5 µg/mL ea:  
Mn,  
1 µg/mL ea:  
As,      Pb,      Se,  
0.5 µg/mL ea:  
Ag,      Cd,      Cr<sub>3</sub>,  
0.4 µg/mL ea:  
Be

### 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ELEMENT                     | CERTIFIED VALUE       | ELEMENT       | CERTIFIED VALUE       | ELEMENT     | CERTIFIED VALUE       |
|-----------------------------|-----------------------|---------------|-----------------------|-------------|-----------------------|
| Aluminum, Al                | 20.00 ± 0.13 µg/mL    | Arsenic, As   | 1.000 ± 0.007 µg/mL   | Barium, Ba  | 20.00 ± 0.13 µg/mL    |
| Beryllium, Be               | 0.3998 ± 0.0030 µg/mL | Cadmium, Cd   | 0.5000 ± 0.0038 µg/mL | Calcium, Ca | 500.0 ± 3.0 µg/mL     |
| Chromium+3, Cr <sub>3</sub> | 0.5004 ± 0.0035 µg/mL | Cobalt, Co    | 4.999 ± 0.032 µg/mL   | Copper, Cu  | 2.500 ± 0.016 µg/mL   |
| Iron, Fe                    | 10.00 ± 0.06 µg/mL    | Lead, Pb      | 1.000 ± 0.005 µg/mL   | Lithium, Li | 5.000 ± 0.025 µg/mL   |
| Magnesium, Mg               | 500.0 ± 3.8 µg/mL     | Manganese, Mn | 1.501 ± 0.009 µg/mL   | Nickel, Ni  | 4.000 ± 0.023 µg/mL   |
| Potassium, K                | 500.0 ± 3.0 µg/mL     | Selenium, Se  | 1.000 ± 0.006 µg/mL   | Silver, Ag  | 0.5004 ± 0.0041 µg/mL |

|             |                     |               |                     |              |                     |
|-------------|---------------------|---------------|---------------------|--------------|---------------------|
| Sodium, Na  | 500.0 ± 2.9 µg/mL   | Strontium, Sr | 5.000 ± 0.032 µg/mL | Thallium, Tl | 2.000 ± 0.013 µg/mL |
| Vanadium, V | 5.001 ± 0.032 µg/mL | Zinc, Zn      | 2.000 ± 0.013 µg/mL |              |                     |

**Certified Density:** 1.031 g/mL (measured at 20 ± 1° C)

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n}$$

( $\bar{x}$ ) = mean

$x_i$  = individual results

n = number of measurements

$$\text{Uncertainty } (\pm) = 2 \left[ \sum (s_i)^2 \right]^{1/2}$$

2 = the coverage factor.

$\left[ \sum (s_i)^2 \right]^{1/2}$  = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

#### 4.0 TRACEABILITY TO NIST AND VALUES OBTAINED BY INDEPENDENT METHODS

- "Property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." (ISO VIM, 2nd ed., 1993, definition 6.10)

- This product is Traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRMs are available, the term 'in-house std.' is specified.

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a NIST SRM/RM. See section 4.2 for balance traceability.



## 4.1 ASSAY INFORMATION

| ELEMENT | METHOD      | NIST SRM# | SRM LOT#     |
|---------|-------------|-----------|--------------|
| Ag      | ICP Assay   | 3151      | 992212       |
| Ag      | Volhard     | 999b      | 999b         |
| Al      | ICP Assay   | 3101a     | 060502       |
| Al      | EDTA        | 928       | 928          |
| As      | Calculated  |           | See Sec. 4.2 |
| As      | ICP Assay   | 3103a     | 100818       |
| Ba      | Gravimetric |           | See Sec. 4.2 |
| Ba      | ICP Assay   | 3104a     | 070222       |
| Be      | Calculated  |           | See Sec. 4.2 |
| Be      | ICP Assay   | 3105a     | 090514       |
| Ca      | ICP Assay   | 3109a     | 050825       |
| Ca      | EDTA        | 928       | 928          |
| Cd      | ICP Assay   | 3108      | 060531       |
| Cd      | EDTA        | 928       | 928          |
| Co      | ICP Assay   | 3113      | 00630        |
| Co      | EDTA        | 928       | 928          |
| Cr3     | Calculated  |           | See Sec. 4.2 |
| Cr3     | ICP Assay   | 3112a     | 030730       |
| Cu      | ICP Assay   | 3114      | 011017       |
| Cu      | EDTA        | 928       | 928          |
| Fe      | ICP Assay   | 3126a     | 051031       |
| Fe      | EDTA        | 928       | 928          |
| K       | Gravimetric |           | See Sec. 4.2 |
| K       | ICP Assay   | 3141a     | 051220       |
| Li      | Gravimetric |           | See Sec. 4.2 |
| Li      | ICP Assay   | 3129a     | 100714       |
| Mg      | ICP Assay   | 3131a     | 050302       |
| Mg      | EDTA        | 928       | 928          |
| Mn      | ICP Assay   | 3132      | 050429       |
| Mn      | EDTA        | 928       | 928          |
| Na      | Gravimetric |           | See Sec. 4.2 |
| Na      | ICP Assay   | 3152a     | 120715       |
| Ni      | ICP Assay   | 3136      | 000612       |
| Ni      | EDTA        | 928       | 928          |
| Pb      | ICP Assay   | 3128      | 101026       |
| Pb      | EDTA        | 928       | 928          |
| Se      | Calculated  |           | See Sec. 4.2 |
| Se      | ICP Assay   | 3149      | 100901       |
| Sr      | ICP Assay   | 3153a     | 990906       |
| Sr      | EDTA        | 928       | 928          |
| Ti      | Calculated  |           | See Sec. 4.2 |
| Ti      | ICP Assay   | 3158      | 993012       |
| V       | ICP Assay   | 3165      | 992706       |
| V       | EDTA        | 928       | 928          |
| Zn      | ICP Assay   | 3168a     | 080123       |

- 4.2 **BALANCE CALIBRATION** - All analytical balances are calibrated yearly by an accredited calibration laboratory and are traceable to a class E 2 analytical weight set with NIST Traceability. All balances are checked daily using an in-house procedure. The weights used for testing are annually compared to master weights and are traceable to the National Institute of Standards and Technology (NIST).
- 4.3 **THERMOMETER CALIBRATION** - All thermometers are NIST traceable through thermometers that are calibrated by an A2LA accredited calibration laboratory.
- 4.4 **GLASSWARE CALIBRATION** - An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM's.

5.0 **TRACE METALLIC IMPURITIES (TMI ) DETERMINED BY ICP-MS AND ICP-OES IN µg/mL - N/A**

6.0 **INTENDED USE**

For the calibration of analytical instruments including but not limited to the following:  
HPLC, IC, TLC, ISE, IR, NMR, UV/VIS, MS, Capillary Electrophoresis, Potentiometry, Wet Chemistry and Voltammetry  
For the validation of analytical methods  
For the preparation of "working reference samples"  
For interference studies and the determination of correction coefficients  
For detection limit and linearity studies  
For additional intended uses, contact Technical Staff

This CRM was manufactured using 18 megohm doubly deionized water that has been filtered through a 0.2 micron filter.

7.0 **INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL**

**Storage & Handling** - Keep Tightly sealed when not in use. Store and use at  $20 \pm 4^{\circ}\text{C}$ . Do Not pipette from the container. Do Not return portions removed from pipetting to container.

**Element Specific Information** - For specific information regarding any element: Contact technical staff.

**Uranium Note:** If uranium is present in this standard, it is natural abundance unless specified in Section 3.0.

**Low Silver Note:** This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

8.0 **HAZARDOUS INFORMATION** - Please refer to the enclosed Material Safety Data sheet for information regarding this CRM.

9.0 **HOMOGENEITY** - This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous.  
Inorganic Ventures homogeneity data indicate that the end user should take a minimum sample size of 0.2mL to assure homogeneity.

10.0 **QUALITY STANDARD DOCUMENTATION**

- 10.1 **ISO 9001 Quality Management System Registration**  
- SAI Global File Number 010105

- 10.2 **ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration"**  
- Chemical Testing - Accredited A2LA Certificate Number 883.01

- 10.3 **ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"**  
- Reference Materials Production - Accredited A2LA Certificate Number 883.02

- 10.4 **10CFR50 Appendix B - Nuclear Regulatory Commission**  
- Domestic Licensing of Production and Utilization Facilities

- 10.5 **10CFR21 - Nuclear Regulatory Commission**  
- Reporting Defects and Non-Compliance

## 11.0 DATE OF CERTIFICATION AND PERIOD OF VALIDITY

**11.1 Shelf Life** - The period of time during which the concentration of the analyte(s) in a properly packaged, unopened, and unused standard stored under environmentally controlled and monitored conditions will remain within the specified uncertainty range. Shelf life is limited primarily by transpiration (loss of water from the solution) and infrequently, by chemical instability. Transpiration studies of chemically-stable solutions performed at the manufacturer's facility show a CRM shelf-life of twenty one months for solutions packaged in 125-mL low density polyethylene bottles. When stored under special conditions that minimize transpiration and instability, the shelf life can be extended past this limit.

**11.2 Expiration Date** - The date after which a CRM should not be used. Routine laboratory use of a CRM increases transpiration losses and the chance of contamination which affect the integrity of the CRM and limit its useful life. Manufacturer concurs with state and federal regulatory agencies' recommendations that solution standards be assigned a one-year expiration date.

**11.3 Chemical Stability** - Studies have been conducted on this or similar CRMs and it has been demonstrated that this CRM is chemically stable for a period of not less than two years provided the "Storage & Handling" conditions are followed that are described in section 7.0.

Certification Date: May 09, 2014

Expiration Date:

EXPIRES  
12/2015

## 12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By: Christy Shortridge  
Product Documentation Technician

*Christy Shortridge*

Certificate Approved By: Brian Alexander  
PhD., Technical Process Director

*Brian Alexander*

Certifying Officer: Paul Gaines  
PhD., Senior Technical Director

*Paul R. Gaines*

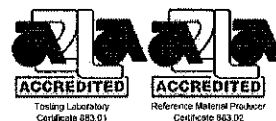
Reagent

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**MTAPITTTICPMS\_00020**

## 1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).



## 2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution

Catalog Number: TAPITT-MS-ICPMS

Lot Number: H2-MEB532047

Matrix: 0.7% (v/v) HNO<sub>3</sub>

Value / Analyte(s):

200 µg/mL ea:  
Al, Ba,

100 µg/mL ea:  
B, Fe, Sr,

50 µg/mL ea:  
Co, Mn, Ni, V, Zn,

25 µg/mL ea:  
Cu,

20 µg/mL ea:  
Cr<sub>3</sub>,

5 µg/mL ea:  
Ag, Be, Cd, Tl,

4 µg/mL ea:  
As,

2 µg/mL ea:  
Pb,

1 µg/mL ea:  
Se

*Rec'd  
6/17/14  
RJR*

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ELEMENT                     | CERTIFIED VALUE     | ELEMENT      | CERTIFIED VALUE     | ELEMENT       | CERTIFIED VALUE     |
|-----------------------------|---------------------|--------------|---------------------|---------------|---------------------|
| Aluminum, Al                | 200.0 ± 1.0 µg/mL   | Arsenic, As  | 4.002 ± 0.028 µg/mL | Barium, Ba    | 200.0 ± 1.0 µg/mL   |
| Beryllium, Be               | 5.000 ± 0.029 µg/mL | Boron, B     | 100.0 ± 0.7 µg/mL   | Cadmium, Cd   | 5.000 ± 0.024 µg/mL |
| Chromium+3, Cr <sub>3</sub> | 20.00 ± 0.10 µg/mL  | Cobalt, Co   | 50.02 ± 0.25 µg/mL  | Copper, Cu    | 25.00 ± 0.17 µg/mL  |
| Iron, Fe                    | 100.0 ± 0.5 µg/mL   | Lead, Pb     | 2.000 ± 0.010 µg/mL | Manganese, Mn | 49.99 ± 0.22 µg/mL  |
| Nickel, Ni                  | 50.02 ± 0.24 µg/mL  | Selenium, Se | 1.001 ± 0.006 µg/mL | Silver, Ag    | 5.002 ± 0.032 µg/mL |
| Strontium, Sr               | 100.0 ± 0.6 µg/mL   | Thallium, Tl | 5.002 ± 0.033 µg/mL | Vanadium, V   | 50.00 ± 0.24 µg/mL  |
| Zinc, Zn                    | 50.02 ± 0.28 µg/mL  |              |                     |               |                     |

Certified Density: 1.003 g/mL (measured at 20 ± 1 °C)

Assay Information:

| ELEMENT | METHOD      | NIST SRM# | SRM LOT#     |
|---------|-------------|-----------|--------------|
| Ag      | ICP Assay   | 3151      | 992212       |
| Ag      | Volhard     | 999b      | 999b         |
| Al      | ICP Assay   | 3101a     | 060502       |
| Al      | EDTA        | 928       | 928          |
| As      | Calculated  |           | See Sec. 4.2 |
| As      | ICP Assay   | 3103a     | 100818       |
| B       | ICP Assay   | 3107      | 070514       |
| Ba      | Gravimetric |           | See Sec. 4.2 |
| Ba      | ICP Assay   | 3104a     | 070222       |
| Be      | Calculated  |           | See Sec. 4.2 |
| Be      | ICP Assay   | 3105a     | 090514       |
| Cd      | ICP Assay   | 3108      | 060531       |
| Cd      | EDTA        | 928       | 928          |
| Co      | ICP Assay   | 3113      | 000630 Co    |
| Co      | EDTA        | 928       | 928          |
| Cr3     | Calculated  |           | See Sec. 4.2 |
| Cr3     | ICP Assay   | 3112a     | 030730       |
| Cu      | ICP Assay   | 3114      | 011017       |
| Cu      | EDTA        | 928       | 928          |
| Fe      | ICP Assay   | 3126a     | 051031       |
| Fe      | EDTA        | 928       | 928          |
| Mn      | ICP Assay   | 3132      | 050429       |
| Mn      | EDTA        | 928       | 928          |
| Ni      | ICP Assay   | 3136      | 120619       |
| Ni      | EDTA        | 928       | 928          |
| Pb      | ICP Assay   | 3128      | 101026       |
| Pb      | EDTA        | 928       | 928          |
| Se      | Calculated  |           | See Sec. 4.2 |
| Se      | ICP Assay   | 3149      | 100901       |
| Sr      | ICP Assay   | 3153a     | 990906       |
| Sr      | EDTA        | 928       | 928          |
| Tl      | Calculated  |           | See Sec. 4.2 |
| Tl      | ICP Assay   | 3168      | 993012       |
| V       | ICP Assay   | 3165      | 992706       |
| V       | EDTA        | 928       | 928          |
| Zn      | ICP Assay   | 3168a     | 120629       |
| Zn      | EDTA        | 928       | 928          |

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of  $k = 2$ .

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n}$$

$$\text{Uncertainty } (\pm) = 2 \left[ \sum (s_i)^2 \right]^{1/2}$$

$(\bar{x})$  = mean  
 $x_i$  = individual results  
 $n$  = number of measurements

$2$  = the coverage factor.

$\left[ \sum (s_i)^2 \right]^{1/2}$  = The square root of the sum of the squares of the most common errors (where  $s_i$  stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

#### 4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

##### 4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

##### 4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

##### 4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

#### 5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

#### 6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

## **7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL**

### **7.1 Storage and Handling Recommendations**

- Keep tightly sealed when not in use. Store and use at  $20 \pm 4^{\circ}\text{C}$ . Do not pipette from the container. Do not return removed aliquots to container.

**Low Silver Note:** This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

## **8.0 HAZARDOUS INFORMATION**

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

## **9.0 HOMOGENEITY**

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

## **10.0 QUALITY STANDARD DOCUMENTATION**

### **10.1 10CFR50 Appendix B - Nuclear Regulatory Commission**

- Domestic Licensing of Production and Utilization Facilities

### **10.2 10CFR21 - Nuclear Regulatory Commission**

- Reporting defects and Non-Compliance

### **10.3 ISO 9001 Quality Management System Registration**

- SAI Global File Number 010105

### **10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"**

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

### **10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"**

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

## **11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY**

### **11.1 Certification Issue Date**

June 06, 2014

### **11.2 Expiration Date**

**EXPIRES**  
**01/2015**

### **11.3 Period of Validity**

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.2. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

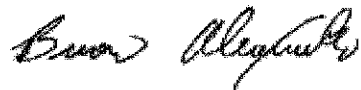
Certificate Prepared By:

Donna Senn  
Product Documentation Technician




Certificate Approved By:

Brian Alexander  
PhD., Technical Process Director



Certifying Officer:

Paul Gaines  
PhD., Senior Technical Director





Reagent

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**MTAPITTTICSB\_00007**

1410208

## 1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).



## 2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution

Catalog Number: TAPITT-ICS-B

Lot Number: H2-MEB551141

Matrix: 3% (v/v) HNO<sub>3</sub>

Value / Analyte(s): 100 µg/mL ea:

|                   |     |     |
|-------------------|-----|-----|
| K,                | Na, |     |
| 10 µg/mL ea:      |     |     |
| Ag,               | As, | Cd, |
| Ni,               | Pb, | Se, |
| Zn,               |     |     |
| 5 µg/mL ea:       |     |     |
| Ba,               | Be, | Co, |
| Cr <sub>3</sub> , | Cu, | Mn, |
| V                 |     |     |

Rec 11-18-14

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE    | CERTIFIED VALUE     | ANALYTE  | CERTIFIED VALUE     |
|------------|---------------------|----------|---------------------|
| Arsenic    | 10.00 ± 0.06 µg/mL  | Barium   | 4.999 ± 0.028 µg/mL |
| Beryllium  | 5.001 ± 0.028 µg/mL | Cadmium  | 10.00 ± 0.06 µg/mL  |
| Chromium+3 | 5.001 ± 0.028 µg/mL | Cobalt   | 5.000 ± 0.032 µg/mL |
| Copper     | 5.001 ± 0.032 µg/mL | Lead     | 10.00 ± 0.05 µg/mL  |
| Manganese  | 5.000 ± 0.028 µg/mL | Nickel   | 10.00 ± 0.06 µg/mL  |
| Potassium  | 100.0 ± 0.5 µg/mL   | Selenium | 10.00 ± 0.06 µg/mL  |
| Silver     | 10.00 ± 0.07 µg/mL  | Sodium   | 100.0 ± 0.4 µg/mL   |
| Vanadium   | 4.999 ± 0.032 µg/mL | Zinc     | 10.00 ± 0.06 µg/mL  |

Certified Density: 1.015 g/mL (measured at 20 ± 1 °C)

Assay Information:

| ANALYTE | METHOD      | NIST SRM# | SRM LOT#     |
|---------|-------------|-----------|--------------|
| Ag      | ICP Assay   | 3151      | 992212       |
| Ag      | Volhard     | 999b      | 999b         |
| As      | Calculated  |           | See Sec. 4.2 |
| As      | ICP Assay   | 3103a     | 100818       |
| Ba      | Gravimetric |           | See Sec. 4.2 |
| Ba      | ICP Assay   | 3104a     | 070222       |
| Be      | Calculated  |           | See Sec. 4.2 |
| Be      | ICP Assay   | 3105a     | 090514       |
| Cd      | ICP Assay   | 3108      | 060531       |
| Cd      | EDTA        | 928       | 928          |
| Co      | ICP Assay   | 3113      | 00630        |
| Co      | EDTA        | 928       | 928          |
| Cr3     | Calculated  |           | See Sec. 4.2 |
| Cr3     | ICP Assay   | 3112a     | 030730       |
| Cu      | ICP Assay   | 3114      | 011017       |
| Cu      | EDTA        | 928       | 928          |
| K       | Gravimetric |           | See Sec. 4.2 |
| K       | ICP Assay   | 3141a     | 051220       |
| Mn      | ICP Assay   | 3132      | 050429       |
| Mn      | EDTA        | 928       | 928          |
| Na      | Calculated  |           | See Sec. 4.2 |
| Na      | ICP Assay   | 3152a     | 120715       |
| Ni      | ICP Assay   | 3136      | 000612       |
| Ni      | EDTA        | 928       | 928          |
| Pb      | ICP Assay   | 3128      | 101026       |
| Pb      | EDTA        | 928       | 928          |
| Se      | Calculated  |           | See Sec. 4.2 |
| Se      | ICP Assay   | 3149      | 100901       |
| V       | ICP Assay   | 3165      | 992706       |
| V       | EDTA        | 928       | 928          |
| Zn      | ICP Assay   | 3168a     | 120629       |
| Zn      | EDTA        | 928       | 928          |

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of  $k = 2$ .

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n}$$

$(\bar{x})$  = mean  
 $x_i$  = individual results  
 $n$  = number of measurements

$$\text{Uncertainty } (\pm) = 2 \left[ \sum (s_i)^2 \right]^{1/2}$$

2 = the coverage factor.  
 $\left[ \sum (s_i)^2 \right]^{1/2}$  = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

#### 4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

##### 4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

##### 4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

##### 4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

**5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)**

- N/A

**6.0 INTENDED USE**

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

**7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL**

**7.1 Storage and Handling Recommendations**

- Keep tightly sealed when not in use. Store and use at  $20 \pm 4^{\circ}\text{C}$ . Do not pipette from the container. Do not return removed aliquots to container.

- **Low Silver Note:** This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

**8.0 HAZARDOUS INFORMATION**

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

**9.0 HOMOGENEITY**

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

**10.0 QUALITY STANDARD DOCUMENTATION**

**10.1 10CFR50 Appendix B - Nuclear Regulatory Commission**

- Domestic Licensing of Production and Utilization Facilities

**10.2 10CFR21 - Nuclear Regulatory Commission**

- Reporting defects and Non-Compliance

**10.3 ISO 9001 Quality Management System Registration**

- SAI Global File Number 010105

**10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"**

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

**10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"**

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

**11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY**

**11.1 Certification Issue Date**

November 13, 2014

**11.2 Period of Validity**

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.3. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

**11.3 Expiration Date**

**EXPIRES**  
**01/2015**

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

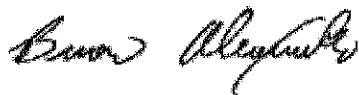
Certificate Prepared By:

Christy Shortridge  
Product Documentation Technician



Certificate Approved By:

Brian Alexander  
PhD., Technical Process Director



Certifying Officer:

Paul Gaines  
PhD., Senior Technical Director



Reagent

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**MTAPITTMSA\_00023**



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# CERTIFICATE OF ANALYSIS

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## 1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number (010105)).



## 2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution  
Catalog Number: TAPITT-MS-A  
Lot Number: H2-MEB532044  
Matrix: 3% (v/v) HNO<sub>3</sub>  
Value / Analyte(s): 5 000 µg/mL ea:  
Ca, K, Mg,  
Na

REC. 11/13/14 SLB

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE   | CERTIFIED VALUE  | ANALYTE   | CERTIFIED VALUE  |
|-----------|------------------|-----------|------------------|
| Calcium   | 5 000 ± 22 µg/mL | Magnesium | 5 000 ± 23 µg/mL |
| Potassium | 5 000 ± 22 µg/mL | Sodium    | 5 000 ± 22 µg/mL |

Certified Density: 1.071 g/mL (measured at 20 ± 1 °C)

### Assay Information:

| ANALYTE | METHOD      | NIST SRM# | SRM LOT#     |
|---------|-------------|-----------|--------------|
| Ca      | ICP Assay   | 3109a     | 050825       |
| Ca      | EDTA        | 928       | 928          |
| K       | Gravimetric |           | See Sec. 4.2 |
| K       | ICP Assay   | 3141a     | 051220       |
| Mg      | ICP Assay   | 3131a     | 050302       |
| Mg      | EDTA        | 928       | 928          |
| Na      | Gravimetric |           | See Sec. 4.2 |
| Na      | ICP Assay   | 3152a     | 120715       |

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n}$$

( $\bar{x}$ ) = mean

$x_i$  = individual results

n = number of measurements

$$\text{Uncertainty } (\pm) = 2 \left[ \sum (s_i)^2 \right]^{1/2}$$

2 = the coverage factor.

$\left[ \sum (s_i)^2 \right]^{1/2}$  = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

## 4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

#### **4.1 Thermometer Calibration**

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

#### **4.2 Balance Calibration**

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

#### **4.3 Glassware Calibration**

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

#### **5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES ( $\mu\text{g/mL}$ )**

- N/A

#### **6.0 INTENDED USE**

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

#### **7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL**

##### **7.1 Storage and Handling Recommendations**

- Keep tightly sealed when not in use. Store and use at  $20 \pm 4^\circ\text{C}$ . Do not pipette from the container. Do not return removed aliquots to container.

#### **8.0 HAZARDOUS INFORMATION**

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

#### **9.0 HOMOGENEITY**

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

#### **10.0 QUALITY STANDARD DOCUMENTATION**

##### **10.1 10CFR50 Appendix B - Nuclear Regulatory Commission**

- Domestic Licensing of Production and Utilization Facilities

##### **10.2 10CFR21 - Nuclear Regulatory Commission**

- Reporting defects and Non-Compliance

##### **10.3 ISO 9001 Quality Management System Registration**

- SAI Global File Number 010105

##### **10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"**

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

##### **10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"**

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02



11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 05, 2014

11.2 Period of Validity

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.3. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

11.3 Expiration Date

EXPIRES

01<sup>st</sup> 2015

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

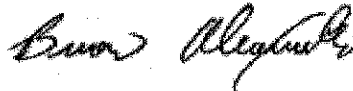
Certificate Prepared By:

Donna Senn  
Product Documentation Technician



Certificate Approved By:

Brian Alexander  
PhD., Technical Process Director



Certifying Officer:

Paul Gaines  
PhD., Senior Technical Director



Reagent

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**MTAPITMSBREV\_00014**



300 Technology Drive  
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inorganicventures.com

# CERTIFICATE OF ANALYSIS

tel: 800.669.6799 - 540.585.3030  
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## 1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number (010105).



## 2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution  
Catalog Number: TAPITT-MS-B-REV  
Lot Number: H2-MEB532045  
Matrix: 1% (v/v) HNO<sub>3</sub>  
Value / Analyte(s):  
200 µg/mL ea:  
Al, Ba,  
100 µg/mL ea:  
B, Fe, Li,  
Sr,  
50 µg/mL ea:  
As, Co, Mn,  
Ni, Pb, Se,  
Ti, V, Zn,  
25 µg/mL ea:  
Cu,  
20 µg/mL ea:  
Cr<sub>3</sub>,  
5 µg/mL ea:  
Ag, Be, Cd

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SUB

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE    | CERTIFIED VALUE    | ANALYTE   | CERTIFIED VALUE     |
|------------|--------------------|-----------|---------------------|
| Aluminum   | 200.0 ± 1.0 µg/mL  | Arsenic   | 50.02 ± 0.33 µg/mL  |
| Barium     | 200.0 ± 1.0 µg/mL  | Beryllium | 5.000 ± 0.028 µg/mL |
| Boron      | 100.0 ± 0.7 µg/mL  | Cadmium   | 5.000 ± 0.032 µg/mL |
| Chromium+3 | 20.01 ± 0.10 µg/mL | Cobalt    | 49.99 ± 0.25 µg/mL  |
| Copper     | 25.01 ± 0.17 µg/mL | Iron      | 100.0 ± 0.5 µg/mL   |
| Lead       | 50.00 ± 0.39 µg/mL | Lithium   | 100.0 ± 0.7 µg/mL   |
| Manganese  | 50.00 ± 0.30 µg/mL | Nickel    | 50.00 ± 0.31 µg/mL  |
| Selenium   | 49.99 ± 0.31 µg/mL | Silver    | 5.000 ± 0.036 µg/mL |
| Strontium  | 100.0 ± 0.6 µg/mL  | Thallium  | 50.01 ± 0.33 µg/mL  |
| Vanadium   | 50.01 ± 0.24 µg/mL | Zinc      | 50.03 ± 0.28 µg/mL  |

Certified Density: 1.006 g/mL (measured at 20 ± 1 °C)

Assay Information:

| ANALYTE | METHOD      | NIST SRM# | SRM LOT#     |
|---------|-------------|-----------|--------------|
| Ag      | ICP Assay   | 3151      | 992212       |
| Ag      | Volhard     | 999b      | 999b         |
| Al      | ICP Assay   | 3101a     | 060502       |
| Al      | EDTA        | 928       | 928          |
| As      | Calculated  |           | See Sec. 4.2 |
| As      | ICP Assay   | 3103a     | 100818       |
| B       | ICP Assay   | 3107      | 070514       |
| Ba      | Gravimetric |           | See Sec. 4.2 |
| Ba      | ICP Assay   | 3104a     | 070222       |
| Be      | Calculated  |           | See Sec. 4.2 |
| Be      | ICP Assay   | 3105a     | 090514       |
| Cd      | ICP Assay   | 3108      | 060531       |
| Cd      | EDTA        | 928       | 928          |
| Co      | ICP Assay   | 3113      | 000630 Co    |
| Co      | EDTA        | 928       | 928          |
| Cr3     | Calculated  |           | See Sec. 4.2 |
| Cr3     | ICP Assay   | 3112a     | 030730       |
| Cu      | ICP Assay   | 3114      | 011017       |
| Cu      | EDTA        | 928       | 928          |
| Fe      | ICP Assay   | 3126a     | 051031       |
| Fe      | EDTA        | 928       | 928          |
| Li      | Gravimetric |           | See Sec. 4.2 |
| Li      | ICP Assay   | 3129a     | 100714       |
| Mn      | ICP Assay   | 3132      | 050429       |
| Mn      | EDTA        | 928       | 928          |
| Ni      | ICP Assay   | 3136      | 120619       |
| Ni      | EDTA        | 928       | 928          |
| Pb      | ICP Assay   | 3128      | 101026       |
| Pb      | EDTA        | 928       | 928          |
| Se      | Calculated  |           | See Sec. 4.2 |
| Se      | ICP Assay   | 3149      | 100901       |
| Sr      | ICP Assay   | 3153a     | 990906       |
| Sr      | EDTA        | 928       | 928          |
| Tl      | Calculated  |           | See Sec. 4.2 |
| Tl      | ICP Assay   | 3158      | 993012       |
| V       | ICP Assay   | 3165      | 992706       |
| V       | EDTA        | 928       | 928          |
| Zn      | ICP Assay   | 3168a     | 120629       |
| Zn      | EDTA        | 928       | 928          |

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of  $k = 2$ .

$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n}$$

$(\bar{x})$  = mean  
 $x_i$  = individual results  
 $n$  = number of measurements

$$\text{Uncertainty } (\pm) = 2 \left[ \sum (s_i)^2 \right]^{1/2}$$

2 = the coverage factor.  
 $\left[ \sum (s_i)^2 \right]^{1/2}$  = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

#### 4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

#### **4.1 Thermometer Calibration**

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

#### **4.2 Balance Calibration**

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

#### **4.3 Glassware Calibration**

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

### **5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)**

- N/A

### **6.0 INTENDED USE**

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

### **7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL**

#### **7.1 Storage and Handling Recommendations**

- Keep tightly sealed when not in use. Store and use at  $20 \pm 4^{\circ}\text{C}$ . Do not pipette from the container. Do not return removed aliquots to container.
- **Low Silver Note:** This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

### **8.0 HAZARDOUS INFORMATION**

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

### **9.0 HOMOGENEITY**

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

### **10.0 QUALITY STANDARD DOCUMENTATION**

#### **10.1 10CFR50 Appendix B - Nuclear Regulatory Commission**

- Domestic Licensing of Production and Utilization Facilities

#### **10.2 10CFR21 - Nuclear Regulatory Commission**

- Reporting defects and Non-Compliance

#### **10.3 ISO 9001 Quality Management System Registration**

- SAI Global File Number 010105

#### **10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"**

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

#### **10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"**

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

**11.0 CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY**

**11.1 Certification Issue Date**

June 06, 2014

**11.2 Period of Validity**

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.3. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

**11.3 Expiration Date**

**EXPIRES**

**01<sup>st</sup> 2015**

**12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS**

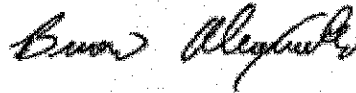
**Certificate Prepared By:**

Donna Senn  
Product Documentation Technician



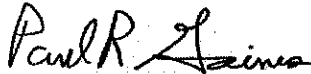
**Certificate Approved By:**

Brian Alexander  
PhD., Technical Process Director



**Certifying Officer:**

Paul Gaines  
PhD., Senior Technical Director



Reagent

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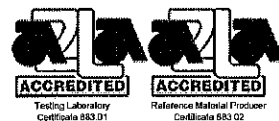
**MTAPITTMSC\_00029**



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# CERTIFICATE OF ANALYSIS

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info@inorganicventures.com



## 1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO Guide 34, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (SAI Global File Number 010105).

## 2.0 PRODUCT DESCRIPTION

Product Code: Multi Analyte Custom Grade Solution  
Catalog Number: TAPITT-MS-C  
Lot Number: H2-MEB532046  
Matrix: 3% (v/v) HNO<sub>3</sub>  
tr. HF  
Value / Analyte(s): 1 000 µg/mL ea:  
Si,  
200 µg/mL ea:  
Sn,  
100 µg/mL ea:  
Mo, Ti,  
50 µg/mL ea:  
Sb

rec'd 11/13/14  
SLB

## 3.0 CERTIFIED VALUES AND UNCERTAINTIES

| ANALYTE  | CERTIFIED VALUE    | ANALYTE    | CERTIFIED VALUE   |
|----------|--------------------|------------|-------------------|
| Antimony | 49.98 ± 0.38 µg/mL | Molybdenum | 100.0 ± 0.5 µg/mL |
| Silicon  | 1 000 ± 7 µg/mL    | Tin        | 200.0 ± 1.4 µg/mL |
| Titanium | 100.0 ± 0.7 µg/mL  |            |                   |

Certified Density: 1.017 g/mL (measured at 20 ± 1 °C)

### Assay Information:

| ANALYTE | METHOD     | NIST SRM# | SRM LOT#     |
|---------|------------|-----------|--------------|
| Mo      | Calculated |           | See Sec. 4.2 |
| Mo      | ICP Assay  | 3134      | 891307       |
| Sb      | Calculated |           | See Sec. 4.2 |
| Sb      | ICP Assay  | 3102A     | 061229       |
| Si      | Calculated |           | See Sec. 4.2 |
| Si      | ICP Assay  | 3150      | 071204       |
| Sn      | Calculated |           | See Sec. 4.2 |
| Sn      | ICP Assay  | 3161a     | 070330       |
| Ti      | ICP Assay  | 3162a     | 060808       |

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.



$$\text{Certified Value } (\bar{x}) = \frac{\sum x_i}{n}$$

$(\bar{x})$  = mean

$x_i$  = individual results

$n$  = number of measurements

$$\text{Uncertainty } (\pm) = 2 \left[ \sum (s_i)^2 \right]^{1/2}$$

2 = the coverage factor.

$\left[ \sum (s_i)^2 \right]^{1/2}$  = The square root of the sum of the squares of the most common errors (where 's' stands for the standard deviation) from instrumental measurement, density, NIST SRM uncertainty, weighing, dilution to volume, homogeneity, long term stability and short term stability.

#### 4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

##### 4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

##### 4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

##### 4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

#### 5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

- N/A

#### 6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

#### 7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

##### 7.1 Storage and Handling Recommendations

- Keep tightly sealed when not in use. Store and use at  $20 \pm 4^\circ\text{C}$ . Do not pipette from the container. Do not return removed aliquots to container.

- HF Note: This standard should not be prepared or stored in glass.

#### 8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

#### 9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

#### 10.0 QUALITY STANDARD DOCUMENTATION

##### 10.1 10CFR50 Appendix B - Nuclear Regulatory Commission

- Domestic Licensing of Production and Utilization Facilities

##### 10.2 10CFR21 - Nuclear Regulatory Commission

- Reporting defects and Non-Compliance

##### 10.3 ISO 9001 Quality Management System Registration

- SAI Global File Number 010105

##### 10.4 ISO/IEC Guide 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.5 ISO/IEC Guide 34 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

11.0 **CERTIFICATION, EXPIRATION AND PERIOD OF VALIDITY**

11.1 Certification Issue Date

June 05, 2014

11.2 Period of Validity

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is handled and stored in accordance with instructions given in Sec 7.0 and used prior to the date given in Sec 11.3. This certification is nullified if the CRM/RM is damaged, contaminated, or otherwise modified.

11.3 Expiration Date

**EXPIRES**

01 ~~2~~ 2015

12.0 **NAMES AND SIGNATURES OF CERTIFYING OFFICERS**

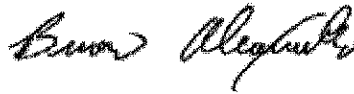
Certificate Prepared By:

Donna Senn  
Product Documentation Technician



Certificate Approved By:

Brian Alexander  
PhD., Technical Process Director



Certifying Officer:

Paul Gaines  
PhD., Senior Technical Director



Reagent

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**OP/PESTPCBRTS\_00002**



**CERTIFIED REFERENCE MATERIAL**

110 Benner Circle  
Bellefonte, PA 16823-8812  
Tel: (800)356-1688  
Fax: (814)353-1309

www.restek.com

# Certificate of Analysis



**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 568719 **Lot No.:** A0100240  
**Description :** OCP/PCB Surrogate Mix RTS  
OCP/PCB Surrogate Mix RTS 0.2 µg/ml, Methanol, 100 ml/bottle  
**Container Size :** 100 mL **Pkg Amt:** > 100 mL  
**Expiration Date :** December 31, 2016 **Storage:** 10°C or colder

## CERTIFIED VALUES

| Elution Order | Compound                          | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2) |        |       |             |
|---------------|-----------------------------------|-----------------------------|--------------------------------------|--------|-------|-------------|
| 1             | 2,4,5,6-Tetrachloro-m-xylene      | 0.2 µg/mL                   | +/-                                  | 0.0025 | µg/mL | Gravimetric |
|               | CAS # 877-09-8 (Lot 0052481)      |                             | +/-                                  | 0.0066 | µg/mL | Unstressed  |
|               | Purity 98%                        |                             | +/-                                  | 0.0086 | µg/mL | Stressed    |
| 2             | Decachlorobiphenyl (BZ# 209)      | 0.2 µg/mL                   | +/-                                  | 0.0025 | µg/mL | Gravimetric |
|               | CAS # 2051-24-3 (Lot ER071509-01) |                             | +/-                                  | 0.0067 | µg/mL | Unstressed  |
|               | Purity 99%                        |                             | +/-                                  | 0.0086 | µg/mL | Stressed    |

**Solvent:** Methanol  
CAS # 67-56-1  
Purity 99%

Reagent

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**sv benzoepyrene\_00001**



**CERTIFIED WEIGHT REPORT**

**Part Number:** 71016  
**Lot Number:** 100313  
**Description:** Benzofluorene  
**Expiration Date:** 100318  
**Recommended Storage:** Refrigerate (4 °C)  
**Nominal Concentration (µg/mL):** 1000

**Solvent(s):** 44325 Methylene chloride

Weight(s) shown below were combined and diluted to:

100.0 0.003 SE-05 Balance Uncertainty  
Fask Uncertainty

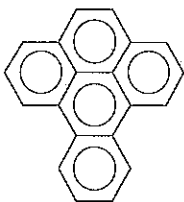
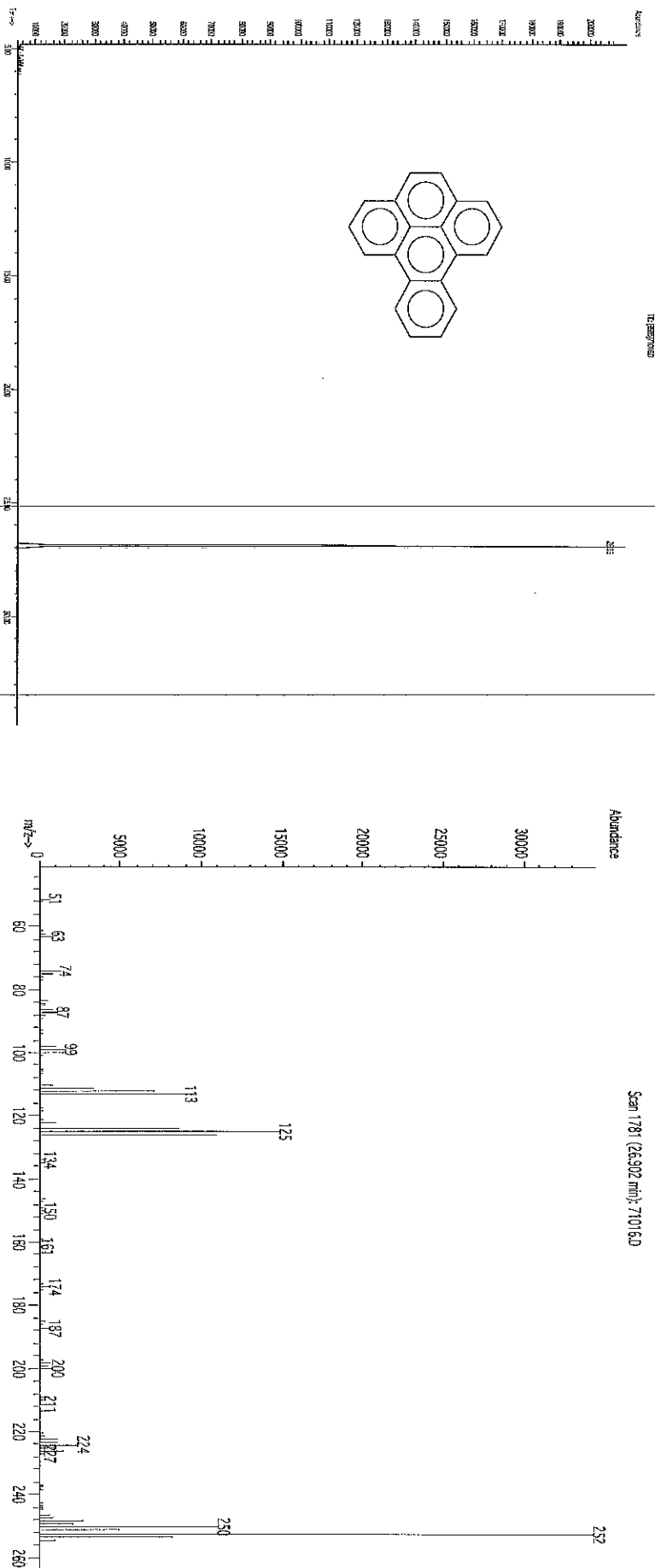
|                        |                 |        |
|------------------------|-----------------|--------|
| <i>Paul Barron</i>     |                 | 100313 |
| Formulated By:         | Paul Barron     | DATE   |
| <i>Pedro L. Rentes</i> |                 | 100313 |
| Reviewed By:           | Pedro L. Rentes | DATE   |

**MSDS Information**

| Compound | Lot | Nominal Conc (µg/mL) | Purity (%) | Uncertainty | Target Weight(g) | Actual Weight(g) | Actual Conc (µg/mL) | Expanded Uncertainty | (Solvent Safety Info. On Attached pg.) | CAS# | OSHA PEL (TWA) | LD50 |
|----------|-----|----------------------|------------|-------------|------------------|------------------|---------------------|----------------------|--|------|----------------|------|
|----------|-----|----------------------|------------|-------------|------------------|------------------|---------------------|----------------------|--|------|----------------|------|

|                  |      |        |      |    |     |         |         |        |        |            |     |     |
|------------------|------|--------|------|----|-----|---------|---------|--------|--------|------------|-----|-----|
| 1. Benzofluorene | 1016 | 012011 | 1000 | 99 | 0.2 | 0.10100 | 0.10125 | 1002.5 | 0.0042 | 00192-97-2 | N/A | N/A |
|------------------|------|--------|------|----|-----|---------|---------|--------|--------|------------|-----|-----|

**Method GC/MSD-3.M:** Column:SPB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9min.), Rate = 10°C/min., Injector B = 250°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Candice Warren.



Reagent

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**SV2NAPAMINEs\_00002**

# Certificate of Analysis

## 2-Naphthylamine Solution

**Product Number:** EPA-1135

**Page:** 1 of 1

**Lot Number:** CK-1617

**Lot Issue Date:** 20-May-2013

**Expiration Date:** 30-Jun-2017

This certified Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

| Analyte         | CAS#        | Analyte Lot | True Value     |
|-----------------|-------------|-------------|----------------|
| 2-naphthylamine | 000091-59-8 | RM06488     | 1001 ± 5 µg/mL |

**Matrix:** methanol (methyl alcohol)

**Storage:** Store at Room Temperature (15-30°C)

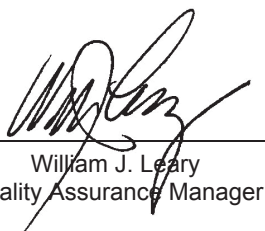
ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.



ISO 17025:2005  
Accredited  
A2LA  
Cert. No. 0851-01

ISO 9001:2008  
Registered  
TUV USA, Inc.  
Cert. No. 09-1009

250 Smith Street, North Kingstown, RI 02852 USA  
401-294-9400 Fax: 295-2330  
www.ultrasci.com



William J. Leary  
Quality Assurance Manager



Reagent

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**SVLVIntstd\_00007**



110 Benner Circle  
Bellefonte, PA 16823-8812  
Tel: (800)356-1688  
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www.restek.com

SV/Vintest/1st A093676



## Certificate of Analysis

**FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

Catalog No. : 567684 Lot No.: A093676  
Description : 8270 Internal Standard  
8270 Internal Standard 2,000µg/mL, Methylene Chloride, 5mL/ampul  
Container Size : 5 mL Pkg Amt: > 5 mL  
Expiration Date : February 2018 Storage: 10°C or colder  
Handling: Sonication required. Mix is photosensitive.

### CERTIFIED VALUES

| Elution Order | Compound  | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L., K=2) |       |             |
|---------------|---|-----------------------------|--------------------------------------|-------|-------------|
| 1             | 1,4-Dichlorobenzene-d4<br>CAS # 3855-82-1<br>Purity 99% | 2,000.0 µg/mL               | +/- 11.6282                          | µg/mL | Gravimetric |
|               |   |                             | +/- 92.7158                          | µg/mL | Unstressed  |
|               |   |                             | +/- 101.3766                         | µg/mL | Stressed    |
| 2             | Naphthalene-d8<br>CAS # 1146-65-2<br>Purity 99%         | 2,000.0 µg/mL               | +/- 11.6282                          | µg/mL | Gravimetric |
|               |   |                             | +/- 92.7158                          | µg/mL | Unstressed  |
|               |   |                             | +/- 101.3766                         | µg/mL | Stressed    |
| 3             | Acenaphthene-d10<br>CAS # 15067-26-2<br>Purity 97%      | 2,000.0 µg/mL               | +/- 11.6282                          | µg/mL | Gravimetric |
|               |   |                             | +/- 92.7163                          | µg/mL | Unstressed  |
|               |   |                             | +/- 101.3771                         | µg/mL | Stressed    |
| 4             | Phenanthrene-d10<br>CAS # 1517-22-2<br>Purity 99%       | 2,000.0 µg/mL               | +/- 11.6282                          | µg/mL | Gravimetric |
|               |   |                             | +/- 92.7158                          | µg/mL | Unstressed  |
|               |   |                             | +/- 101.3766                         | µg/mL | Stressed    |
| 5             | Chrysene-d12<br>CAS # 1719-03-5<br>Purity 98%           | 2,000.0 µg/mL               | +/- 11.6281                          | µg/mL | Gravimetric |
|               |   |                             | +/- 92.7150                          | µg/mL | Unstressed  |
|               |   |                             | +/- 101.3758                         | µg/mL | Stressed    |
| 6             | Perylene-d12<br>CAS # 1520-96-3<br>Purity 99%           | 2,000.0 µg/mL               | +/- 11.6282                          | µg/mL | Gravimetric |
|               |   |                             | +/- 92.7158                          | µg/mL | Unstressed  |
|               |   |                             | +/- 101.3766                         | µg/mL | Stressed    |

Solvent: Methylene Chloride  
CAS # 75-09-2  
Purity 99%

**Column:**

30m x .25mm x .25um  
Stw-5 (cat.#10223)

**Carrier Gas:**

Hydrogen-constant pressure 10 psi

**Temp. Program:**

75°C (hold 1 min.) to 330°C  
@ 20°C/min. (hold 10 min.)

**Inj. Temp:**

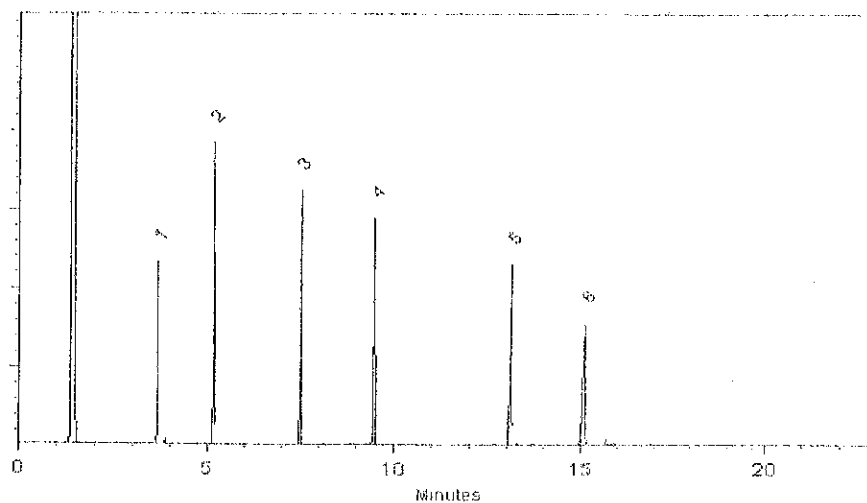
250°C

**Det. Temp:**

330°C

**Det. Type:**

FID



*Jodi E. Breon*  
Jodi E. Breon - QA Analyst

Date Passed: 27-Feb-2013

Balance: 1128342315

Manufactured under Restek's ISO 9001:2008  
Registered Quality System  
Certificate #FM 80397

Reagent

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**SVLVlist12\_00002**



CERTIFIED REFERENCE MATERIAL

110 Benner Circle  
Bellefonte, PA 16823-8812  
Tel: (800)356-1688  
Fax: (814)353-1309

www.restek.com

# Certificate of Analysis



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

Catalog No. : 567679 Lot No.: A0102912  
Description : 8270 List 2 / Std #2  
8270 List 2 / Std #2 1,000 ug/ml, Methylene Chloride, 1 ml/ampul  
Container Size : 2 mL Pkg Amt: > 1 mL  
Expiration Date : April 30, 2015 Storage: 10°C or colder  
Handling: Sonication required. Mix is photosensitive.

## CERTIFIED VALUES

| Elution Order | Compound  | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2)                       |                                       |  |
|---------------|---|-----------------------------|--|---------------------------------------|--|
| 1             | Methyl methanesulfonate<br>CAS # 66-27-3 (Lot MKBJ8702V)<br>Purity 99%                      | 1,004.0 µg/mL               | +/- 5.9635 µg/mL<br>+/- 31.2232 µg/mL<br>+/- 32.8038 µg/mL | Gravimetric<br>Unstressed<br>Stressed |  |
| 2             | Ethyl methanesulfonate<br>CAS # 62-50-0 (Lot FIN01-LVQL)<br>Purity 99%                      | 1,007.0 µg/mL               | +/- 5.9813 µg/mL<br>+/- 31.3165 µg/mL<br>+/- 32.9019 µg/mL | Gravimetric<br>Unstressed<br>Stressed |  |
| 3             | Pentachloroethane<br>CAS # 76-01-7 (Lot 7GHYB)<br>Purity 99%                                | 1,000.0 µg/mL               | +/- 5.9397 µg/mL<br>+/- 31.0988 µg/mL<br>+/- 32.6732 µg/mL | Gravimetric<br>Unstressed<br>Stressed |  |
| 4             | 2,6-Dichlorophenol<br>CAS # 87-65-0 (Lot 03518LN)<br>Purity 99%                             | 1,000.0 µg/mL               | +/- 5.9397 µg/mL<br>+/- 31.0988 µg/mL<br>+/- 32.6732 µg/mL | Gravimetric<br>Unstressed<br>Stressed |  |
| 5             | Hexachloropropene<br>CAS # 1888-71-7 (Lot 44391/3)<br>Purity 99%                            | 1,000.0 µg/mL               | +/- 5.9397 µg/mL<br>+/- 31.0988 µg/mL<br>+/- 32.6732 µg/mL | Gravimetric<br>Unstressed<br>Stressed |  |
| 6             | Isosafrole (cis & trans)<br>CAS # 120-58-1 (Lot MKBK3786V)<br>Purity 98% 83% trans; 17% cis | 999.6 µg/mL                 | +/- 5.9373 µg/mL<br>+/- 31.0863 µg/mL<br>+/- 32.6601 µg/mL | Gravimetric<br>Unstressed<br>Stressed |  |
| 7             | 1-Chloronaphthalene<br>CAS # 90-13-1 (Lot MYWUK)<br>Purity 99%                              | 1,001.0 µg/mL               | +/- 5.9456 µg/mL<br>+/- 31.1299 µg/mL<br>+/- 32.7058 µg/mL | Gravimetric<br>Unstressed<br>Stressed |  |
| 8             | 1,4-Naphthoquinone<br>CAS # 130-15-4 (Lot 3232134094)<br>Purity 99%                         | 999.0 µg/mL                 | +/- 5.9338 µg/mL<br>+/- 31.0677 µg/mL<br>+/- 32.6405 µg/mL | Gravimetric<br>Unstressed<br>Stressed |  |

**Column:**

30m x 0.25mm x 0.25µm  
Rtx-5 (cat.#10223)

**Carrier Gas:**

hydrogen-constant pressure 10 psi.

**Temp. Program:**

40°C (hold 2 min.) to 330°C  
@ 10°C/min. (hold 10 min.)

**Inj. Temp:**

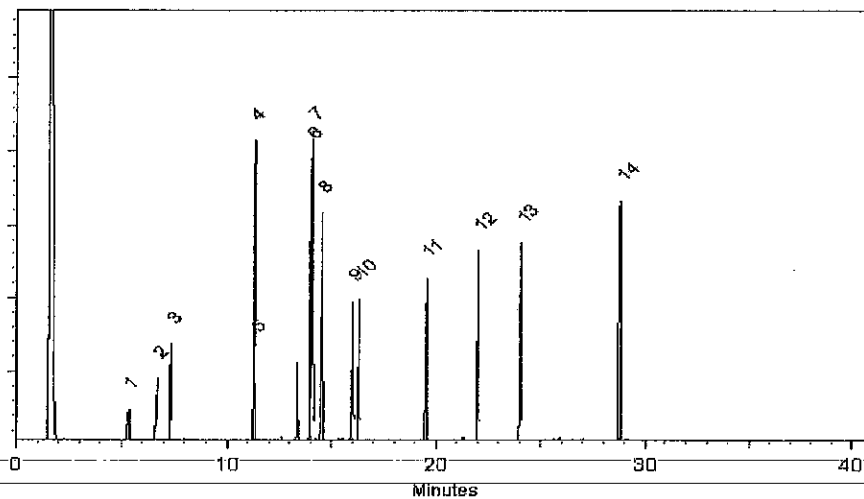
250°C

**Det. Temp:**

330°C

**Det. Type:**

FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

*F. Joseph Tallon*  
F. Joseph Tallon - Mix Technician

Date Mixed: 23-Apr-2014

Balance: 1128360905

*Jennifer L. Pollino*  
Jennifer L. Pollino - QC Analyst

Date Passed: 29-Apr-2014

Manufactured under Restek's ISO 9001:2008  
Registered Quality System  
Certificate #FM 80397

Reagent

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**SVLVstd1\_00026**

110 Benner Circle  
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Tel: (800)356-1688  
Fax: (814)353-1309

www.restek.com

## Certificate of Analysis



### FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

Catalog No. : 567672 Lot No.: A0101615

Description : 8270 List 1 / Std #1 MegaMix

8270 List 1 / Std #1 MegaMix 500-2000 ug/ml, Methylene Chloride, 5 ml/ampul

Container Size : 5 mL Pkg Amt: > 5 mL

Expiration Date : August 31, 2015 Storage: 10°C or colder

Handling: Sonication required. Mix is photosensitive.

### CERTIFIED VALUES

| Elution Order | Compound   | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2)   |
|---------------|--|-----------------------------|--|
| 1             | 1,4-Dioxane<br>CAS # 123-91-1 (Lot SHBD4119V)<br>Purity 99%            | 1,006.4 µg/mL               | +/- 5.8510 µg/mL Gravimetric<br>+/- 11.0182 µg/mL Unstressed<br>+/- 18.6887 µg/mL Stressed |
| 2             | Pyridine<br>CAS # 110-86-1 (Lot 02718MW)<br>Purity 99%                 | 1,001.7 µg/mL               | +/- 5.8237 µg/mL Gravimetric<br>+/- 10.9668 µg/mL Unstressed<br>+/- 18.6014 µg/mL Stressed |
| 3             | N-Nitrosodimethylamine<br>CAS # 62-75-9 (Lot 2179300)<br>Purity 99%    | 1,001.4 µg/mL               | +/- 5.8222 µg/mL Gravimetric<br>+/- 10.9640 µg/mL Unstressed<br>+/- 18.5968 µg/mL Stressed |
| 4             | Aniline<br>CAS # 62-53-3 (Lot 68396APV)<br>Purity 99%                  | 1,009.3 µg/mL               | +/- 5.8682 µg/mL Gravimetric<br>+/- 11.0505 µg/mL Unstressed<br>+/- 18.7435 µg/mL Stressed |
| 5             | Phenol<br>CAS # 108-95-2 (Lot SHBC6998V)<br>Purity 99%                 | 1,009.5 µg/mL               | +/- 5.8690 µg/mL Gravimetric<br>+/- 11.0522 µg/mL Unstressed<br>+/- 18.7463 µg/mL Stressed |
| 6             | Bis(2-chloroethyl)ether<br>CAS # 111-44-4 (Lot 45296HKV)<br>Purity 99% | 1,005.2 µg/mL               | +/- 5.8440 µg/mL Gravimetric<br>+/- 11.0051 µg/mL Unstressed<br>+/- 18.6664 µg/mL Stressed |
| 7             | 2-Chlorophenol<br>CAS # 95-57-8 (Lot MKBD3900V)<br>Purity 99%          | 1,006.4 µg/mL               | +/- 5.8510 µg/mL Gravimetric<br>+/- 11.0182 µg/mL Unstressed<br>+/- 18.6887 µg/mL Stressed |
| 8             | 1,3-Dichlorobenzene<br>CAS # 541-73-1 (Lot BCBC1891V)<br>Purity 99%    | 1,009.2 µg/mL               | +/- 5.8673 µg/mL Gravimetric<br>+/- 11.0489 µg/mL Unstressed<br>+/- 18.7407 µg/mL Stressed |



|    |  |                  |               |                   |                              |                         |                                       |
|----|--|------------------|---------------|-------------------|------------------------------|-------------------------|---------------------------------------|
| 25 | Bis(2-chloroethoxy)methane<br>CAS # 111-91-1<br>Purity 99% | (Lot 2238100)    | 1,006.3 µg/mL | +/-<br>+/-<br>+/- | 5.8507<br>11.0177<br>18.6878 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 26 | 2,4-Dichlorophenol<br>CAS # 120-83-2<br>Purity 99%         | (Lot BCBH1617V)  | 1,009.7 µg/mL | +/-<br>+/-<br>+/- | 5.8705<br>11.0549<br>18.7509 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 27 | 1,2,4-Trichlorobenzene<br>CAS # 120-82-1<br>Purity 99%     | (Lot 26896BM)    | 1,000.7 µg/mL | +/-<br>+/-<br>+/- | 5.8179<br>10.9558<br>18.5829 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 28 | Naphthalene<br>CAS # 91-20-3<br>Purity 99%                 | (Lot MKBH4351V)  | 1,001.0 µg/mL | +/-<br>+/-<br>+/- | 5.8196<br>10.9591<br>18.5884 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 29 | 4-Chloroaniline<br>CAS # 106-47-8<br>Purity 98%            | (Lot 12528PH)    | 999.5 µg/mL   | +/-<br>+/-<br>+/- | 5.8112<br>10.9432<br>18.5615 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 30 | Hexachlorobutadiene<br>CAS # 87-68-3<br>Purity 98%         | (Lot K22W009)    | 1,001.9 µg/mL | +/-<br>+/-<br>+/- | 5.8249<br>10.9690<br>18.6052 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 31 | 2-Methylnaphthalene<br>CAS # 91-57-6<br>Purity 96%         | (Lot 19399MJV)   | 1,006.1 µg/mL | +/-<br>+/-<br>+/- | 5.8497<br>11.0158<br>18.6846 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 32 | 4-Chloro-3-methylphenol<br>CAS # 59-50-7<br>Purity 99%     | (Lot STBC0769V)  | 1,004.2 µg/mL | +/-<br>+/-<br>+/- | 5.8382<br>10.9941<br>18.6479 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 33 | 1-Methylnaphthalene<br>CAS # 90-12-0<br>Purity 99%         | (Lot 5250.00-10) | 1,000.6 µg/mL | +/-<br>+/-<br>+/- | 5.8173<br>10.9547<br>18.5810 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 34 | 1,2,4,5-Tetrachlorobenzene<br>CAS # 95-94-3<br>Purity 99%  | (Lot 06024AIV)   | 1,002.1 µg/mL | +/-<br>+/-<br>+/- | 5.8263<br>10.9717<br>18.6098 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 35 | Hexachlorocyclopentadiene<br>CAS # 77-47-4<br>Purity 99%   | (Lot 2220500)    | 1,009.5 µg/mL | +/-<br>+/-<br>+/- | 5.8690<br>11.0522<br>18.7463 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 36 | 2,4,6-Trichlorophenol<br>CAS # 88-06-2<br>Purity 99%       | (Lot MKBH7393V)  | 1,003.6 µg/mL | +/-<br>+/-<br>+/- | 5.8350<br>10.9881<br>18.6376 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 37 | 2,4,5-Trichlorophenol<br>CAS # 95-95-4<br>Purity 99%       | (Lot FHM01)      | 1,008.9 µg/mL | +/-<br>+/-<br>+/- | 5.8658<br>11.0461<br>18.7361 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 38 | 2-Chloronaphthalene<br>CAS # 91-58-7<br>Purity 99%         | (Lot FIJ01)      | 1,004.8 µg/mL | +/-<br>+/-<br>+/- | 5.8417<br>11.0007<br>18.6590 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 39 | Biphenyl<br>CAS # 92-52-4<br>Purity 99%                    | (Lot 1277976)    | 1,005.6 µg/mL | +/-<br>+/-<br>+/- | 5.8464<br>11.0095<br>18.6739 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 40 | 2-Nitroaniline<br>CAS # 88-74-4<br>Purity 99%              | (Lot MKBF9132V)  | 1,007.1 µg/mL | +/-<br>+/-<br>+/- | 5.8551<br>11.0259<br>18.7017 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |

|    |  |                   |               |                   |                               |                         |                                       |
|----|--|-------------------|---------------|-------------------|-------------------------------|-------------------------|---------------------------------------|
| 57 | Azobenzene<br>CAS # 103-33-3<br>Purity 99%                 | (Lot 130305JLM)   | 1,006.5 µg/mL | +/-<br>+/-<br>+/- | 5.8516<br>11.0193<br>18.6906  | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 58 | 4-Bromophenyl phenyl ether<br>CAS # 101-55-3<br>Purity 99% | (Lot STBB9729V)   | 1,003.7 µg/mL | +/-<br>+/-<br>+/- | 5.8353<br>10.9887<br>18.6386  | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 59 | Hexachlorobenzene<br>CAS # 118-74-1<br>Purity 99%          | (Lot LB93343V)    | 1,008.0 µg/mL | +/-<br>+/-<br>+/- | 5.8606<br>11.0363<br>18.7193  | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 60 | Pentachlorophenol<br>CAS # 87-86-5<br>Purity 99%           | (Lot 130826JLM)   | 2,006.3 µg/mL | +/-<br>+/-<br>+/- | 11.6648<br>21.9664<br>37.2586 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 61 | Phenanthrene<br>CAS # 85-01-8<br>Purity 99%                | (Lot MKBJ4205V)   | 1,004.4 µg/mL | +/-<br>+/-<br>+/- | 5.8394<br>10.9963<br>18.6516  | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 62 | Anthracene<br>CAS # 120-12-7<br>Purity 99%                 | (Lot MKBK5208V)   | 1,007.3 µg/mL | +/-<br>+/-<br>+/- | 5.8565<br>11.0286<br>18.7064  | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 63 | n-Hexadecane (C16)<br>CAS # 544-76-3<br>Purity 99%         | (Lot SHBC3991V)   | 1,001.9 µg/mL | +/-<br>+/-<br>+/- | 5.8248<br>10.9690<br>18.6051  | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 64 | Carbazole<br>CAS # 86-74-8<br>Purity 98%                   | (Lot S42950-417)  | 1,001.8 µg/mL | +/-<br>+/-<br>+/- | 5.8246<br>10.9685<br>18.6043  | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 65 | Di-n-butylphthalate<br>CAS # 84-74-2<br>Purity 99%         | (Lot MKBG1851V)   | 1,002.5 µg/mL | +/-<br>+/-<br>+/- | 5.8286<br>10.9761<br>18.6172  | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 66 | Fluoranthene<br>CAS # 206-44-0<br>Purity 98%               | (Lot 00828AJ)     | 1,009.4 µg/mL | +/-<br>+/-<br>+/- | 5.8685<br>11.0511<br>18.7444  | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 67 | Pyrene<br>CAS # 129-00-0<br>Purity 98%                     | (Lot BCBJ0984V)   | 1,004.0 µg/mL | +/-<br>+/-<br>+/- | 5.8371<br>10.9921<br>18.6443  | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 68 | Benzyl butyl phthalate<br>CAS # 85-68-7<br>Purity 99%      | (Lot 03027HV)     | 1,005.4 µg/mL | +/-<br>+/-<br>+/- | 5.8452<br>11.0073<br>18.6701  | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 69 | Benz(a)anthracene<br>CAS # 56-55-3<br>Purity 99%           | (Lot ER031412-01) | 1,006.4 µg/mL | +/-<br>+/-<br>+/- | 5.8513<br>11.0188<br>18.6896  | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 70 | Chrysene<br>CAS # 218-01-9<br>Purity 99%                   | (Lot PR121912-01) | 1,003.2 µg/mL | +/-<br>+/-<br>+/- | 5.8327<br>10.9837<br>18.6302  | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 71 | Bis(2-ethylhexyl)phthalate<br>CAS # 117-81-7<br>Purity 99% | (Lot MKBH9511V)   | 1,000.9 µg/mL | +/-<br>+/-<br>+/- | 5.8190<br>10.9580<br>18.5866  | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 72 | Di-n-octyl phthalate<br>CAS # 117-84-0<br>Purity 99%       | (Lot 1674300)     | 1,002.3 µg/mL | +/-<br>+/-<br>+/- | 5.8272<br>10.9733<br>18.6126  | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |

**Column:**

30m x 0.25mm x 0.25µm  
Rtx-5 (cat.#10223)

**Carrier Gas:**

hydrogen-constant pressure 10 psi

**Temp. Program:**

35°C (hold 3 min.) to 330°C  
@ 3°C/min. (hold 3 min.)

**Inj. Temp:**

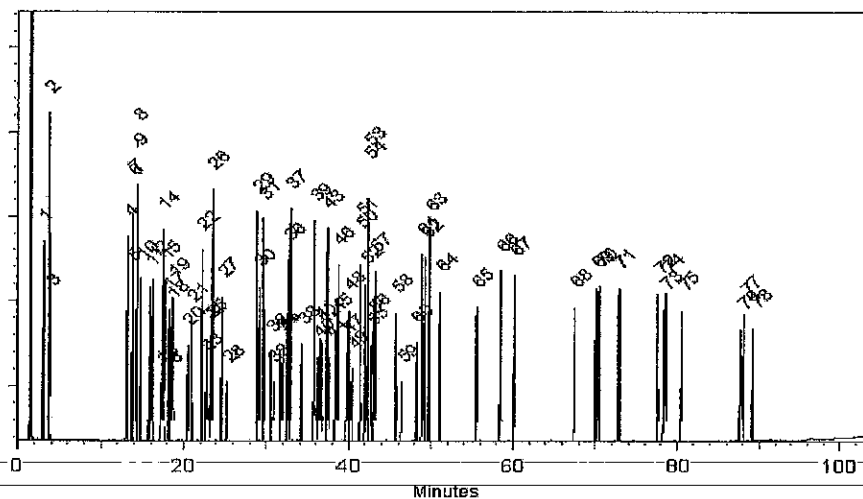
250°C

**Det. Temp:**

300°C

**Det. Type:**

FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

*Rebecca Hawver*

Date Mixed: 26-Feb-2014

Balance: 1128360905

*Jodi E. Breon*

Jodi E. Breon - QA Analyst

Date Passed: 04-Mar-2014

Manufactured under Restek's ISO 9001:2008  
Registered Quality System  
Certificate #FM 80397

Reagent

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**SVLVstd2\_00012**



**CERTIFIED REFERENCE MATERIAL**

110 Benner Circle  
Bellefonte, PA 16823-8812  
Tel: (800)356-1688  
Fax: (814)353-1309

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# Certificate of Analysis



**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 567673 **Lot No.:** A0100824

**Description :** 8270 List 1 / Std #2 Amines

8270 List 1 / Std #2 Amines 2,000 ug/ml, Methylene Chloride, 5 ml/ampul

**Container Size :** 10 mL **Pkg Amt:** > 5 mL

**Expiration Date :** July 31, 2015 **Storage:** 10°C or colder

**Handling:** Contains carcinogen

## CERTIFIED VALUES

| Elution Order | Compound   | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2)      |  |
|---------------|--|-----------------------------|---|--|
| 1             | epsilon-Caprolactam<br>CAS # 105-60-2<br>Purity 99%<br>(Lot 10000218)    | 2,004.8 µg/mL               | +/- 11.7653<br>+/- 22.0081<br>+/- 37.2650 | µg/mL<br>Gravimetric<br>Unstressed<br>Stressed |
| 2             | Atrazine<br>CAS # 1912-24-9<br>Purity 98%<br>(Lot TZ8ED)                 | 2,000.4 µg/mL               | +/- 11.7393<br>+/- 21.9596<br>+/- 37.1828 | µg/mL<br>Gravimetric<br>Unstressed<br>Stressed |
| 3             | Benzidine<br>CAS # 92-87-5<br>Purity 99%<br>(Lot 140107JLM)              | 2,010.4 µg/mL               | +/- 11.7982<br>+/- 22.0696<br>+/- 37.3691 | µg/mL<br>Gravimetric<br>Unstressed<br>Stressed |
| 4             | 3,3'-Dichlorobenzidine<br>CAS # 91-94-1<br>Purity 99%<br>(Lot 140109JLM) | 2,000.0 µg/mL               | +/- 11.7371<br>+/- 21.9554<br>+/- 37.1758 | µg/mL<br>Gravimetric<br>Unstressed<br>Stressed |

**Solvent:** Methylene Chloride  
CAS # 75-09-2  
Purity 99%

Reagent

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**SVLVstd5 (7)\_00001**



CERTIFIED REFERENCE MATERIAL

110 Benner Circle  
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## Certificate of Analysis



### FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

Catalog No. : 568725 Lot No.: A0101573

Description : 8270 List 1/ Std #7 Diphenylamine

8270 List 1/ Std #7 Diphenylamine 1,710 µg/ml, Methylene Chloride, 5 ml/ampul

Container Size : 5 mL Pkg Amt: > 5 mL

Expiration Date : February 28, 2017 Storage: 10°C or colder

### CERTIFIED VALUES

| Elution Order | Compound   | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2)  |
|---------------|--|-----------------------------|---|
| 1             | Diphenylamine<br>CAS # 122-39-4<br>Purity 99%<br>(Lot 07525MF) | 1,706.8 µg/mL               | +/- 10.0165 µg/mL Gravimetric<br>+/- 18.7368 µg/mL Unstressed<br>+/- 31.7258 µg/mL Stressed |

Solvent: Methylene Chloride  
CAS # 75-09-2  
Purity 99%

#### Specific Reference Material Notes:

N-nitrosodiphenylamine 2000 ug/mL equivalent when used for GC analysis. Actual formulation is diphenylamine 1710 ug/mL.

#### Tech Tips:

N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.

N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.

Reagent

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**SVLVstd8\_00003**





**CERTIFIED REFERENCE MATERIAL**

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Bellefonte, PA 16823-8812  
Tel: (800)356-1688  
Fax: (814)353-1309

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## Certificate of Analysis



**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 568724 **Lot No.:** A0103145

**Description :** 8270 List 1/ Std #8

8270 List 1/ Std #8 2,000 µg/ml, Methylene Chloride, 5 ml/ampul

**Container Size :** 5 mL **Pkg Amt:** > 5 mL

**Expiration Date :** May 31, 2015 **Storage:** 10°C or colder

### CERTIFIED VALUES

| Elution Order                      | Compound                       | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2) |         |       |             |
|------------------------------------|--------------------------------|-----------------------------|--------------------------------------|---------|-------|-------------|
| 1                                  | Benzaldehyde                   | 2,000.0 µg/mL               | +/-                                  | 11.7371 | µg/mL | Gravimetric |
|                                    | CAS # 100-52-7 (Lot SHBC6366V) |                             | +/-                                  | 64.1312 | µg/mL | Unstressed  |
|                                    | Purity 99%                     |                             | +/-                                  | 74.5440 | µg/mL | Stressed    |
|                                    |                                |                             |                                      |         |       |             |
| 2                                  | Indene                         | 2,012.0 µg/mL               | +/-                                  | 11.8075 | µg/mL | Gravimetric |
|                                    | CAS # 95-13-6 (Lot MKBH4027V)  |                             | +/-                                  | 64.5160 | µg/mL | Unstressed  |
|                                    | Purity 99%                     |                             | +/-                                  | 74.9913 | µg/mL | Stressed    |
|                                    |                                |                             |                                      |         |       |             |
| 3                                  | Benzoic acid                   | 2,003.0 µg/mL               | +/-                                  | 11.7547 | µg/mL | Gravimetric |
|                                    | CAS # 65-85-0 (Lot MKBG9391V)  |                             | +/-                                  | 64.2274 | µg/mL | Unstressed  |
|                                    | Purity 99%                     |                             | +/-                                  | 74.6558 | µg/mL | Stressed    |
|                                    |                                |                             |                                      |         |       |             |
| <b>Solvent:</b> Methylene Chloride |                                |                             |                                      |         |       |             |
| CAS # 75-09-2                      |                                |                             |                                      |         |       |             |
| Purity 99%                         |                                |                             |                                      |         |       |             |

Reagent

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**SVLVSURRSPK\_00003**



110 Benner Circle  
Bellefonte, PA 16823-8812  
Tel: (800)356-1688  
Fax: (814)353-1309

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## Certificate of Analysis



### FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

5 VLV SURR SPK

Catalog No.: 567685 Lot No.: A093638  
Description: 8270 Surrogate Standard  
8270 Surrogate Standard 5,000 ug/ml, Methylene Chloride, 5 ml/ampul  
Container Size: 5 mL Pkg Amt: > 5 mL  
Expiration Date: February 2018 Storage: 10°C or colder  
Handling: Sonicate prior to use.

### CERTIFIED VALUES

| Elution Order | Compound   | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L., K=2)  |
|---------------|--|-----------------------------|---|
| 1             | 2-Fluorophenol<br>CAS # 367-12-4<br>Purity 99%       | 5,000.0 µg/mL               | +/- 29.0689 µg/mL Gravimetric<br>+/- 132.9492 µg/mL Unstressed<br>+/- 163.4029 µg/mL Stressed |
| 2             | Phenol-d5<br>CAS # 4165-62-2<br>Purity 99%           | 5,000.0 µg/mL               | +/- 29.0689 µg/mL Gravimetric<br>+/- 132.9492 µg/mL Unstressed<br>+/- 163.4029 µg/mL Stressed |
| 3             | Nitrobenzene-d5<br>CAS # 4165-60-0<br>Purity 99%     | 5,000.0 µg/mL               | +/- 29.0689 µg/mL Gravimetric<br>+/- 132.9492 µg/mL Unstressed<br>+/- 163.4029 µg/mL Stressed |
| 4             | 2-Fluorobiphenyl<br>CAS # 321-60-8<br>Purity 99%     | 5,000.0 µg/mL               | +/- 29.0689 µg/mL Gravimetric<br>+/- 132.9492 µg/mL Unstressed<br>+/- 163.4029 µg/mL Stressed |
| 5             | 2,4,6-Tribromophenol<br>CAS # 118-79-6<br>Purity 99% | 5,000.0 µg/mL               | +/- 29.0689 µg/mL Gravimetric<br>+/- 132.9492 µg/mL Unstressed<br>+/- 163.4029 µg/mL Stressed |
| 6             | p-Terphenyl-d14<br>CAS # 1718-51-0<br>Purity 99%     | 5,000.0 µg/mL               | +/- 29.0689 µg/mL Gravimetric<br>+/- 132.9492 µg/mL Unstressed<br>+/- 163.4029 µg/mL Stressed |

Solvent: Methylene Chloride  
CAS # 75-09-2  
Purity 99%

#### Tech Tips:

Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

**Column:**

30m x .25mm x .25um  
Rtx-5 (cat.#110223)

**Carrier Gas:**

hydrogen-constant pressure 10 psi.

**Temp. Program:**

40°C (hold 2 min.) to 330°C  
@ 10°C/min. (hold 10 min.)

**Inj. Temp:**

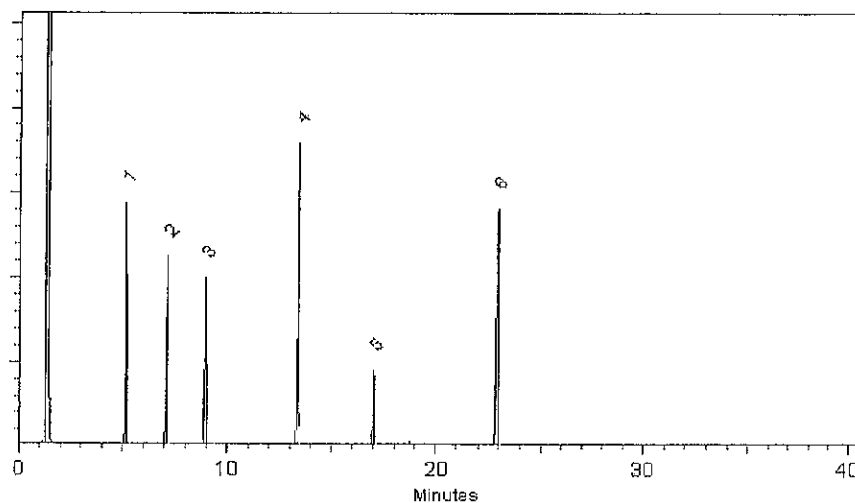
250°C

**Det. Temp:**

330°C

**Det. Type:**

FID



*Diane Shaffer*  
Diane Shaffer - QA Analyst

Date Passed: 22-Feb-2013

Balance: 1128342313

Manufactured under Restek's ISO 9001:2008  
Registered Quality System  
Certificate #FM 80397

Reagent

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**SVLVSURRSPK\_00011**



CERTIFIED REFERENCE MATERIAL

110 Benner Circle  
Bellefonte, PA 16823-8812  
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# Certificate of Analysis



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 567685 Lot No.: A0103615  
Description : 8270 Surrogate Standard  
8270 Surrogate Standard 5,000 ug/ml, Methylene Chloride, 5 ml/ampul  
Container Size : 5 mL Pkg Amt: > 5 mL  
Expiration Date : May 31, 2019 Storage: 10°C or colder  
Handling: Sonicate prior to use.

OT #1310492  
91  
90  
89  
88

## CERTIFIED VALUES

| Elution Order | Compound   | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2)                          |                                       |
|---------------|--|-----------------------------|---|---------------------------------------|
| 1             | 2-Fluorophenol<br>CAS # 367-12-4<br>Purity 99%<br>(Lot STBC5591V)      | 5,003.5 µg/mL               | +/- 29.0892 µg/mL<br>+/- 124.6713 µg/mL<br>+/- 156.7818 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 2             | Phenol-d5<br>CAS # 4165-62-2<br>Purity 99%<br>(Lot M387P4)             | 5,002.9 µg/mL               | +/- 29.0860 µg/mL<br>+/- 124.6575 µg/mL<br>+/- 156.7644 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 3             | Nitrobenzene-d5<br>CAS # 4165-60-0<br>Purity 99%<br>(Lot PR-20474)     | 5,001.4 µg/mL               | +/- 29.0773 µg/mL<br>+/- 124.6201 µg/mL<br>+/- 156.7174 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 4             | 2-Fluorobiphenyl<br>CAS # 321-60-8<br>Purity 99%<br>(Lot B11Y047)      | 5,004.4 µg/mL               | +/- 29.0947 µg/mL<br>+/- 124.6949 µg/mL<br>+/- 156.8114 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 5             | 2,4,6-Tribromophenol<br>CAS # 118-79-6<br>Purity 99%<br>(Lot 29699MJV) | 5,003.9 µg/mL               | +/- 29.0914 µg/mL<br>+/- 124.6805 µg/mL<br>+/- 156.7934 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 6             | p-Terphenyl-d14<br>CAS # 1718-51-0<br>Purity 99%<br>(Lot PR-20577)     | 5,007.1 µg/mL               | +/- 29.1100 µg/mL<br>+/- 124.7604 µg/mL<br>+/- 156.8938 µg/mL | Gravimetric<br>Unstressed<br>Stressed |

78501  
4247-4671-32

1243184

Reagent

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**SVNNITROPYROs\_00015**



**CERTIFIED WEIGHT REPORT**

**Part Number:** 70451  
**Lot Number:** 060514  
**Description:** N-Nitrosopyrrolidine  
**Expiration Date:** 060517  
**Recommended Storage:** Freezer (0 °C)  
**Nominal Concentration (µg/mL):** 1000

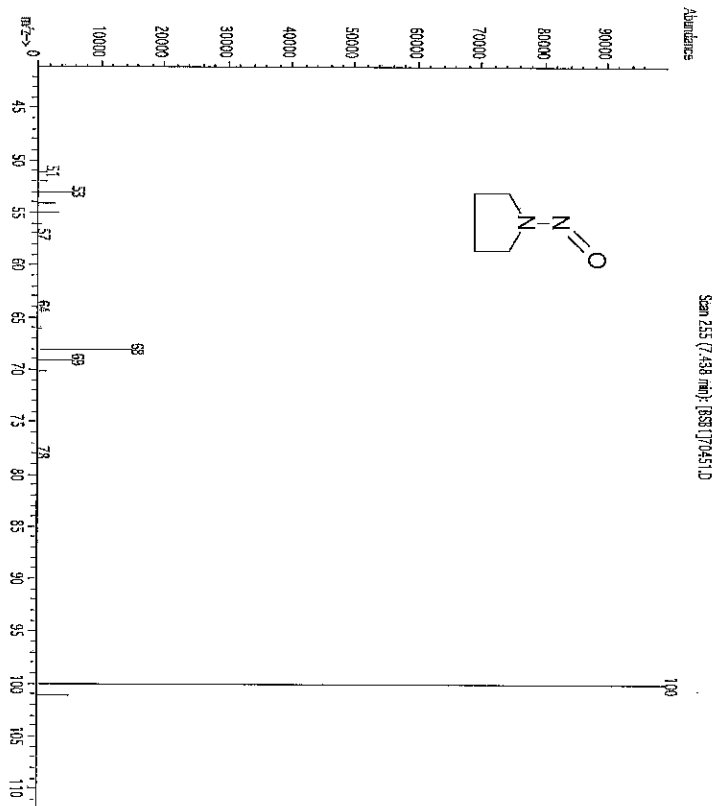
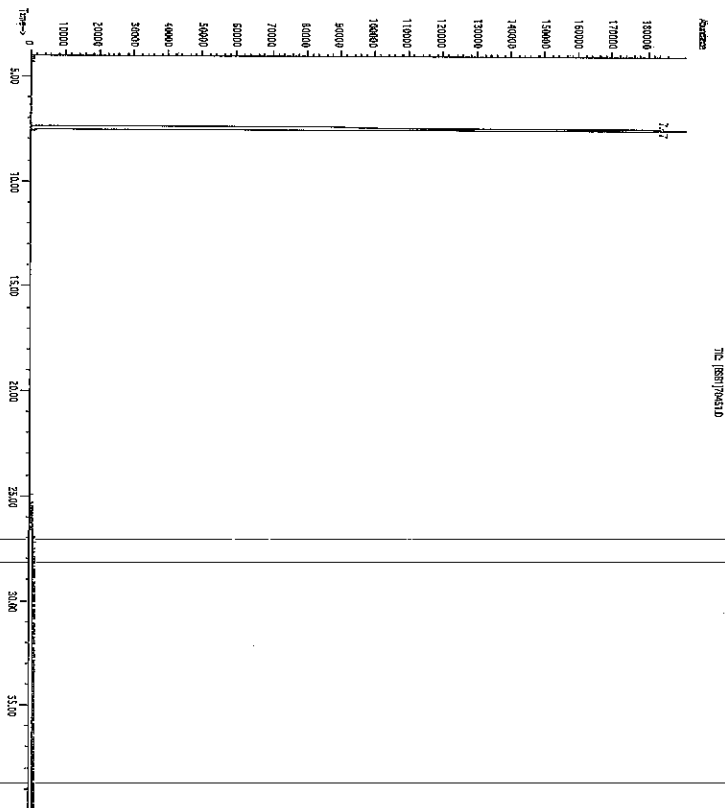
**Solvent(s):** Lot # 62418 Methylene chloride

**Weight(s) shown below were combined and diluted to:** 25.0  
SE-05 Balance Uncertainty  
0.001 Flask Uncertainty

|                                     |        |
|-------------------------------------|--------|
| Formulated By: <i>Paul Barron</i>   | 060514 |
| Reviewed By: <i>Pedro L. Rentes</i> | DATE   |
|                                     | 060514 |
|                                     | DATE   |

| Compound                | Lot Number | Nominal Conc (µg/mL) | Purity (%) | Uncertainty | Target Weight (g) | Actual Weight (g) | Actual Conc (µg/mL) | Expanded Uncertainty | (Solvent Safety Info. On Attached pg.) | MSDS Information |
|-------------------------|------------|----------------------|------------|-------------|-------------------|-------------------|---------------------|----------------------|--|------------------|
| 1. N-Nitrosopyrrolidine | 451        | 04025BM              | 1000       | 99          | 0.2               | 0.02524           | 0.02530             | 1002.2               | 0.00565                                | 00990-55-2       |
|                         |            |                      |            |             |                   |                   |                     |                      | N/A                                    | or -cat 900mg/kg |

**Method GC8MSD-3.M:** Column:SPB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9min.), Rate = 10°C/min., Injector B = 200°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Candice Warren.





Reagent

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**VOA8260GAS1ST\_00092**



CERTIFIED REFERENCE MATERIAL

110 Benner Circle  
Bellefonte, PA 16823-8812  
Tel: (800)356-1688  
Fax: (814)353-1309

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# Certificate of Analysis



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

Catalog No. : 569722 Lot No.: A0108198

Description : 8260 List 1 / Std #3 Gases (2015)

8260 List 1 / Std #3 Gases (2015) 2,000 ug/ml, P&T Methanol, 1 ml/ampul

Container Size : 2 mL Pkg Amt: > 1 mL

Expiration Date : January 31, 2018 Storage: 0°C or colder

## CERTIFIED VALUES

| Elution Order | Compound   | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2)                        |                                       |
|---------------|--|-----------------------------|---|---------------------------------------|
| 1             | Dichlorodifluoromethane (CFC-12)<br>CAS # 75-71-8 (Lot Q167-08)<br>Purity 99%  | 2,504.8 µg/mL               | +/- 21.9788 µg/mL<br>+/- 32.6918 µg/mL<br>+/- 36.4326 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 2             | Chloromethane (methyl chloride)<br>CAS # 74-87-3 (Lot SHBC8470V)<br>Purity 99% | 2,509.8 µg/mL               | +/- 19.6377 µg/mL<br>+/- 31.2039 µg/mL<br>+/- 35.1185 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 3             | Vinyl chloride<br>CAS # 75-01-4 (Lot 17542)<br>Purity 99%                      | 2,515.3 µg/mL               | +/- 22.1368 µg/mL<br>+/- 32.8734 µg/mL<br>+/- 36.6254 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 4             | 1,3-Butadiene<br>CAS # 106-99-0 (Lot SHBD5808V)<br>Purity 99%                  | 2,498.0 µg/mL               | +/- 23.6713 µg/mL<br>+/- 33.8065 µg/mL<br>+/- 37.4176 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 5             | Bromomethane (methyl bromide)<br>CAS # 74-83-9 (Lot 101604)<br>Purity 99%      | 2,503.7 µg/mL               | +/- 30.8470 µg/mL<br>+/- 39.2011 µg/mL<br>+/- 42.3685 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 6             | Chloroethane (ethyl chloride)<br>CAS # 75-00-3 (Lot SHBD1717V)<br>Purity 99%   | 2,507.7 µg/mL               | +/- 21.9404 µg/mL<br>+/- 32.6873 µg/mL<br>+/- 36.4370 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 7             | Dichlorofluoromethane (CFC-21)<br>CAS # 75-43-4 (Lot Q9B-58)<br>Purity 99%     | 2,500.7 µg/mL               | +/- 26.0039 µg/mL<br>+/- 35.4965 µg/mL<br>+/- 38.9583 µg/mL | Gravimetric<br>Unstressed<br>Stressed |

|   |                                 |         |       |     |         |       |             |
|---|---------------------------------|---------|-------|-----|---------|-------|-------------|
| 8 | Trichlorofluoromethane (CFC-11) | 2,501.9 | µg/mL | +/- | 21.5914 | µg/mL | Gravimetric |
|   | CAS # 75-69-4 (Lot SHBD5121V)   |         |       | +/- | 32.4119 | µg/mL | Unstressed  |
|   | Purity 99%                      |         |       | +/- | 36.1734 | µg/mL | Stressed    |

**Solvent:** P&T Methanol  
**CAS #** 67-56-1  
**Purity** 99%

**Column:**

60m x 0.25mm x 1.4µm  
Rtx-502.2 (cat.#10916)

**Carrier Gas:**

helium-constant flow 2.0 mL/min.

**Temp. Program:**

40°C (hold 6 min.) to 100°C  
@ 6°C/min.

**Inj. Temp:**

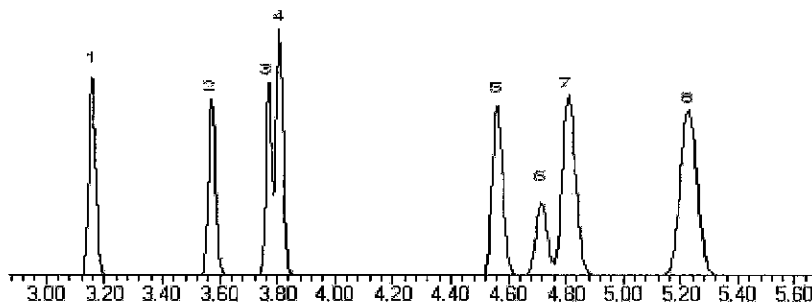
200°C

**Det. Temp:**

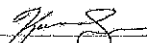
250°C

**Det. Type:**

MSD

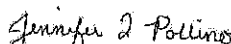


This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

  
Kendra Swope - Mix Technician

Date Mixed: 08-Jan-2015

Balance: 1125113331

  
Jennifer L. Pollino - QC Analyst

Date Passed: 14-Jan-2015

Manufactured under Restek's ISO 9001:2008  
Registered Quality System  
Certificate #FM 80397

Reagent

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**VOA8260GAS1ST\_00097**



CERTIFIED REFERENCE MATERIAL

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# Certificate of Analysis



FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

Catalog No. : 569722 Lot No.: A0108198

Description : 8260 List 1 / Std #3 Gases (2015)

8260 List 1 / Std #3 Gases (2015) 2,000 ug/ml, P&T Methanol, 1 ml/ampul

Container Size : 2 mL Pkg Amt: > 1 mL

Expiration Date : January 31, 2018 Storage: 0°C or colder

## CERTIFIED VALUES

| Elution Order | Compound   | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2)                        |                                       |
|---------------|--|-----------------------------|---|---------------------------------------|
| 1             | Dichlorodifluoromethane (CFC-12)<br>CAS # 75-71-8 (Lot Q167-08)<br>Purity 99%  | 2,504.8 µg/mL               | +/- 21.9788 µg/mL<br>+/- 32.6918 µg/mL<br>+/- 36.4326 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 2             | Chloromethane (methyl chloride)<br>CAS # 74-87-3 (Lot SHBC8470V)<br>Purity 99% | 2,509.8 µg/mL               | +/- 19.6377 µg/mL<br>+/- 31.2039 µg/mL<br>+/- 35.1185 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 3             | Vinyl chloride<br>CAS # 75-01-4 (Lot 17542)<br>Purity 99%                      | 2,515.3 µg/mL               | +/- 22.1368 µg/mL<br>+/- 32.8734 µg/mL<br>+/- 36.6254 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 4             | 1,3-Butadiene<br>CAS # 106-99-0 (Lot SHBD5808V)<br>Purity 99%                  | 2,498.0 µg/mL               | +/- 23.6713 µg/mL<br>+/- 33.8065 µg/mL<br>+/- 37.4176 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 5             | Bromomethane (methyl bromide)<br>CAS # 74-83-9 (Lot 101604)<br>Purity 99%      | 2,503.7 µg/mL               | +/- 30.8470 µg/mL<br>+/- 39.2011 µg/mL<br>+/- 42.3685 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 6             | Chloroethane (ethyl chloride)<br>CAS # 75-00-3 (Lot SHBD1717V)<br>Purity 99%   | 2,507.7 µg/mL               | +/- 21.9404 µg/mL<br>+/- 32.6873 µg/mL<br>+/- 36.4370 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 7             | Dichlorofluoromethane (CFC-21)<br>CAS # 75-43-4 (Lot Q9B-58)<br>Purity 99%     | 2,500.7 µg/mL               | +/- 26.0039 µg/mL<br>+/- 35.4965 µg/mL<br>+/- 38.9583 µg/mL | Gravimetric<br>Unstressed<br>Stressed |

|   |                                 |         |       |     |         |       |             |
|---|---------------------------------|---------|-------|-----|---------|-------|-------------|
| 8 | Trichlorofluoromethane (CFC-11) | 2,501.9 | µg/mL | +/- | 21.5914 | µg/mL | Gravimetric |
|   | CAS # 75-69-4 (Lot SHBD5121V)   |         |       | +/- | 32.4119 | µg/mL | Unstressed  |
|   | Purity 99%                      |         |       | +/- | 36.1734 | µg/mL | Stressed    |

**Solvent:** P&T Methanol  
**CAS #** 67-56-1  
**Purity** 99%

**Column:**

60m x 0.25mm x 1.4µm  
Rtx-502.2 (cat.#10916)

**Carrier Gas:**

helium-constant flow 2.0 mL/min.

**Temp. Program:**

40°C (hold 6 min.) to 100°C  
@ 6°C/min.

**Inj. Temp:**

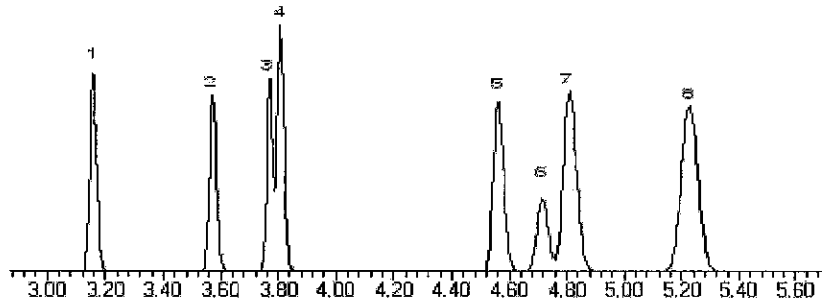
200°C

**Det. Temp:**

250°C

**Det. Type:**

MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

*Kendra Swope*  
Kendra Swope - Mix Technician

Date Mixed: 08-Jan-2015

Balance: 1125113331

*Jennifer L. Pollino*  
Jennifer L. Pollino - QC Analyst

Date Passed: 14-Jan-2015

Manufactured under Restek's ISO 9001:2008  
Registered Quality System  
Certificate #FM 80397

Reagent

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**VOA8260GAS2ND\_00094**



**CERTIFIED REFERENCE MATERIAL**

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# Certificate of Analysis



**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 569722.sec **Lot No.:** A0108226

**Description :** 8260 List 1 / Std #3 Gases (2015)

8260 List 1 / Std #3 Gases (2015) 2,000 ug/ml, P&T Methanol, 1 ml/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** January 31, 2018 **Storage:** 0°C or colder

## CERTIFIED VALUES

| Elution Order | Compound  | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2) |             |  |  |
|---------------|---|-----------------------------|--------------------------------------|-------------|--|--|
| 1             | Dichlorodifluoromethane (CFC-12)<br>CAS # 75-71-8.SEC (Lot 19630)<br>Purity 99%   | 2,494.8 µg/mL               | +/- 23.5521 µg/mL                    | Gravimetric |  |  |
|               |   |                             | +/- 33.7009 µg/mL                    | Unstressed  |  |  |
|               |   |                             | +/- 37.3133 µg/mL                    | Stressed    |  |  |
| 2             | Chloromethane (methyl chloride)<br>CAS # 74-87-3.SEC (Lot 18343)<br>Purity 99%    | 2,505.6 µg/mL               | +/- 26.4745 µg/mL                    | Gravimetric |  |  |
|               |   |                             | +/- 35.8743 µg/mL                    | Unstressed  |  |  |
|               |   |                             | +/- 39.3156 µg/mL                    | Stressed    |  |  |
| 3             | Vinyl chloride<br>CAS # 75-01-4.SEC (Lot MKBK6872V)<br>Purity 99%                 | 2,499.8 µg/mL               | +/- 25.3054 µg/mL                    | Gravimetric |  |  |
|               |   |                             | +/- 34.9816 µg/mL                    | Unstressed  |  |  |
|               |   |                             | +/- 38.4872 µg/mL                    | Stressed    |  |  |
| 4             | 1,3-Butadiene<br>CAS # 106-99-0.SEC (Lot 18349)<br>Purity 99%                     | 2,505.4 µg/mL               | +/- 23.1450 µg/mL                    | Gravimetric |  |  |
|               |   |                             | +/- 33.4914 µg/mL                    | Unstressed  |  |  |
|               |   |                             | +/- 37.1536 µg/mL                    | Stressed    |  |  |
| 5             | Bromomethane (methyl bromide)<br>CAS # 74-83-9.SEC (Lot Q119-46)<br>Purity 99%    | 2,495.4 µg/mL               | +/- 25.3762 µg/mL                    | Gravimetric |  |  |
|               |   |                             | +/- 35.0038 µg/mL                    | Unstressed  |  |  |
|               |   |                             | +/- 38.4957 µg/mL                    | Stressed    |  |  |
| 6             | Chloroethane (ethyl chloride)<br>CAS # 75-00-3.SEC (Lot Q18B-13)<br>Purity 99%    | 2,499.5 µg/mL               | +/- 21.8687 µg/mL                    | Gravimetric |  |  |
|               |   |                             | +/- 32.5806 µg/mL                    | Unstressed  |  |  |
|               |   |                             | +/- 36.3180 µg/mL                    | Stressed    |  |  |
| 7             | Dichlorofluoromethane (CFC-21)<br>CAS # 75-43-4.SEC (Lot SHBC0858V)<br>Purity 99% | 2,511.0 µg/mL               | +/- 21.9690 µg/mL                    | Gravimetric |  |  |
|               |   |                             | +/- 32.7299 µg/mL                    | Unstressed  |  |  |
|               |   |                             | +/- 36.4846 µg/mL                    | Stressed    |  |  |



|   |                                   |         |       |     |         |       |             |
|---|-----------------------------------|---------|-------|-----|---------|-------|-------------|
| 8 | Trichlorofluoromethane (CFC-11)   | 2,504.4 | µg/mL | +/- | 25.2390 | µg/mL | Gravimetric |
|   | CAS # 75-69-4, SEC (Lot Q158-102) |         |       | +/- | 34.9647 | µg/mL | Unstressed  |
|   | Purity 99%                        |         |       | +/- | 38.4843 | µg/mL | Stressed    |

**Solvent:** P&T Methanol  
**CAS #** 67-56-1  
**Purity** 99%

**Column:**

60m x 0.25mm x 1.4µm  
 Rtx-502.2 (cat.#10916)

**Carrier Gas:**

helium-constant flow 2.0 mL/min.

**Temp. Program:**

40°C (hold 6 min.) to 100°C  
 @ 6°C/min.

**Inj. Temp:**

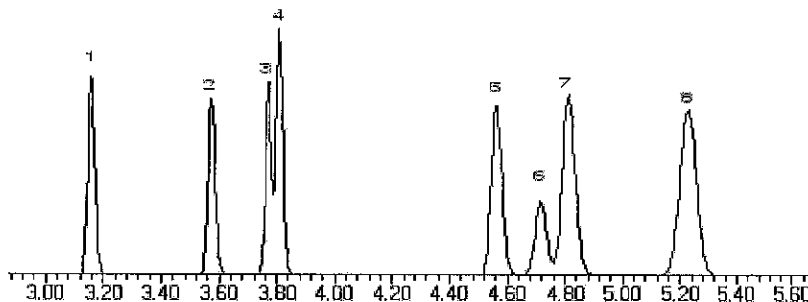
200°C

**Det. Temp:**

250°C

**Det. Type:**

MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

*Michael Maje*

**Date Mixed:** 12-Jan-2015

**Balance:** 1127510105

*Jennifer L. Pollino*

Jennifer L. Pollino - QC Analyst

**Date Passed:** 14-Jan-2015

Manufactured under Restek's ISO 9001:2008  
 Registered Quality System  
 Certificate #FM 80397

Reagent

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**VOA8260INTRES\_00091**



**CERTIFIED REFERENCE MATERIAL**

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## Certificate of Analysis



**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 567649 **Lot No.:** A0104742  
**Description :** 8260 Internal Standard  
8260 Internal Standard 250-5,000 ug/ml, P&T Methanol, 5 ml/ampul  
**Container Size :** 5 mL **Pkg Amt:** > 5 mL  
**Expiration Date :** July 31, 2019 **Storage:** 0°C or colder

### CERTIFIED VALUES

| Elution Order   | Compound  | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2)                          |                                       |
|-----------------|---|-----------------------------|---|---------------------------------------|
| 1               | tert-Butyl-d9-alcohol<br>CAS # 25725-11-5<br>Purity 99%<br>(Lot I201P5)   | 5,003.0 µg/mL               | +/- 29.0879 µg/mL<br>+/- 106.1005 µg/mL<br>+/- 106.5713 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 2               | Fluorobenzene<br>CAS # 462-06-6<br>Purity 99%<br>(Lot I380033)            | 250.8 µg/mL                 | +/- 1.4795 µg/mL<br>+/- 5.3247 µg/mL<br>+/- 5.3483 µg/mL      | Gravimetric<br>Unstressed<br>Stressed |
| 3               | 1,4-Dioxane-d8<br>CAS # 17647-74-4<br>Purity 99%<br>(Lot I1C-596)         | 5,009.6 µg/mL               | +/- 29.1262 µg/mL<br>+/- 106.2405 µg/mL<br>+/- 106.7119 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 4               | Chlorobenzene-d5<br>CAS # 3114-55-4<br>Purity 99%<br>(Lot PR-22736)       | 250.8 µg/mL                 | +/- 1.4795 µg/mL<br>+/- 5.3247 µg/mL<br>+/- 5.3483 µg/mL      | Gravimetric<br>Unstressed<br>Stressed |
| 5               | 1,4-Dichlorobenzene-d4<br>CAS # 3855-82-1<br>Purity 99%<br>(Lot PR-18488) | 250.8 µg/mL                 | +/- 1.4795 µg/mL<br>+/- 5.3247 µg/mL<br>+/- 5.3483 µg/mL      | Gravimetric<br>Unstressed<br>Stressed |
| <b>Solvent:</b> | P&T Methanol<br>CAS # 67-56-1<br>Purity 99%                               |                             |   |                                       |

Reagent

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**VOA8260KET1ST\_00038**



110 Benner Circle  
Bellefonte, PA 16823-8812  
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# CERTIFIED REFERENCE MATERIAL

## Certificate of Analysis



### FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 569721 **Lot No.:** A0108151

**Description :** 8260 List 1/ Std #2 Ketones (2015)

8260 List 1/ Std #2 Ketones (2015) 12,500 µg/ml, P&T Methanol/Water (90:10), 1 ml/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** January 31, 2018 **Storage:** 0°C or colder

### CERTIFIED VALUES

| Elution Order | Compound   | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2)  |
|---------------|--|-----------------------------|---|
| 1             | Acetone<br>CAS # 67-64-1<br>Purity 99%<br>(Lot 07196AK)                        | 12,537.0 µg/mL              | +/- 73.4069 µg/mL Gravimetric<br>+/- 667.2480 µg/mL Unstressed<br>+/- 667.9837 µg/mL Stressed |
| 2             | 2-Butanone (MEK)<br>CAS # 78-93-3<br>Purity 99%<br>(Lot BCBH7802V)             | 12,537.0 µg/mL              | +/- 73.4069 µg/mL Gravimetric<br>+/- 667.2480 µg/mL Unstressed<br>+/- 667.9837 µg/mL Stressed |
| 3             | 4-Methyl-2-pentanone (MIBK)<br>CAS # 108-10-1<br>Purity 99%<br>(Lot SHBF5332V) | 12,537.0 µg/mL              | +/- 73.4069 µg/mL Gravimetric<br>+/- 667.2480 µg/mL Unstressed<br>+/- 667.9837 µg/mL Stressed |
| 4             | 2-Hexanone<br>CAS # 591-78-6<br>Purity 99%<br>(Lot MKBK8325V)                  | 12,537.0 µg/mL              | +/- 73.4069 µg/mL Gravimetric<br>+/- 667.2480 µg/mL Unstressed<br>+/- 667.9837 µg/mL Stressed |

**Solvent:** P&T Methanol/Water (90:10)  
CAS # 67-56-1/7732-18-5  
Purity 99%

Reagent

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**VOA8260MEGA1\_00014**



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## Certificate of Analysis

**FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

Catalog No.: 567641 Lot No.: A093581  
Description: 8260 List 1 / Std #1 MegaMix  
8260 List 1 / Std #1 MegaMix 1000-50,000 µg/ml, P&T Methanol, 1 ml/ampul  
Container Size: 2 mL Pkg Amt: > 1 mL  
Expiration Date: February 2016 Storage: 0°C or colder

### CERTIFIED VALUES

| Elution Order | Compound  | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2) |          |       |             |
|---------------|---|-----------------------------|--------------------------------------|----------|-------|-------------|
| 1             | Diethyl ether (ethyl ether)<br>CAS # 60-29-7<br>Purity 99%              | 2,000.0 µg/mL               | +/-                                  | 11.6282  | µg/mL | Gravimetric |
|               |   |                             | +/-                                  | 44.2531  | µg/mL | Unstressed  |
|               |   |                             | +/-                                  | 44.4335  | µg/mL | Stressed    |
| 2             | 1,1,2-Trichlorotrifluoroethane (CFC-113)<br>CAS # 76-13-1<br>Purity 97% | 1,999.9 µg/mL               | +/-                                  | 11.6279  | µg/mL | Gravimetric |
|               |   |                             | +/-                                  | 44.2519  | µg/mL | Unstressed  |
|               |   |                             | +/-                                  | 44.4323  | µg/mL | Stressed    |
| 3             | 1,1-dichloroethene<br>CAS # 75-35-4<br>Purity 98%                       | 2,000.0 µg/mL               | +/-                                  | 11.6281  | µg/mL | Gravimetric |
|               |   |                             | +/-                                  | 44.2527  | µg/mL | Unstressed  |
|               |   |                             | +/-                                  | 44.4331  | µg/mL | Stressed    |
| 4             | tert-Butanol (TBA)<br>CAS # 75-65-0<br>Purity 99%                       | 20,000.0 µg/mL              | +/-                                  | 116.2756 | µg/mL | Gravimetric |
|               |   |                             | +/-                                  | 442.5291 | µg/mL | Unstressed  |
|               |   |                             | +/-                                  | 444.3332 | µg/mL | Stressed    |
| 5             | Iodomethane (methyl iodide)<br>CAS # 74-88-4<br>Purity 99%              | 2,000.0 µg/mL               | +/-                                  | 11.6282  | µg/mL | Gravimetric |
|               |   |                             | +/-                                  | 44.2531  | µg/mL | Unstressed  |
|               |   |                             | +/-                                  | 44.4335  | µg/mL | Stressed    |
| 6             | Allyl chloride (3-chloropropene)<br>CAS # 107-05-1<br>Purity 98%        | 2,000.0 µg/mL               | +/-                                  | 11.6281  | µg/mL | Gravimetric |
|               |   |                             | +/-                                  | 44.2527  | µg/mL | Unstressed  |
|               |   |                             | +/-                                  | 44.4331  | µg/mL | Stressed    |
| 7             | Methyl acetate<br>CAS # 79-20-9<br>Purity 99%                           | 10,000.0 µg/mL              | +/-                                  | 58.1378  | µg/mL | Gravimetric |
|               |   |                             | +/-                                  | 221.2646 | µg/mL | Unstressed  |
|               |   |                             | +/-                                  | 222.1666 | µg/mL | Stressed    |
| 8             | Carbon disulfide<br>CAS # 75-15-0<br>Purity 98%                         | 2,000.0 µg/mL               | +/-                                  | 11.6281  | µg/mL | Gravimetric |
|               |   |                             | +/-                                  | 44.2527  | µg/mL | Unstressed  |
|               |   |                             | +/-                                  | 44.4331  | µg/mL | Stressed    |
| 9             | Methylene chloride (dichloromethane)<br>CAS # 75-09-2<br>Purity 99%     | 2,000.0 µg/mL               | +/-                                  | 11.6282  | µg/mL | Gravimetric |
|               |   |                             | +/-                                  | 44.2531  | µg/mL | Unstressed  |
|               |   |                             | +/-                                  | 44.4335  | µg/mL | Stressed    |

|    |   |          |       |     |            |       |             |
|----|---|----------|-------|-----|------------|-------|-------------|
| 10 | Acrylonitrile<br>CAS # 107-13-1<br>Purity 99%                     | 20,000.0 | µg/mL | +/- | 116.2756   | µg/mL | Gravimetric |
|    |   |          |       | +/- | 442.5291   | µg/mL | Unstressed  |
|    |   |          |       | +/- | 444.3332   | µg/mL | Stressed    |
| 11 | Methyl-tert-butyl ether ( MTBE )<br>CAS # 1634-04-4<br>Purity 99% | 2,000.0  | µg/mL | +/- | 11.6282    | µg/mL | Gravimetric |
|    |   |          |       | +/- | 44.2531    | µg/mL | Unstressed  |
|    |   |          |       | +/- | 44.4335    | µg/mL | Stressed    |
| 12 | cis-1,2-Dichloroethene<br>CAS # 156-59-2<br>Purity 99%            | 2,000.0  | µg/mL | +/- | 11.6282    | µg/mL | Gravimetric |
|    |   |          |       | +/- | 44.2531    | µg/mL | Unstressed  |
|    |   |          |       | +/- | 44.4335    | µg/mL | Stressed    |
| 13 | n-Hexane (C6)<br>CAS # 110-54-3<br>Purity 99%                     | 2,000.0  | µg/mL | +/- | 11.6282    | µg/mL | Gravimetric |
|    |   |          |       | +/- | 44.2531    | µg/mL | Unstressed  |
|    |   |          |       | +/- | 44.4335    | µg/mL | Stressed    |
| 14 | 1,1-Dichloroethane<br>CAS # 75-34-3<br>Purity 98%                 | 2,000.0  | µg/mL | +/- | 11.6281    | µg/mL | Gravimetric |
|    |   |          |       | +/- | 44.2527    | µg/mL | Unstressed  |
|    |   |          |       | +/- | 44.4331    | µg/mL | Stressed    |
| 15 | 2,2-Dichloropropane<br>CAS # 594-20-7<br>Purity 98%               | 2,000.0  | µg/mL | +/- | 11.6281    | µg/mL | Gravimetric |
|    |   |          |       | +/- | 44.2527    | µg/mL | Unstressed  |
|    |   |          |       | +/- | 44.4331    | µg/mL | Stressed    |
| 16 | trans-1,2-Dichloroethene<br>CAS # 156-60-5<br>Purity 99%          | 2,000.0  | µg/mL | +/- | 11.6282    | µg/mL | Gravimetric |
|    |   |          |       | +/- | 44.2531    | µg/mL | Unstressed  |
|    |   |          |       | +/- | 44.4335    | µg/mL | Stressed    |
| 17 | chloroform<br>CAS # 67-66-3<br>Purity 99%                         | 2,000.0  | µg/mL | +/- | 11.6282    | µg/mL | Gravimetric |
|    |   |          |       | +/- | 44.2531    | µg/mL | Unstressed  |
|    |   |          |       | +/- | 44.4335    | µg/mL | Stressed    |
| 18 | Isobutanol (2-Methyl-1-propanol)<br>CAS # 78-83-1<br>Purity 99%   | 50,000.0 | µg/mL | +/- | 290.6891   | µg/mL | Gravimetric |
|    |   |          |       | +/- | 1,106.3228 | µg/mL | Unstressed  |
|    |   |          |       | +/- | 1,110.8331 | µg/mL | Stressed    |
| 19 | Bromochloromethane<br>CAS # 74-97-5<br>Purity 99%                 | 2,000.0  | µg/mL | +/- | 11.6282    | µg/mL | Gravimetric |
|    |   |          |       | +/- | 44.2531    | µg/mL | Unstressed  |
|    |   |          |       | +/- | 44.4335    | µg/mL | Stressed    |
| 20 | Tetrahydrofuran<br>CAS # 109-99-9<br>Purity 99%                   | 4,000.0  | µg/mL | +/- | 23.2563    | µg/mL | Gravimetric |
|    |   |          |       | +/- | 88.5061    | µg/mL | Unstressed  |
|    |   |          |       | +/- | 88.8670    | µg/mL | Stressed    |
| 21 | 1,1,1-trichloroethane<br>CAS # 71-55-6<br>Purity 99%              | 2,000.0  | µg/mL | +/- | 11.6282    | µg/mL | Gravimetric |
|    |   |          |       | +/- | 44.2531    | µg/mL | Unstressed  |
|    |   |          |       | +/- | 44.4335    | µg/mL | Stressed    |
| 22 | Cyclohexane<br>CAS # 110-82-7<br>Purity 98%                       | 2,000.0  | µg/mL | +/- | 11.6281    | µg/mL | Gravimetric |
|    |   |          |       | +/- | 44.2527    | µg/mL | Unstressed  |
|    |   |          |       | +/- | 44.4331    | µg/mL | Stressed    |
| 23 | 1,1-Dichloropropene<br>CAS # 563-58-6<br>Purity 99%               | 2,000.0  | µg/mL | +/- | 11.6282    | µg/mL | Gravimetric |
|    |   |          |       | +/- | 44.2531    | µg/mL | Unstressed  |
|    |   |          |       | +/- | 44.4335    | µg/mL | Stressed    |
| 24 | carbon tetrachloride<br>CAS # 56-23-5<br>Purity 99%               | 2,000.0  | µg/mL | +/- | 11.6282    | µg/mL | Gravimetric |
|    |   |          |       | +/- | 44.2531    | µg/mL | Unstressed  |
|    |   |          |       | +/- | 44.4335    | µg/mL | Stressed    |
| 25 | n-Heptane (C7)<br>CAS # 142-82-5<br>Purity 99%                    | 2,000.0  | µg/mL | +/- | 11.6282    | µg/mL | Gravimetric |
|    |   |          |       | +/- | 44.2531    | µg/mL | Unstressed  |
|    |   |          |       | +/- | 44.4335    | µg/mL | Stressed    |
| 26 | Benzene<br>CAS # 71-43-2<br>Purity 99%                            | 2,000.0  | µg/mL | +/- | 11.6282    | µg/mL | Gravimetric |
|    |   |          |       | +/- | 44.2531    | µg/mL | Unstressed  |
|    |   |          |       | +/- | 44.4335    | µg/mL | Stressed    |
| 27 | 1,2-Dichloroethane<br>CAS # 107-06-2<br>Purity 99%                | 2,000.0  | µg/mL | +/- | 11.6282    | µg/mL | Gravimetric |
|    |   |          |       | +/- | 44.2531    | µg/mL | Unstressed  |
|    |   |          |       | +/- | 44.4335    | µg/mL | Stressed    |
| 28 | Trichloroethene<br>CAS # 79-01-6<br>Purity 99%                    | 2,000.0  | µg/mL | +/- | 11.6282    | µg/mL | Gravimetric |
|    |   |          |       | +/- | 44.2531    | µg/mL | Unstressed  |
|    |   |          |       | +/- | 44.4335    | µg/mL | Stressed    |



|    |   |                |  |                         |                                       |
|----|---|----------------|--|-------------------------|---------------------------------------|
| 29 | Methylcyclohexane<br>CAS # 108-87-2<br>Purity 99%           | 2,000.0 µg/mL  | +/- 11.6282<br>+/- 44.2531<br>+/- 44.4335    | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 30 | 1,2-Dichloropropane<br>CAS # 78-87-5<br>Purity 99%          | 2,000.0 µg/mL  | +/- 11.6282<br>+/- 44.2531<br>+/- 44.4335    | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 31 | 1,4-Dioxane<br>CAS # 123-91-1<br>Purity 99%                 | 40,000.0 µg/mL | +/- 232.5513<br>+/- 885.0582<br>+/- 888.6665 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 32 | Dibromomethane<br>CAS # 74-95-3<br>Purity 99%               | 2,000.0 µg/mL  | +/- 11.6282<br>+/- 44.2531<br>+/- 44.4335    | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 33 | bromodichloromethane<br>CAS # 75-27-4<br>Purity 97%         | 2,000.0 µg/mL  | +/- 11.6284<br>+/- 44.2540<br>+/- 44.4344    | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 34 | cis-1,3-Dichloropropene<br>CAS # 10061-01-5<br>Purity 99%   | 2,000.0 µg/mL  | +/- 11.6282<br>+/- 44.2531<br>+/- 44.4335    | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 35 | Toluene<br>CAS # 108-88-3<br>Purity 99%                     | 2,000.0 µg/mL  | +/- 11.6282<br>+/- 44.2531<br>+/- 44.4335    | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 36 | Ethyl methacrylate<br>CAS # 97-63-2<br>Purity 99%           | 2,000.0 µg/mL  | +/- 11.6282<br>+/- 44.2531<br>+/- 44.4335    | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 37 | trans-1,3-Dichloropropene<br>CAS # 10061-02-6<br>Purity 97% | 2,000.0 µg/mL  | +/- 11.6284<br>+/- 44.2540<br>+/- 44.4344    | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 38 | 1,1,2-Trichloroethane<br>CAS # 79-00-5<br>Purity 99%        | 2,000.0 µg/mL  | +/- 11.6282<br>+/- 44.2531<br>+/- 44.4335    | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 39 | 1,3-Dichloropropane<br>CAS # 142-28-9<br>Purity 99%         | 2,000.0 µg/mL  | +/- 11.6282<br>+/- 44.2531<br>+/- 44.4335    | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 40 | Tetrachloroethene<br>CAS # 127-18-4<br>Purity 99%           | 2,000.0 µg/mL  | +/- 11.6282<br>+/- 44.2531<br>+/- 44.4335    | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 41 | dibromochloromethane<br>CAS # 124-48-1<br>Purity 98%        | 2,000.0 µg/mL  | +/- 11.6281<br>+/- 44.2527<br>+/- 44.4331    | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 42 | 1,2-Dibromoethane (EDB)<br>CAS # 106-93-4<br>Purity 99%     | 2,000.0 µg/mL  | +/- 11.6282<br>+/- 44.2531<br>+/- 44.4335    | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 43 | Chlorobenzene<br>CAS # 108-90-7<br>Purity 99%               | 2,000.0 µg/mL  | +/- 11.6282<br>+/- 44.2531<br>+/- 44.4335    | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 44 | 1,1,1,2-Tetrachloroethane<br>CAS # 630-20-6<br>Purity 99%   | 2,000.0 µg/mL  | +/- 11.6282<br>+/- 44.2531<br>+/- 44.4335    | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 45 | m-Xylene<br>CAS # 108-38-3<br>Purity 99%                    | 1,000.0 µg/mL  | +/- 5.8141<br>+/- 22.1265<br>+/- 22.2167     | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 46 | p-Xylene<br>CAS # 106-42-3<br>Purity 99%                    | 1,000.0 µg/mL  | +/- 5.8141<br>+/- 22.1265<br>+/- 22.2167     | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 47 | o-Xylene<br>CAS # 95-47-6<br>Purity 99%                     | 2,000.0 µg/mL  | +/- 11.6282<br>+/- 44.2531<br>+/- 44.4335    | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |

|    |  |         |       |     |         |       |             |
|----|--|---------|-------|-----|---------|-------|-------------|
| 48 | Ethylbenzene<br>CAS # 100-41-4<br>Purity 99%                 | 2,000.0 | µg/mL | +/- | 11.6282 | µg/mL | Gravimetric |
|    |  |         |       | +/- | 44.2531 | µg/mL | Unstressed  |
|    |  |         |       | +/- | 44.4335 | µg/mL | Stressed    |
| 49 | Styrene<br>CAS # 100-42-5<br>Purity 99%                      | 2,000.0 | µg/mL | +/- | 11.6282 | µg/mL | Gravimetric |
|    |  |         |       | +/- | 44.2531 | µg/mL | Unstressed  |
|    |  |         |       | +/- | 44.4335 | µg/mL | Stressed    |
| 50 | Isopropylbenzene (cumene)<br>CAS # 98-82-8<br>Purity 99%     | 2,000.0 | µg/mL | +/- | 11.6282 | µg/mL | Gravimetric |
|    |  |         |       | +/- | 44.2531 | µg/mL | Unstressed  |
|    |  |         |       | +/- | 44.4335 | µg/mL | Stressed    |
| 51 | bromoform<br>CAS # 75-25-2<br>Purity 99%                     | 2,000.0 | µg/mL | +/- | 11.6282 | µg/mL | Gravimetric |
|    |  |         |       | +/- | 44.2531 | µg/mL | Unstressed  |
|    |  |         |       | +/- | 44.4335 | µg/mL | Stressed    |
| 52 | 1,1,2,2-Tetrachloroethane<br>CAS # 79-34-5<br>Purity 99%     | 2,000.0 | µg/mL | +/- | 11.6282 | µg/mL | Gravimetric |
|    |  |         |       | +/- | 44.2531 | µg/mL | Unstressed  |
|    |  |         |       | +/- | 44.4335 | µg/mL | Stressed    |
| 53 | 1,2,3-Trichloropropane<br>CAS # 96-18-4<br>Purity 99%        | 2,000.0 | µg/mL | +/- | 11.6282 | µg/mL | Gravimetric |
|    |  |         |       | +/- | 44.2531 | µg/mL | Unstressed  |
|    |  |         |       | +/- | 44.4335 | µg/mL | Stressed    |
| 54 | trans-1,4-dichloro-2-butene<br>CAS # 110-57-6<br>Purity 98%  | 2,000.0 | µg/mL | +/- | 11.6281 | µg/mL | Gravimetric |
|    |  |         |       | +/- | 44.2527 | µg/mL | Unstressed  |
|    |  |         |       | +/- | 44.4331 | µg/mL | Stressed    |
| 55 | n-Propylbenzene<br>CAS # 103-65-1<br>Purity 99%              | 2,000.0 | µg/mL | +/- | 11.6282 | µg/mL | Gravimetric |
|    |  |         |       | +/- | 44.2531 | µg/mL | Unstressed  |
|    |  |         |       | +/- | 44.4335 | µg/mL | Stressed    |
| 56 | Bromobenzene<br>CAS # 108-86-1<br>Purity 99%                 | 2,000.0 | µg/mL | +/- | 11.6282 | µg/mL | Gravimetric |
|    |  |         |       | +/- | 44.2531 | µg/mL | Unstressed  |
|    |  |         |       | +/- | 44.4335 | µg/mL | Stressed    |
| 57 | 1,3,5-Trimethylbenzene<br>CAS # 108-67-8<br>Purity 99%       | 2,000.0 | µg/mL | +/- | 11.6282 | µg/mL | Gravimetric |
|    |  |         |       | +/- | 44.2531 | µg/mL | Unstressed  |
|    |  |         |       | +/- | 44.4335 | µg/mL | Stressed    |
| 58 | 2-Chlorotoluene<br>CAS # 95-49-8<br>Purity 99%               | 2,000.0 | µg/mL | +/- | 11.6282 | µg/mL | Gravimetric |
|    |  |         |       | +/- | 44.2531 | µg/mL | Unstressed  |
|    |  |         |       | +/- | 44.4335 | µg/mL | Stressed    |
| 59 | 4-Chlorotoluene<br>CAS # 106-43-4<br>Purity 99%              | 2,000.0 | µg/mL | +/- | 11.6282 | µg/mL | Gravimetric |
|    |  |         |       | +/- | 44.2531 | µg/mL | Unstressed  |
|    |  |         |       | +/- | 44.4335 | µg/mL | Stressed    |
| 60 | tert-Butylbenzene<br>CAS # 98-06-6<br>Purity 99%             | 2,000.0 | µg/mL | +/- | 11.6282 | µg/mL | Gravimetric |
|    |  |         |       | +/- | 44.2531 | µg/mL | Unstressed  |
|    |  |         |       | +/- | 44.4335 | µg/mL | Stressed    |
| 61 | 1,2,4-Trimethylbenzene<br>CAS # 95-63-6<br>Purity 98%        | 2,000.0 | µg/mL | +/- | 11.6281 | µg/mL | Gravimetric |
|    |  |         |       | +/- | 44.2527 | µg/mL | Unstressed  |
|    |  |         |       | +/- | 44.4331 | µg/mL | Stressed    |
| 62 | sec-Butylbenzene<br>CAS # 135-98-8<br>Purity 99%             | 2,000.0 | µg/mL | +/- | 11.6282 | µg/mL | Gravimetric |
|    |  |         |       | +/- | 44.2531 | µg/mL | Unstressed  |
|    |  |         |       | +/- | 44.4335 | µg/mL | Stressed    |
| 63 | 4-Isopropyltoluene (p-Cymene)<br>CAS # 99-87-6<br>Purity 99% | 2,000.0 | µg/mL | +/- | 11.6282 | µg/mL | Gravimetric |
|    |  |         |       | +/- | 44.2531 | µg/mL | Unstressed  |
|    |  |         |       | +/- | 44.4335 | µg/mL | Stressed    |
| 64 | 1,3-Dichlorobenzene<br>CAS # 541-73-1<br>Purity 99%          | 2,000.0 | µg/mL | +/- | 11.6282 | µg/mL | Gravimetric |
|    |  |         |       | +/- | 44.2531 | µg/mL | Unstressed  |
|    |  |         |       | +/- | 44.4335 | µg/mL | Stressed    |
| 65 | 1,4-Dichlorobenzene<br>CAS # 106-46-7<br>Purity 99%          | 2,000.0 | µg/mL | +/- | 11.6282 | µg/mL | Gravimetric |
|    |  |         |       | +/- | 44.2531 | µg/mL | Unstressed  |
|    |  |         |       | +/- | 44.4335 | µg/mL | Stressed    |
| 66 | n-Butylbenzene<br>CAS # 104-51-8<br>Purity 99%               | 2,000.0 | µg/mL | +/- | 11.6282 | µg/mL | Gravimetric |
|    |  |         |       | +/- | 44.2531 | µg/mL | Unstressed  |
|    |  |         |       | +/- | 44.4335 | µg/mL | Stressed    |

|   |  |               |   |                         |                                       |
|---|--|---------------|---|-------------------------|---------------------------------------|
| 67  | 1,2-Dichlorobenzene<br>CAS # 95-50-1<br>Purity 99%         | 2,000.0 µg/mL | +/- 11.6282<br>+/- 44.2531<br>+/- 44.4335 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 68  | 1,2-Dibromo-3-chloropropane<br>CAS # 96-12-8<br>Purity 99% | 2,000.0 µg/mL | +/- 11.6282<br>+/- 44.2531<br>+/- 44.4335 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 69  | 1,2,4-Trichlorobenzene<br>CAS # 120-82-1<br>Purity 99%     | 2,000.0 µg/mL | +/- 11.6282<br>+/- 44.2531<br>+/- 44.4335 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 70  | Hexachlorobutadiene<br>CAS # 87-68-3<br>Purity 97%         | 2,000.0 µg/mL | +/- 11.6284<br>+/- 44.2540<br>+/- 44.4344 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 71  | Naphthalene<br>CAS # 91-20-3<br>Purity 99%                 | 2,000.0 µg/mL | +/- 11.6282<br>+/- 44.2531<br>+/- 44.4335 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 72  | 1,2,3-Trichlorobenzene<br>CAS # 87-61-6<br>Purity 99%      | 2,000.0 µg/mL | +/- 11.6282<br>+/- 44.2531<br>+/- 44.4335 | µg/mL<br>µg/mL<br>µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| <b>Solvent:</b> P&T Methanol<br>CAS # 67-56-1<br>Purity 99% |  |               |   |                         |                                       |

**Column:**  
60m x .25mm x 1.4µm  
Rtx-502.2 (cat.#10916)

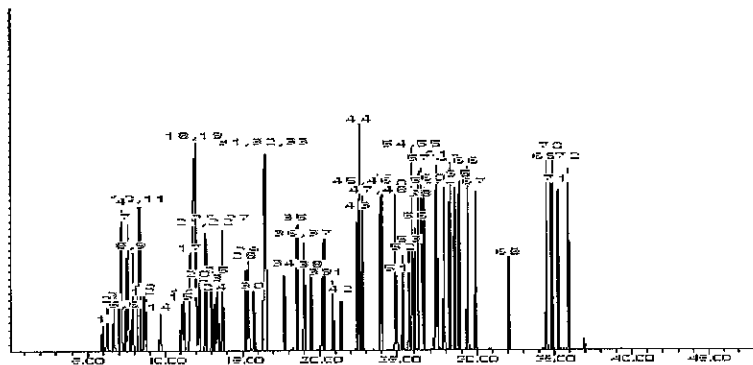
**Carrier Gas:**  
helium-constant pressure 30 psi

**Temp. Program:**  
40°C (hold 6 min.) to 240°C  
@ 6°C/min. (hold 10 min.)

**Inj. Temp:**  
200°C

**Det. Temp:**  
250°C

**Det. Type:**  
MSD



*Jennifer L. Pollino*  
Jennifer L. Pollino - QC Analyst

Date Passed: 01-Mar-2013

Balance: B251644995

Manufactured under Restek's ISO 9001:2008  
Registered Quality System  
Certificate #FM 80397

Reagent

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**VOA8260SURRES\_00063**



# CERTIFIED REFERENCE MATERIAL

110 Benner Circle  
Bellefonte, PA 16823-8812  
Tel: (800)356-1688  
Fax: (814)353-1309

www.restek.com

## Certificate of Analysis



### FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 567650 **Lot No.:** A0100424  
**Description :** 8260 Surrogate Standard  
8260 Surrogate Standard 2,500 ug/ml, P&T Methanol, 5 ml/ampul  
**Container Size :** 5 mL **Pkg Amt:** > 5 mL  
**Expiration Date :** January 31, 2019 **Storage:** 0°C or colder

### CERTIFIED VALUES

| Elution Order | Compound                       | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2) |         |                   |
|---------------|--------------------------------|-----------------------------|--------------------------------------|---------|-------------------|
| 1             | Dibromofluoromethane           | 2,502.2 µg/mL               | +/-                                  | 14.5480 | µg/mL Gravimetric |
|               | CAS # 1868-53-7 (Lot 022012)   |                             | +/-                                  | 28.2159 | µg/mL Unstressed  |
|               | Purity 99%                     |                             | +/-                                  | 32.4683 | µg/mL Stressed    |
| 2             | 1,2-Dichloroethane-d4          | 2,501.2 µg/mL               | +/-                                  | 14.5422 | µg/mL Gravimetric |
|               | CAS # 17060-07-0 (Lot 12K-027) |                             | +/-                                  | 28.2046 | µg/mL Unstressed  |
|               | Purity 99%                     |                             | +/-                                  | 32.4554 | µg/mL Stressed    |
| 3             | Toluene-d8                     | 2,500.8 µg/mL               | +/-                                  | 14.5399 | µg/mL Gravimetric |
|               | CAS # 2037-26-5 (Lot 13I-050)  |                             | +/-                                  | 28.2001 | µg/mL Unstressed  |
|               | Purity 99%                     |                             | +/-                                  | 32.4502 | µg/mL Stressed    |
| 4             | 1-Bromo-4-fluorobenzene (BFB)  | 2,501.4 µg/mL               | +/-                                  | 14.5434 | µg/mL Gravimetric |
|               | CAS # 460-00-4 (Lot 01127COV)  |                             | +/-                                  | 28.2069 | µg/mL Unstressed  |
|               | Purity 99%                     |                             | +/-                                  | 32.4580 | µg/mL Stressed    |

**Solvent:** P&T Methanol  
**CAS #** 67-56-1  
**Purity** 99%

Reagent

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**VOA8260SURRES\_00087**



**CERTIFIED REFERENCE MATERIAL**

110 Benner Circle  
Bellefonte, PA 16823-8812  
Tel: (800)356-1688  
Fax: (814)353-1309

www.restek.com

## Certificate of Analysis



**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 567650 **Lot No.:** A0102817  
**Description :** 8260 Surrogate Standard  
8260 Surrogate Standard 2,500 ug/ml, P&T Methanol, 5 ml/ampul  
**Container Size :** 5 mL **Pkg Amt:** > 5 mL  
**Expiration Date :** April 30, 2019 **Storage:** 0°C or colder

### CERTIFIED VALUES

| Elution Order | Compound   | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2)                        |                                       |
|---------------|--|-----------------------------|---|---------------------------------------|
| 1             | Dibromofluoromethane<br>CAS # 1868-53-7 (Lot 022012)<br>Purity 99%           | 2,503.8 µg/mL               | +/- 14.5573 µg/mL<br>+/- 28.2339 µg/mL<br>+/- 32.4891 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 2             | 1,2-Dichloroethane-d4<br>CAS # 17060-07-0 (Lot 13J-483)<br>Purity 99%        | 2,502.4 µg/mL               | +/- 14.5492 µg/mL<br>+/- 28.2182 µg/mL<br>+/- 32.4709 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 3             | Toluene-d8<br>CAS # 2037-26-5 (Lot 13I-050)<br>Purity 99%                    | 2,500.0 µg/mL               | +/- 14.5352 µg/mL<br>+/- 28.1911 µg/mL<br>+/- 32.4398 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 4             | 1-Bromo-4-fluorobenzene (BFB)<br>CAS # 460-00-4 (Lot 01127COV)<br>Purity 99% | 2,503.6 µg/mL               | +/- 14.5561 µg/mL<br>+/- 28.2317 µg/mL<br>+/- 32.4865 µg/mL | Gravimetric<br>Unstressed<br>Stressed |

**Solvent:** P&T Methanol  
**CAS #** 67-56-1  
**Purity** 99%

Reagent

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**VOA8260VARES\_00050**





# CERTIFIED REFERENCE MATERIAL

110 Benner Circle  
Bellefonte, PA 16823-8812  
Tel: (800)356-1688  
Fax: (814)353-1309

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## Certificate of Analysis



### FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

Catalog No. : 569724 Lot No.: A0108225  
Description : 8260 List 1 / Std #6 Vinyl Acetate (2015)  
8260 List 1 / Std #6 Vinyl Acetate (2015) 5000 ug/ml, P&T Methanol, 1 ml/ampul  
Container Size : 2 mL Pkg Amt: > 1 mL  
Expiration Date : July 31, 2015 Storage: 0°C or colder

### CERTIFIED VALUES

| Elution Order | Compound   | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2)  |
|---------------|--|-----------------------------|---|
| 1             | Vinyl acetate<br>CAS # 108-05-4<br>Purity 99%<br>(Lot STBC8935V) | 5,000.0 µg/mL               | +/- 29.3428 µg/mL Gravimetric<br>+/- 266.1189 µg/mL Unstressed<br>+/- 266.4123 µg/mL Stressed |

Solvent: P&T Methanol  
CAS # 67-56-1  
Purity 99%

#### Tech Tips:

Vinyl acetate is a volatile organic ester included in the target lists of several US EPA and other methods. Under acidic conditions, esters react with alcohols to form new esters (transesterification). Methanol-based mixes containing halogenated compounds are slightly acidic, so it is important to minimize exposure of vinyl acetate to mixes of halogenated compounds in methanol. For this reason, we offer vinyl acetate in individual solution, and suggest that it be introduced into the working level calibration solution immediately before use. This will minimize problems and ensure more consistent results.

Reagent

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**VOAACRORES\_00065**



**CERTIFIED REFERENCE MATERIAL**

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**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 568720 **Lot No.:** A0107338

**Description :** 8260 List 1/Std #5 Acrolein High  
8260 List 1/Std #5 Acrolein High 19,750 µg/ml, Water, 1 ml/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** March 31, 2015 **Storage:** 10°C or colder

**Handling:** This product is photosensitive.

**CERTIFIED VALUES**

| Elution Order | Compound  | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2)   |
|---------------|---|-----------------------------|--|
| 1             | Acrolein<br>CAS # 107-02-8<br>Purity 99%<br>(Lot 140429JLM) | 19,759.0 µg/mL              | +/- 115.6933 µg/mL Gravimetric<br>+/- 633.5357 µg/mL Unstressed<br>+/- 736.4159 µg/mL Stressed |

**Solvent:** Water  
CAS # 7732-18-5  
Purity 99%

Reagent

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**VOAACRRES2ND\_00057**

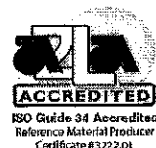


CERTIFIED REFERENCE MATERIAL

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## Certificate of Analysis



**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 568720.sec **Lot No.:** A0107340  
**Description :** 8260 List 1/Std #5 Acrolein High  
8260 List 1/Std #5 Acrolein High 19,750 µg/ml, Water, 1 ml/ampul  
**Container Size :** 2 mL **Pkg Amt:** > 1 mL  
**Expiration Date :** March 31, 2015 **Storage:** 10°C or colder  
**Handling:** This product is photosensitive.

### CERTIFIED VALUES

| Elution Order | Compound                         | Grav. Conc.<br>(weight/volume) | Expanded Uncertainty<br>(95% C.L.; K=2) |
|---------------|----------------------------------|--------------------------------|---|
| 1             | Acrolein                         | 19,764.0 µg/mL                 | +/- 115.9862 µg/mL Gravimetric          |
|               | CAS # 107-02-8.SEC (Lot 2881600) |                                | +/- 633.7442 µg/mL Unstressed           |
|               | Purity 99%                       |                                | +/- 736.6437 µg/mL Stressed             |

**Solvent:** Water  
**CAS #** 7732-18-5  
**Purity** 99%

Reagent

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**VOACEVERES\_00060**



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## Certificate of Analysis

### FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 567643 **Lot No.:** A093368

**Description :** 8260 List 1 / Std #4 2-Chloroethylvinyl Ether

8260 List 1 / Std #4 2-Chloroethylvinyl Ether 2,000 ug/ml, P&T Methanol, 1 ml/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** February 2016 **Storage:** 0°C or colder

### CERTIFIED VALUES

| Elution Order | Compound                  | Grav. Conc.<br>(weight/volume) | Expanded Uncertainty<br>(95% C.L.; K=2) |         |       |             |
|---------------|---------------------------|--------------------------------|---|---------|-------|-------------|
| 1             | 2-Chloroethyl vinyl ether | 2,000.0    µg/mL               | +/-                                     | 11.6282 | µg/mL | Gravimetric |
|               | CAS #    110-75-8         |                                | +/-                                     | 44.2531 | µg/mL | Unstressed  |
|               | Purity    99%             |                                | +/-                                     | 44.4335 | µg/mL | Stressed    |
| Solvent:      | P&T Methanol              |                                |   |         |       |             |
|               | CAS #    67-56-1          |                                |   |         |       |             |
|               | Purity    99%             |                                |   |         |       |             |

#### Tech Tips:

Degradation of tetrachloroethylene to pentachloroethane may occur if solutions containing 2-chloroethyl vinyl ether are combined with solutions that contain tetrachloroethylene.

Degradation of tetrachloroethylene to pentachloroethane may occur if solutions containing 2-chloroethyl vinyl ether are combined with solutions that contain tetrachloroethylene.

Reagent

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**VOACEVERES\_00067**





CERTIFIED REFERENCE MATERIAL

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Bellefonte, PA 16823-8812  
Tel: (800)356-1688  
Fax: (814)353-1309

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## Certificate of Analysis



**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No.:** 569723 **Lot No.:** A0108172  
**Description:** 8260 List 1 / Std #4 2-CEVE (2015)  
8260 List 1 / Std #4 2-CEVE (2015) 2,500 ug/ml, P&T Methanol, 1 ml/ampul  
**Container Size:** 2 mL **Pkg Amt:** > 1 mL  
**Expiration Date:** January 31, 2018 **Storage:** 0°C or colder

**CERTIFIED VALUES**

| Elution Order | Compound   | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2) |       |             |  |
|---------------|--|-----------------------------|--------------------------------------|-------|-------------|--|
| 1             | 2-Chloroethyl vinyl ether<br>CAS # 110-75-8<br>Purity 99%<br>(Lot MKBK2735V) | 2,502.0 µg/mL               | +/- 14.6831                          | µg/mL | Gravimetric |  |
|               |  |                             | +/- 53.0984                          | µg/mL | Unstressed  |  |
|               |  |                             | +/- 53.3337                          | µg/mL | Stressed    |  |

**Solvent:** P&T Methanol  
CAS # 67-56-1  
Purity 99%

**Tech Tips:**

Degradation of tetrachloroethylene to pentachloroethane may occur if solutions containing 2-chloroethyl vinyl ether are combined with solutions that contain tetrachloroethylene.

Reagent

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**VOACYCLORES\_00022**



110 Benner Circle  
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## CERTIFIED REFERENCE MATERIAL

# Certificate of Analysis



### FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

Catalog No. : 567648 Lot No.: A0108012  
Description : 8260 List 2 / Std #3 Cyclohexanone  
8260 List 2 / Std #3 Cyclohexanone 20,000 ug/ml, Water, 1 ml/ampul  
Container Size : 2 mL Pkg Amt: > 1 mL  
Expiration Date : December 31, 2017 Storage: 10°C or colder

### CERTIFIED VALUES

| Elution Order | Compound                       | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2) |
|---------------|--------------------------------|-----------------------------|--------------------------------------|
| 1             | Cyclohexanone                  | 20,022.0 µg/mL              | +/- 117.2332 µg/mL Gravimetric       |
|               | CAS # 108-94-1 (Lot MKBP7869V) |                             | +/- 1,065.6170 µg/mL Unstressed      |
|               | Purity 99%                     |                             | +/- 1,066.7919 µg/mL Stressed        |

Solvent: Water  
CAS # 7732-18-5  
Purity 99%

Reagent

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**VOALIST2STD1P\_00024**



**CERTIFIED REFERENCE MATERIAL**

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# Certificate of Analysis



**FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.**

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 568722 **Lot No.:** A0101694

**Description :** 8260 List 2/ Std #1 Additions (2014)

8260 List 2/ Std #1 Additions (2014) 2,000-50,000 µg/ml, P&T Methanol, 1 ml/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** September 30, 2015 **Storage:** 0°C or colder

## CERTIFIED VALUES

| Elution Order | Compound                             | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2) |            |                   |
|---------------|--------------------------------------|-----------------------------|--------------------------------------|------------|-------------------|
| 1             | 2-Propanol (isopropanol)             | 20,004.0 µg/mL              | +/-                                  | 117.1278   | µg/mL Gravimetric |
|               | CAS # 67-63-0 (Lot SHBC9345V)        |                             | +/-                                  | 1,064.6590 | µg/mL Unstressed  |
|               | Purity 99%                           |                             | +/-                                  | 1,065.8329 | µg/mL Stressed    |
| 2             | Chloroprene (2-chloro-1,3-butadiene) | 2,000.0 µg/mL               | +/-                                  | 32.2441    | µg/mL Gravimetric |
|               | CAS # 126-99-8 (Lot 130611JLM)       |                             | +/-                                  | 110.6029   | µg/mL Unstressed  |
|               | Purity 99%                           |                             | +/-                                  | 110.7159   | µg/mL Stressed    |
| 3             | Ethyl acetate                        | 4,008.5 µg/mL               | +/-                                  | 23.5241    | µg/mL Gravimetric |
|               | CAS # 141-78-6 (Lot SHBD3394V)       |                             | +/-                                  | 213.3475   | µg/mL Unstressed  |
|               | Purity 99%                           |                             | +/-                                  | 213.5827   | µg/mL Stressed    |
| 4             | Methacrylonitrile                    | 20,016.5 µg/mL              | +/-                                  | 117.2010   | µg/mL Gravimetric |
|               | CAS # 126-98-7 (Lot 1012014)         |                             | +/-                                  | 1,065.3242 | µg/mL Unstressed  |
|               | Purity 99%                           |                             | +/-                                  | 1,066.4989 | µg/mL Stressed    |
| 5             | 2,2,4-Trimethylpentane (isooctane)   | 2,001.0 µg/mL               | +/-                                  | 11.7430    | µg/mL Gravimetric |
|               | CAS # 540-84-1 (Lot SHBB2470V)       |                             | +/-                                  | 106.5008   | µg/mL Unstressed  |
|               | Purity 99%                           |                             | +/-                                  | 106.6182   | µg/mL Stressed    |
| 6             | 1-Butanol                            | 50,000.5 µg/mL              | +/-                                  | 292.7488   | µg/mL Gravimetric |
|               | CAS # 71-36-3 (Lot SHBC1840V)        |                             | +/-                                  | 2,661.1401 | µg/mL Unstressed  |
|               | Purity 99%                           |                             | +/-                                  | 2,664.0743 | µg/mL Stressed    |
| 7             | 1,4-Difluorobenzene                  | 2,010.0 µg/mL               | +/-                                  | 11.7958    | µg/mL Gravimetric |
|               | CAS # 540-36-3 (Lot MKBN8571V)       |                             | +/-                                  | 106.9798   | µg/mL Unstressed  |
|               | Purity 99%                           |                             | +/-                                  | 107.0977   | µg/mL Stressed    |
| 8             | Ethyl acrylate                       | 2,007.0 µg/mL               | +/-                                  | 11.7782    | µg/mL Gravimetric |
|               | CAS # 140-88-5 (Lot 10129902)        |                             | +/-                                  | 106.8201   | µg/mL Unstressed  |
|               | Purity 99%                           |                             | +/-                                  | 106.9379   | µg/mL Stressed    |

|          |  |                  |               |     |          |       |             |
|----------|--|------------------|---------------|-----|----------|-------|-------------|
| 9        | Methyl methacrylate<br>CAS # 80-62-6<br>Purity 99%     | (Lot MKBL9017V)  | 4,001.0 µg/mL | +/- | 23.4801  | µg/mL | Gravimetric |
|          |  |                  |               | +/- | 212.9483 | µg/mL | Unstressed  |
|          |  |                  |               | +/- | 213.1831 | µg/mL | Stressed    |
| 10       | 2-Nitropropane<br>CAS # 79-46-9<br>Purity 97%          | (Lot BCBJ4343V)  | 4,000.3 µg/mL | +/- | 23.4759  | µg/mL | Gravimetric |
|          |  |                  |               | +/- | 212.9100 | µg/mL | Unstressed  |
|          |  |                  |               | +/- | 213.1447 | µg/mL | Stressed    |
| 11       | Butyl acetate<br>CAS # 123-86-4<br>Purity 99%          | (Lot SHBC9340V)  | 2,009.0 µg/mL | +/- | 11.7899  | µg/mL | Gravimetric |
|          |  |                  |               | +/- | 106.9266 | µg/mL | Unstressed  |
|          |  |                  |               | +/- | 107.0445 | µg/mL | Stressed    |
| 12       | 1-Chlorohexane<br>CAS # 544-10-5<br>Purity 99%         | (Lot 05107LK)    | 2,002.5 µg/mL | +/- | 11.7518  | µg/mL | Gravimetric |
|          |  |                  |               | +/- | 106.5806 | µg/mL | Unstressed  |
|          |  |                  |               | +/- | 106.6981 | µg/mL | Stressed    |
| 13       | 1,2,3-Trimethylbenzene<br>CAS # 526-73-8<br>Purity 97% | (Lot 8776.05-10) | 2,001.6 µg/mL | +/- | 11.7465  | µg/mL | Gravimetric |
|          |  |                  |               | +/- | 106.5324 | µg/mL | Unstressed  |
|          |  |                  |               | +/- | 106.6499 | µg/mL | Stressed    |
| 14       | Benzyl chloride<br>CAS # 100-44-7<br>Purity 99%        | (Lot 20396EK)    | 2,001.0 µg/mL | +/- | 11.7430  | µg/mL | Gravimetric |
|          |  |                  |               | +/- | 106.5008 | µg/mL | Unstressed  |
|          |  |                  |               | +/- | 106.6182 | µg/mL | Stressed    |
| 15       | 1,3,5-Trichlorobenzene<br>CAS # 108-70-3<br>Purity 99% | (Lot 11319AS)    | 2,000.5 µg/mL | +/- | 11.7401  | µg/mL | Gravimetric |
|          |  |                  |               | +/- | 106.4742 | µg/mL | Unstressed  |
|          |  |                  |               | +/- | 106.5916 | µg/mL | Stressed    |
| Solvent: | P&T Methanol<br>CAS # 67-56-1<br>Purity 99%            |                  |               |     |          |       |             |

Reagent

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**VOALIST3STD1P\_00013**



**CERTIFIED REFERENCE MATERIAL**

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# Certificate of Analysis



## FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

*This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.*

**Catalog No. :** 568723 **Lot No.:** A0107304

**Description :** 8260 List 3/ Std#1 Polar Additions

8260 List 3/ Std#1 Polar Additions 2,000-100,000 µg/ml, 1 ml/ampul

**Container Size :** 2 mL **Pkg Amt:** > 1 mL

**Expiration Date :** November 30, 2016 **Storage:** 0°C or colder

## CERTIFIED VALUES

| Elution Order | Compound   | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2)                               |                                       |
|---------------|--|-----------------------------|--|---------------------------------------|
| 1             | Ethanol<br>CAS # 64-17-5<br>Purity 99%<br>(Lot SHBC8676V)                        | 100,110.0 µg/mL             | +/- 586.1358 µg/mL<br>+/- 3,488.4996 µg/mL<br>+/- 3,608.0317 µg/mL | Gravimetric<br>Unstressed<br>Stressed |
| 2             | Acetonitrile<br>CAS # 75-05-8<br>Purity 99%<br>(Lot SHBB3177V)                   | 20,028.0 µg/mL              | +/- 117.2683 µg/mL<br>+/- 697.9100 µg/mL<br>+/- 721.8236 µg/mL     | Gravimetric<br>Unstressed<br>Stressed |
| 3             | Diisopropyl ether (DIPE)<br>CAS # 108-20-3<br>Purity 99%<br>(Lot SHBB6268V)      | 2,015.0 µg/mL               | +/- 11.8251 µg/mL<br>+/- 70.2207 µg/mL<br>+/- 72.6264 µg/mL        | Gravimetric<br>Unstressed<br>Stressed |
| 4             | Ethyl-tert-butyl ether (ETBE)<br>CAS # 637-92-3<br>Purity 99%<br>(Lot MKBR1623V) | 2,004.0 µg/mL               | +/- 11.7606 µg/mL<br>+/- 69.8373 µg/mL<br>+/- 72.2300 µg/mL        | Gravimetric<br>Unstressed<br>Stressed |
| 5             | Propionitrile<br>CAS # 107-12-0<br>Purity 99%<br>(Lot BCBK0700V)                 | 20,095.0 µg/mL              | +/- 117.6606 µg/mL<br>+/- 700.2448 µg/mL<br>+/- 724.2383 µg/mL     | Gravimetric<br>Unstressed<br>Stressed |
| 6             | tert-Amyl alcohol<br>CAS # 75-85-4<br>Purity 99%<br>(Lot STBB1898V)              | 20,096.0 µg/mL              | +/- 117.6665 µg/mL<br>+/- 700.2796 µg/mL<br>+/- 724.2743 µg/mL     | Gravimetric<br>Unstressed<br>Stressed |
| 7             | tert-Amyl methyl ether (TAME)<br>CAS # 994-05-8<br>Purity 99%<br>(Lot OS1028/4V) | 2,008.0 µg/mL               | +/- 11.7841 µg/mL<br>+/- 69.9767 µg/mL<br>+/- 72.3741 µg/mL        | Gravimetric<br>Unstressed<br>Stressed |



Reagent

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**WCN1000P\_00024**



1515323

ID: WCN1000P\_00024

Exp: 05/20/15 Ppd: PGJ Opi: 12/19/14

Cyanide 1000 ppm Primary



1515324

ID: WAvCN1000P\_00017

Exp: 05/20/15 Ppd: PGJ Opi: 12/19/14

Available Cyanide 1000 pp



Jackson's Pointe Commerce Park - Building 1000  
1010 Jackson's Pointe Court, Zelienople, PA 16063  
Ph: 412-828-5230 | Fax: 724-473-0647 | [www.labchem.com](http://www.labchem.com)

### CERTIFICATE OF ANALYSIS

Description: CYANIDE STANDARD, 1000ppm (1ml = 1mg CN)

Mfg. Date: 11/20/2014

Catalog Number: LC13545

Exp. Date: 05/20/2015

Lot Number: D322-27

### ANALYTICAL SECTION

| Test                   | Specification                 | Test Result    |
|------------------------|-------------------------------|----------------|
| Appearance             | clear, colorless solution     | Pass Test      |
| Concentration ppm CN   | 1000ppm +/- 10ppm             | 1010ppm        |
| Concentration mg CN/mL | 1.000mg/mL +/- 0.010 mg CN/mL | 1.010 mg CN/mL |
| Traceable to NIST      | Potassium Chloride            | 999b           |

Submitted by: Greg Albright, Chemist Supervisor

An ISO9001:2008 certified company. Registration # 0306-01

03/26/2015 2:29 PM

Reagent

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**WCN1000S\_00017**

**RICC**

1508131  
ID: WCN1000S\_00017  
Exp:08/31/16 Ppd:PGJ Opm:03/19/15  
Cyanide 1000 ppm Secondar

**ICAL**

1508132  
ID: WAvCN1000S\_00018  
Exp:08/31/16 Ppd:PGJ Opm:03/19/15  
Available Cyanide 1000 Se

**JY**

Arlington, TX 76012  
Pocomoke City, MD 21851  
Batesville, IN 47006  
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[customerservice@riccachemical.com](mailto:customerservice@riccachemical.com)

# Certificate of Analysis

## Cyanide Standard, 1000 ppm CN

**Lot Number:** 4502438**Product Number:** 2543**Manufacture Date:** FEB 13, 2015**Expiration Date:** AUG 2015

This standard is prepared using accurate volumetric techniques from material that has been assayed against Silver Nitrate solution certified traceable to NIST Standard Reference Material 999. The certified value reported is the prepared value based upon the method of preparation of the material. The uncertainty in the prepared value is the combined uncertainty based on the stability of the assayed Potassium Cyanide, and the uncertainty in the mass and volume measurements.

Use 0.16% (w/v) (0.04 N) Sodium Hydroxide or 0.225 % (w/v) (0.04 N) Potassium Hydroxide to make dilutions of this standard. Restandardize weekly if extreme accuracy is required.

| Name              | CAS#      | Grade           |
|-------------------|-----------|-----------------|
| Water             | 7732-18-5 | ACS/ASTM/USP/EP |
| Potassium Cyanide | 151-50-8  | ACS             |
| Sodium Hydroxide  | 1310-73-2 | Reagent         |

| Test         | Specification    | Result   |
|--------------|------------------|----------|
| Appearance   | Colorless liquid | Passed   |
| Cyanide (CN) | 995-1005 ppm     | 1000 ppm |

| Specification                                      | Reference              |
|--|------------------------|
| Stock Standard Cyanide Solution                    | APHA (4500-CN- F)      |
| Stock Cyanide Solution                             | APHA (4500-CN- E)      |
| Stock Cyanide Solution                             | APHA (4500-CN- K)      |
| Stock Cyanide Solution                             | APHA (4500-CN- H)      |
| Cyanide Reference Solution (1000 mg/L)             | EPA (SW-846) (7.3.3.2) |
| Cyanide Calibration Stock Solution (1,000 mg/L CN) | EPA (SW-846) (9213)    |
| Stock Cyanide Solution                             | EPA (335.3)            |
| Stock Cyanide Solution                             | EPA (335.2)            |
| Cyanide Solution Stock                             | ASTM (D 4282)          |
| Simple Cyanide Solution, Stock (1.0 g/L CN)        | ASTM (D 4374)          |

Volumetric glassware complies with Class A tolerance requirements of ASTM E 288 and NIST Circular 434; it is calibrated before first use and recalibrated regularly in accordance with ASTM E 542 and NIST Procedure NBSIR 74-461. Balances are calibrated regularly with weights certified traceable to the NIST national mass standard. Thermometers and temperature probes are calibrated before first use and recalibrated regularly with a thermometer traceable to NIST standards. All products are prepared according to master documents that assure manufacture according to validated methods. Batch records document raw material traceability and production and testing history for each lot manufactured.

| Part Number | Size / Package Type | Shelf Life (Unopened Container) |
|-------------|---------------------|---------------------------------|
| 2543-4      | 120 mL amber poly   | 6 months                        |
| 2543-32     | 1 L amber poly      | 6 months                        |
| 2543-16     | 500 mL amber poly   | 6 months                        |

**Recommended Storage:** 2°C - 8°C (36°F - 46°F)



Katie Schnur  
Quality Control Manager

This Certificate of Analysis is designed to comply with ISO Guide 31 "Reference  
Materials -- Contents of Certificates and Labels."

Reagent

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**WCNSoillLCS\_00015**



A Waters Company



1361626  
ID: WCNSoilLCS\_00015  
Exp:11/30/17 Ppd:PGJ Opn:10/16/14  
Cyanide Solid LCS

## Reference Material

## ■ Certificate of Analysis ■

**Product:** Cyanide in Soil  
**Catalog Number:** 541  
**Lot No.** D085-541  
**Certificate Issue Date:** April 2, 2014  
**Expiration Date:** November 30, 2017  
**Revision Number:** 1.0

### CERTIFICATION

| Parameter        | Total Concentration | Certified Value <sup>1</sup> | Uncertainty <sup>2</sup> | QC Performance Acceptance Limits <sup>3</sup> | PT Performance Acceptance Limits <sup>4</sup> |
|------------------|---------------------|------------------------------|--------------------------|---|---|
|                  | mg/Kg               | mg/Kg                        | %                        | mg/Kg   | mg/Kg   |
| Cyanide, Total   | 123                 | 70.3                         | 8.88                     | D.L. - 143                                    | 28.2 - 135                                    |
| Amenable Cyanide | < 25.0              | < 25.0                       | 8.88                     | -   | 0.00 - 25.0                                   |

### PT DATA/TRACEABILITY

| Parameter        | Certified Value <sup>1</sup> | Proficiency Testing Study <sup>5</sup> |          |    | NIST Traceability |          |
|------------------|------------------------------|--|----------|----|-------------------|----------|
|                  |                              | Mean                                   | Recovery | n  | SRM Number        | Recovery |
|                  | mg/Kg                        | mg/Kg                                  | %        |    |                   | %        |
| Cyanide, Total   | 70.3                         | 70.3                                   | 100      | 73 | -                 | -        |
| Amenable Cyanide | < 25.0                       | -                                      | -        | 6  | -                 | -        |



Reagent

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**WSulfide\_00001**





# Certificate of Analysis

800 Kaderly Drive  
Columbus, OH 43228  
614.824.3299

## SODIUM SULFIDE, NONAHYDRATE, REAGENT (ACS)

Item #: 1040

Lot #: C359966

Certificate of Analysis Print Date: Aug 08, 2013

Quality Assured to Retest Point: 12 months from shipment



934941

ID: WSulfide\_00001

Exp.08/28/15 Pripd:CMR Opn.08/29/13  
sodium sulfide, nonahydra

### Certified Values:

| Specifications (Max Limits or as Specified)        | Pass/Fail | Numerical Result |
|--|-----------|------------------|
| Assay 98.0% min                                    | PASS      | 101.8%           |
| Sulfite and Thiosulfate (as SO <sub>4</sub> ) 0.1% | PASS      | <0.1%            |
| Iron Pass test                                     | PASS      | pass test        |
| Ammonium 0.005%                                    | PASS      | <0.005%          |
| Appearance Colorless to slightly yellow crystals   | PASS      | conforms         |

Traceable to N.I.S.T. (Y/N)? Y

Comments:

Not for direct use in food, cosmetics, finished pharmaceuticals or drug products. Supplier is not responsible for compliance with FDA Current Good Manufacturing Practice (cGMP) requirements, including without limitation those for finished drug products in 21 C.F.R Parts 210 and 211. Consult warranty limitations at [www.gfschemicals.com/statics/documents/aboutus/termsandconditions.html](http://www.gfschemicals.com/statics/documents/aboutus/termsandconditions.html)  
For resale by GFS authorized distributors only.

Reagent

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**WSulfideprim\_00001**



1 Reagent Lane  
Fair Lawn, NJ 07410  
201.796.7100 tel  
201.796.1329 fax

## Certificate of Analysis

Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2008 standard by SAI Global Certificate Number CERT - 0064970

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Certain products (USP/FCC/NF/EP/BP/JP grades) are sold for use in food, drug, or medical device manufacturing. Fisher does not claim regulatory coverage under 21 CFR nor maintain DMF's with the FDA. The following are the actual analytical results obtained:

|                   |   |                                       |          |
|-------------------|---|---------------------------------------|----------|
| Catalog Number    | S425  | Quality Test / Release Date 7/22/2014 |          |
| Lot Number        | 143808  |                                       |          |
| Description       | SODIUM SULFIDE, NONAHYDRATE, CERTIFIED ACS  |                                       |          |
| Country of Origin | United States   | * Suggested Retest Date               | Jul-2019 |
| Chemical Origin   | Inorganic-non animal  |                                       |          |
| BSE/TSE Comment   | No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product. |                                       |          |

| Result name            | Units     | Specifications | Test Value         |
|------------------------|-----------|----------------|--------------------|
| APPEARANCE             |           | REPORT         | Colorless crystals |
| AMMONIUM               | %         | <= 0.01        | <0.0050            |
| ASSAY                  | %         | >= 98.0        | 100.2              |
| IDENTIFICATION         | PASS/FAIL | = PASS TEST    | PASS TEST          |
| IRON (Fe)              | PASS/FAIL | = PASS TEST    | PASS TEST          |
| SULFITE OR THIOSULFATE | %         | <= 0.1         | <0.10              |



*Edgar E. Hane*

Lab Manager Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as a extension of this catalog number listed above. If there are any questions with this certificate, please call Chemical Services at (800) 227-6701.

\*Based on suggested storage condition.

# Method 8260C

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Volatile Organic Compounds (GC/MS)  
by Method 8260C

FORM II  
GC/MS VOA SURROGATE RECOVERY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Matrix: Sediment Level: Low  
GC Column (1): DB-624 ID: 0.18 (mm)

| Client Sample ID | Lab Sample ID         | DBFM # | DCA # | TOL # | BFB # |
|------------------|-----------------------|--------|-------|-------|-------|
| F05-SD           | 180-43411-2           | 101    | 96    | 110   | 87    |
|                  | MB<br>180-139703/1-A  | 97     | 101   | 100   | 93    |
|                  | LCS<br>180-139703/2-A | 91     | 96    | 96    | 93    |

DBFM = Dibromofluoromethane (Surr)  
DCA = 1,2-Dichloroethane-d4 (Surr)  
TOL = Toluene-d8 (Surr)  
BFB = 4-Bromofluorobenzene (Surr)

QC LIMITS  
68-121  
52-124  
72-127  
63-120

# Column to be used to flag recovery values

FORM III  
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Matrix: Sediment Level: Low Lab File ID: 3042708.D  
 Lab ID: LCS 180-139703/2-A Client ID: \_\_\_\_\_

| COMPOUND                  | SPIKE<br>ADDED<br>(ug/Kg) | LCS<br>CONCENTRATION<br>(ug/Kg) | LCS<br>%<br>REC | QC<br>LIMITS<br>REC | # |
|---------------------------|---------------------------|---------------------------------|-----------------|---------------------|---|
| 1,1,1-Trichloroethane     | 40.0                      | 40.1                            | 100             | 67-126              |   |
| 1,1,2,2-Tetrachloroethane | 40.0                      | 33.9                            | 85              | 60-139              |   |
| 1,1,2-Trichloroethane     | 40.0                      | 35.3                            | 88              | 70-128              |   |
| 1,1-Dichloroethane        | 40.0                      | 40.8                            | 102             | 66-124              |   |
| 1,1-Dichloroethene        | 40.0                      | 38.3                            | 96              | 59-129              |   |
| 1,2-Dichlorobenzene       | 40.0                      | 33.6                            | 84              | 71-124              |   |
| 1,2-Dichloroethane        | 40.0                      | 38.6                            | 96              | 61-127              |   |
| 1,2-Dichloropropane       | 40.0                      | 36.5                            | 91              | 72-122              |   |
| 1,3-Dichlorobenzene       | 40.0                      | 35.3                            | 88              | 75-118              |   |
| 1,4-Dichlorobenzene       | 40.0                      | 35.5                            | 89              | 77-116              |   |
| Benzene                   | 40.0                      | 38.1                            | 95              | 77-120              |   |
| Bromoform                 | 40.0                      | 33.4                            | 84              | 53-140              |   |
| Bromomethane              | 40.0                      | 39.4                            | 99              | 25-150              |   |
| Carbon tetrachloride      | 40.0                      | 40.0                            | 100             | 69-122              |   |
| Chlorobenzene             | 40.0                      | 37.0                            | 93              | 79-120              |   |
| Chloroform                | 40.0                      | 38.7                            | 97              | 72-120              |   |
| Chloromethane             | 40.0                      | 46.4                            | 116             | 44-131              |   |
| Chlorodibromomethane      | 40.0                      | 34.1                            | 85              | 70-132              |   |
| cis-1,3-Dichloropropene   | 40.0                      | 36.5                            | 91              | 73-120              |   |
| Dichlorobromomethane      | 40.0                      | 37.2                            | 93              | 70-125              |   |
| Ethylbenzene              | 40.0                      | 38.4                            | 96              | 78-125              |   |
| Methylene Chloride        | 40.0                      | 35.7                            | 89              | 58-127              |   |
| Tetrachloroethene         | 40.0                      | 37.9                            | 95              | 78-129              |   |
| Toluene                   | 40.0                      | 39.7                            | 99              | 78-124              |   |
| trans-1,2-Dichloroethene  | 40.0                      | 39.4                            | 99              | 77-121              |   |
| trans-1,3-Dichloropropene | 40.0                      | 36.5                            | 91              | 74-129              |   |
| Trichloroethene           | 40.0                      | 37.8                            | 94              | 76-119              |   |
| Vinyl chloride            | 40.0                      | 42.1                            | 105             | 63-124              |   |
| Chloroethane              | 40.0                      | 38.0                            | 95              | 22-150              |   |

# Column to be used to flag recovery and RPD values

FORM IV  
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Lab File ID: 3042705.D Lab Sample ID: MB 180-139703/1-A  
Matrix: Sediment Heated Purge: (Y/N) Y  
Instrument ID: CHHP3 Date Analyzed: 04/27/2015 08:11  
GC Column: DB-624 ID: 0.18 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

| CLIENT SAMPLE ID | LAB SAMPLE ID      | LAB<br>FILE ID | DATE ANALYZED    |
|------------------|--------------------|----------------|------------------|
|                  | LCS 180-139703/2-A | 3042708.D      | 04/27/2015 09:19 |
| F05-SD           | 180-43411-2        | 3042715.D      | 04/27/2015 11:57 |

FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: 30323K01.D BFB Injection Date: 03/23/2015  
 Instrument ID: CHHP3 BFB Injection Time: 12:07  
 Analysis Batch No.: 136245

| M/E | ION ABUNDANCE CRITERIA             | % RELATIVE ABUNDANCE |
|-----|------------------------------------|----------------------|
| 50  | 15.0 - 40.0 % of mass 95           | 30.2                 |
| 75  | 30.0 - 60.0 % of mass 95           | 40.9                 |
| 95  | Base Peak, 100% relative abundance | 100.0                |
| 96  | 5.0 - 9.0 % of mass 95             | 7.1                  |
| 173 | Less than 2.0 % of mass 174        | 0.4 (0.6)1           |
| 174 | 50.0 - 120.00 % of mass 95         | 79.0                 |
| 175 | 5.0 - 9.0 % of mass 174            | 5.6 (7.0)1           |
| 176 | 95.0 - 101.0 % of mass 174         | 77.4 (98.0)1         |
| 177 | 5.0 - 9.0 % of mass 176            | 5.1 (6.6)2           |

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

| CLIENT SAMPLE ID | LAB SAMPLE ID   | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|------------------|-----------------|-------------|---------------|---------------|
|                  | IC 180-136245/3 | 30323K05.D  | 03/23/2015    | 13:00         |
|                  | IC 180-136245/4 | 30323K06.D  | 03/23/2015    | 13:26         |
|                  | IC 180-136245/5 | 30323K07.D  | 03/23/2015    | 13:52         |
|                  | IC 180-136245/6 | 30323K08.D  | 03/23/2015    | 14:19         |
|                  | IC 180-136245/7 | 30323K09.D  | 03/23/2015    | 14:45         |
|                  | IC 180-136245/8 | 30323K10.D  | 03/23/2015    | 15:11         |
|                  | IC 180-136245/9 | 30323K11.D  | 03/23/2015    | 15:37         |



FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: 3033101.D BFB Injection Date: 03/31/2015  
 Instrument ID: CHHP3 BFB Injection Time: 07:47  
 Analysis Batch No.: 137003

| M/E | ION ABUNDANCE CRITERIA             | % RELATIVE ABUNDANCE |
|-----|------------------------------------|----------------------|
| 50  | 15.0 - 40.0 % of mass 95           | 21.7                 |
| 75  | 30.0 - 60.0 % of mass 95           | 43.5                 |
| 95  | Base Peak, 100% relative abundance | 100.0                |
| 96  | 5.0 - 9.0 % of mass 95             | 6.4                  |
| 173 | Less than 2.0 % of mass 174        | 0.0 (0.0)1           |
| 174 | 50.0 - 120.00 % of mass 95         | 72.5                 |
| 175 | 5.0 - 9.0 % of mass 174            | 5.8 (8.0)1           |
| 176 | 95.0 - 101.0 % of mass 174         | 69.0 (95.1)1         |
| 177 | 5.0 - 9.0 % of mass 176            | 5.2 (7.5)2           |

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

| CLIENT SAMPLE ID | LAB SAMPLE ID     | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|------------------|-------------------|-------------|---------------|---------------|
|                  | IC 180-137003/6   | 3033107.D   | 03/31/2015    | 10:54         |
|                  | IC 180-137003/7   | 3033108.D   | 03/31/2015    | 11:16         |
|                  | ICIS 180-137003/8 | 3033109.D   | 03/31/2015    | 11:40         |
|                  | IC 180-137003/9   | 3033110.D   | 03/31/2015    | 12:02         |
|                  | IC 180-137003/10  | 3033111.D   | 03/31/2015    | 12:29         |
|                  | IC 180-137003/11  | 3033112.D   | 03/31/2015    | 12:55         |
|                  | IC 180-137003/21  | 3033116.D   | 03/31/2015    | 14:29         |

FORM V  
GC/MS VOA INSTRUMENT PERFORMANCE CHECK  
BROMOFLUOROBENZENE (BFB)

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: 3042701.D BFB Injection Date: 04/27/2015  
 Instrument ID: CHHP3 BFB Injection Time: 05:56  
 Analysis Batch No.: 139697

| M/E | ION ABUNDANCE CRITERIA             | % RELATIVE ABUNDANCE |
|-----|------------------------------------|----------------------|
| 50  | 15.0 - 40.0 % of mass 95           | 25.3                 |
| 75  | 30.0 - 60.0 % of mass 95           | 48.5                 |
| 95  | Base Peak, 100% relative abundance | 100.0                |
| 96  | 5.0 - 9.0 % of mass 95             | 7.3                  |
| 173 | Less than 2.0 % of mass 174        | 0.2 (0.3)1           |
| 174 | 50.0 - 120.00 % of mass 95         | 73.1                 |
| 175 | 5.0 - 9.0 % of mass 174            | 4.9 (6.7)1           |
| 176 | 95.0 - 101.0 % of mass 174         | 73.5 (100.6)1        |
| 177 | 5.0 - 9.0 % of mass 176            | 5.1 (7.0)2           |

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

| CLIENT SAMPLE ID | LAB SAMPLE ID      | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|------------------|--------------------|-------------|---------------|---------------|
|                  | CCVIS 180-139697/3 | 3042703.D   | 04/27/2015    | 07:08         |
|                  | MB 180-139703/1-A  | 3042705.D   | 04/27/2015    | 08:11         |
|                  | LCS 180-139703/2-A | 3042708.D   | 04/27/2015    | 09:19         |
| F05-SD           | 180-43411-2        | 3042715.D   | 04/27/2015    | 11:57         |

FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVIS 180-139697/3 Date Analyzed: 04/27/2015 07:08  
 Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18 (mm)  
 Lab File ID (Standard): 3042703.D Heated Purge: (Y/N) Y  
 Calibration ID: 22975

|                    |  | TBA              |        | FB      |        | CBZ    |        |
|--------------------|--|------------------|--------|---------|--------|--------|--------|
|                    |  | AREA #           | RT #   | AREA #  | RT #   | AREA # | RT #   |
| 12/24 HOUR STD     |  | 137837           | 4.74   | 696670  | 7.60   | 153732 | 10.68  |
| UPPER LIMIT        |  | 275674           | 5.24   | 1393340 | 8.10   | 307464 | 11.18  |
| LOWER LIMIT        |  | 68919            | 4.24   | 348335  | 7.10   | 76866  | 10.18  |
| LAB SAMPLE ID      |  | CLIENT SAMPLE ID |        |         |        |        |        |
| MB 180-139703/1-A  |  | 140703           | 4.67   | 711997  | 7.61   | 154652 | 10.68  |
| LCS 180-139703/2-A |  | 144677           | 4.73   | 715683  | 7.60   | 157198 | 10.68  |
| 180-43411-2        |  | F05-SD           | 138987 | 4.68    | 878851 | 7.61   | 163611 |

TBA = TBA-d9 (IS)

FB = Fluorobenzene (IS)

CBZ = Chlorobenzene-d5

Area Limit = 50%-200% of internal standard area

RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits

FORM VIII  
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Sample No.: CCVIS 180-139697/3 Date Analyzed: 04/27/2015 07:08  
Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18 (mm)  
Lab File ID (Standard): 3042703.D Heated Purge: (Y/N) Y  
Calibration ID: 22975

|                    |                  | DCB    |       |        |      |        |      |
|--------------------|------------------|--------|-------|--------|------|--------|------|
|                    |                  | AREA # | RT #  | AREA # | RT # | AREA # | RT # |
| 12/24 HOUR STD     |                  | 236290 | 13.01 |        |      |        |      |
| UPPER LIMIT        |                  | 472580 | 13.51 |        |      |        |      |
| LOWER LIMIT        |                  | 118145 | 12.51 |        |      |        |      |
| LAB SAMPLE ID      | CLIENT SAMPLE ID |        |       |        |      |        |      |
| MB 180-139703/1-A  |                  | 225991 | 13.01 |        |      |        |      |
| LCS 180-139703/2-A |                  | 246900 | 13.01 |        |      |        |      |
| 180-43411-2        | F05-SD           | 172981 | 13.01 |        |      |        |      |

DCB = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area  
RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

|   |   |
|---|---|
| Lab Name: <u>TestAmerica Pittsburgh</u> | Job No.: <u>180-43411-1</u>                   |
| SDG No.: _____                          |   |
| Client Sample ID: <u>F05-SD</u>         | Lab Sample ID: <u>180-43411-2</u>             |
| Matrix: <u>Sediment</u>                 | Lab File ID: <u>3042715.D</u>                 |
| Analysis Method: <u>8260C</u>           | Date Collected: <u>04/23/2015 16:00</u>       |
| Sample wt/vol: <u>5.0008(g)</u>         | Date Analyzed: <u>04/27/2015 11:57</u>        |
| Soil Aliquot Vol: _____                 | Dilution Factor: <u>1</u>                     |
| Soil Extract Vol.: _____                | GC Column: <u>DB-624</u> ID: <u>0.18 (mm)</u> |
| % Moisture: <u>28.7</u>                 | Level: (low/med) <u>Low</u>                   |
| Analysis Batch No.: <u>139697</u>       | Units: <u>ug/Kg</u>                           |

| CAS NO.    | COMPOUND NAME             | RESULT | Q   | RL  | MDL  |
|------------|---------------------------|--------|-----|-----|------|
| 71-55-6    | 1,1,1-Trichloroethane     | ND     |     | 7.0 | 0.68 |
| 79-34-5    | 1,1,2,2-Tetrachloroethane | ND     |     | 7.0 | 1.0  |
| 79-00-5    | 1,1,2-Trichloroethane     | ND     |     | 7.0 | 1.2  |
| 75-34-3    | 1,1-Dichloroethane        | ND     |     | 7.0 | 0.81 |
| 75-35-4    | 1,1-Dichloroethene        | ND     |     | 7.0 | 1.2  |
| 95-50-1    | 1,2-Dichlorobenzene       | ND     |     | 7.0 | 1.1  |
| 107-06-2   | 1,2-Dichloroethane        | ND     |     | 7.0 | 0.86 |
| 78-87-5    | 1,2-Dichloropropane       | ND     |     | 7.0 | 0.76 |
| 541-73-1   | 1,3-Dichlorobenzene       | ND     |     | 7.0 | 0.92 |
| 106-46-7   | 1,4-Dichlorobenzene       | ND     |     | 7.0 | 0.89 |
| 110-75-8   | 2-Chloroethyl vinyl ether | ND     |     | 14  | 1.1  |
| 107-02-8   | Acrolein                  | ND     |     | 140 | 9.9  |
| 107-13-1   | Acrylonitrile             | ND     |     | 140 | 15   |
| 71-43-2    | Benzene                   | ND     |     | 7.0 | 0.95 |
| 75-25-2    | Bromoform                 | ND     |     | 7.0 | 0.62 |
| 74-83-9    | Bromomethane              | ND     |     | 7.0 | 1.0  |
| 56-23-5    | Carbon tetrachloride      | ND     |     | 7.0 | 0.63 |
| 108-90-7   | Chlorobenzene             | ND     |     | 7.0 | 1.1  |
| 67-66-3    | Chloroform                | ND     |     | 7.0 | 0.82 |
| 74-87-3    | Chloromethane             | ND     |     | 7.0 | 1.2  |
| 124-48-1   | Chlorodibromomethane      | ND     |     | 7.0 | 0.99 |
| 10061-01-5 | cis-1,3-Dichloropropene   | ND     |     | 7.0 | 0.95 |
| 75-27-4    | Dichlorobromomethane      | ND     |     | 7.0 | 0.79 |
| 100-41-4   | Ethylbenzene              | ND     |     | 7.0 | 0.90 |
| 75-09-2    | Methylene Chloride        | 2.2    | J B | 7.0 | 0.94 |
| 127-18-4   | Tetrachloroethene         | ND     |     | 7.0 | 0.95 |
| 108-88-3   | Toluene                   | 1.3    | J B | 7.0 | 1.0  |
| 156-60-5   | trans-1,2-Dichloroethene  | ND     |     | 7.0 | 0.84 |
| 10061-02-6 | trans-1,3-Dichloropropene | ND     |     | 7.0 | 0.84 |
| 79-01-6    | Trichloroethene           | ND     |     | 7.0 | 0.92 |
| 75-01-4    | Vinyl chloride            | ND     |     | 7.0 | 0.66 |
| 75-00-3    | Chloroethane              | ND     |     | 7.0 | 2.2  |

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: F05-SD Lab Sample ID: 180-43411-2  
Matrix: Sediment Lab File ID: 3042715.D  
Analysis Method: 8260C Date Collected: 04/23/2015 16:00  
Sample wt/vol: 5.0008(g) Date Analyzed: 04/27/2015 11:57  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
% Moisture: 28.7 Level: (low/med) Low  
Analysis Batch No.: 139697 Units: ug/Kg

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 96   |   | 52-124 |
| 460-00-4   | 4-Bromofluorobenzene (Surr)  | 87   |   | 63-120 |
| 1868-53-7  | Dibromofluoromethane (Surr)  | 101  |   | 68-121 |
| 2037-26-5  | Toluene-d8 (Surr)            | 110  |   | 72-127 |

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\3042715.D  
 Lims ID: 180-43411-B-2-A Lab Sample ID: 180-43411-2  
 Client ID: F05-SD  
 Sample Type: Client  
 Inject. Date: 27-Apr-2015 11:57:30 ALS Bottle#: 15 Worklist Smp#: 15  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: 180-43411-B-2-A  
 Misc. Info.: 180-0006640-015180-0006640-015  
 Operator ID: 10099 Instrument ID: CHHP3  
 Method: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\MSVOA\_S\_CHHP3.m  
 Limit Group: VOA 8260C ICAL  
 Last Update: 27-Apr-2015 12:15:42 Calib Date: 31-Mar-2015 14:29:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D  
 Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
 Process Host: XAWRK028

First Level Reviewer: gordonk

Date: 27-Apr-2015 12:15:42

| Compound                        | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q  | Response | OnCol Amt ng | Flags |
|---------------------------------|-----|-----------|---------------|---------------|----|----------|--------------|-------|
| * 1 TBA-d9 (IS)                 | 65  | 4.677     | 4.741         | -0.064        | 94 | 138987   | 5000.0       |       |
| * 2 Fluorobenzene (IS)          | 96  | 7.609     | 7.600         | 0.009         | 97 | 878851   | 250.0        |       |
| * 3 Chlorobenzene-d5            | 119 | 10.681    | 10.684        | -0.003        | 90 | 163611   | 250.0        |       |
| * 4 1,4-Dichlorobenzene-d4      | 152 | 13.011    | 13.008        | 0.003         | 98 | 172981   | 250.0        |       |
| \$ 5 Dibromofluoromethane (Surr | 113 | 6.861     | 6.858         | 0.003         | 94 | 189027   | 252.3        |       |
| \$ 6 1,2-Dichloroethane-d4 (Sur | 65  | 7.232     | 7.223         | 0.009         | 93 | 208179   | 240.4        |       |
| \$ 7 Toluene-d8 (Surr)          | 98  | 9.246     | 9.243         | 0.004         | 93 | 751518   | 274.3        |       |
| \$ 8 4-Bromofluorobenzene (Surr | 95  | 11.849    | 11.846        | 0.003         | 84 | 236276   | 217.5        |       |
| 11 Chloromethane                | 50  |           | 1.948         |               |    |          | ND           |       |
| 12 Vinyl chloride               | 62  |           | 2.107         |               |    |          | ND           |       |
| 14 Bromomethane                 | 94  |           | 2.472         |               |    |          | ND           |       |
| 15 Chloroethane                 | 64  |           | 2.599         |               |    |          | ND           |       |
| 20 Acrolein                     | 56  |           | 3.591         |               |    |          | ND           |       |
| 21 1,1-Dichloroethene           | 96  |           | 3.707         |               |    |          | ND           |       |
| 30 Methylene Chloride           | 84  | 4.531     | 4.516         | 0.015         | 47 | 9185     | 8.00         | M     |
| 32 Acrylonitrile                | 53  |           | 4.911         |               |    |          | ND           |       |
| 33 trans-1,2-Dichloroethene     | 96  |           | 4.941         |               |    |          | ND           |       |
| 36 1,1-Dichloroethane           | 63  |           | 5.532         |               |    |          | ND           |       |
| 49 Chloroform                   | 83  |           | 6.675         |               |    |          | ND           |       |
| 50 1,1,1-Trichloroethane        | 97  |           | 6.876         |               |    |          | ND           |       |
| 53 Carbon tetrachloride         | 117 |           | 7.071         |               |    |          | ND           |       |
| 55 Benzene                      | 78  |           | 7.296         |               |    |          | ND           |       |
| 56 1,2-Dichloroethane           | 62  |           | 7.308         |               |    |          | ND           |       |
| 60 Trichloroethene              | 130 |           | 8.001         |               |    |          | ND           |       |
| 64 1,2-Dichloropropane          | 63  |           | 8.227         |               |    |          | ND           |       |
| 68 Dichlorobromomethane         | 83  |           | 8.506         |               |    |          | ND           |       |
| 70 2-Chloroethyl vinyl ether    | 63  |           | 8.823         |               |    |          | ND           |       |
| 71 cis-1,3-Dichloropropene      | 75  |           | 8.969         |               |    |          | ND           |       |
| 73 Toluene                      | 91  | 9.313     | 9.309         | 0.004         | 96 | 15195    | 4.62         |       |
| 74 trans-1,3-Dichloropropene    | 75  |           | 9.516         |               |    |          | ND           |       |
| 76 1,1,2-Trichloroethane        | 97  |           | 9.699         |               |    |          | ND           |       |

| Compound                     | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q | Response | OnCol Amt<br>ng | Flags |
|------------------------------|-----|--------------|------------------|------------------|---|----------|-----------------|-------|
| 77 Tetrachloroethene         | 164 |              | 9.869            |                  |   |          | ND              |       |
| 81 Chlorodibromomethane      | 129 |              | 10.100           |                  |   |          | ND              |       |
| 83 Chlorobenzene             | 112 |              | 10.709           |                  |   |          | ND              |       |
| 86 Ethylbenzene              | 106 |              | 10.818           |                  |   |          | ND              |       |
| 90 Bromoform                 | 173 |              | 11.518           |                  |   |          | ND              |       |
| 93 1,1,2,2-Tetrachloroethane | 83  |              | 11.974           |                  |   |          | ND              |       |
| 105 1,3-Dichlorobenzene      | 146 |              | 12.947           |                  |   |          | ND              |       |
| 107 1,4-Dichlorobenzene      | 146 |              | 13.033           |                  |   |          | ND              |       |
| 111 1,2-Dichlorobenzene      | 146 |              | 13.410           |                  |   |          | ND              |       |

### QC Flag Legend

Review Flags

M - Manually Integrated

### Reagents:

VOA8260SURR\_00033

Amount Added: 10.00

Units: uL

VOA8260INT\_00031

Amount Added: 10.00

Units: uL

Run Reagent



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\3042715.D

Injection Date: 27-Apr-2015 11:57:30

Instrument ID: CHHP3

Operator ID: 10099

Lims ID: 180-43411-B-2-A

Lab Sample ID: 180-43411-2

Worklist Smp#: 15

Client ID: F05-SD

Purge Vol: 5.000 mL

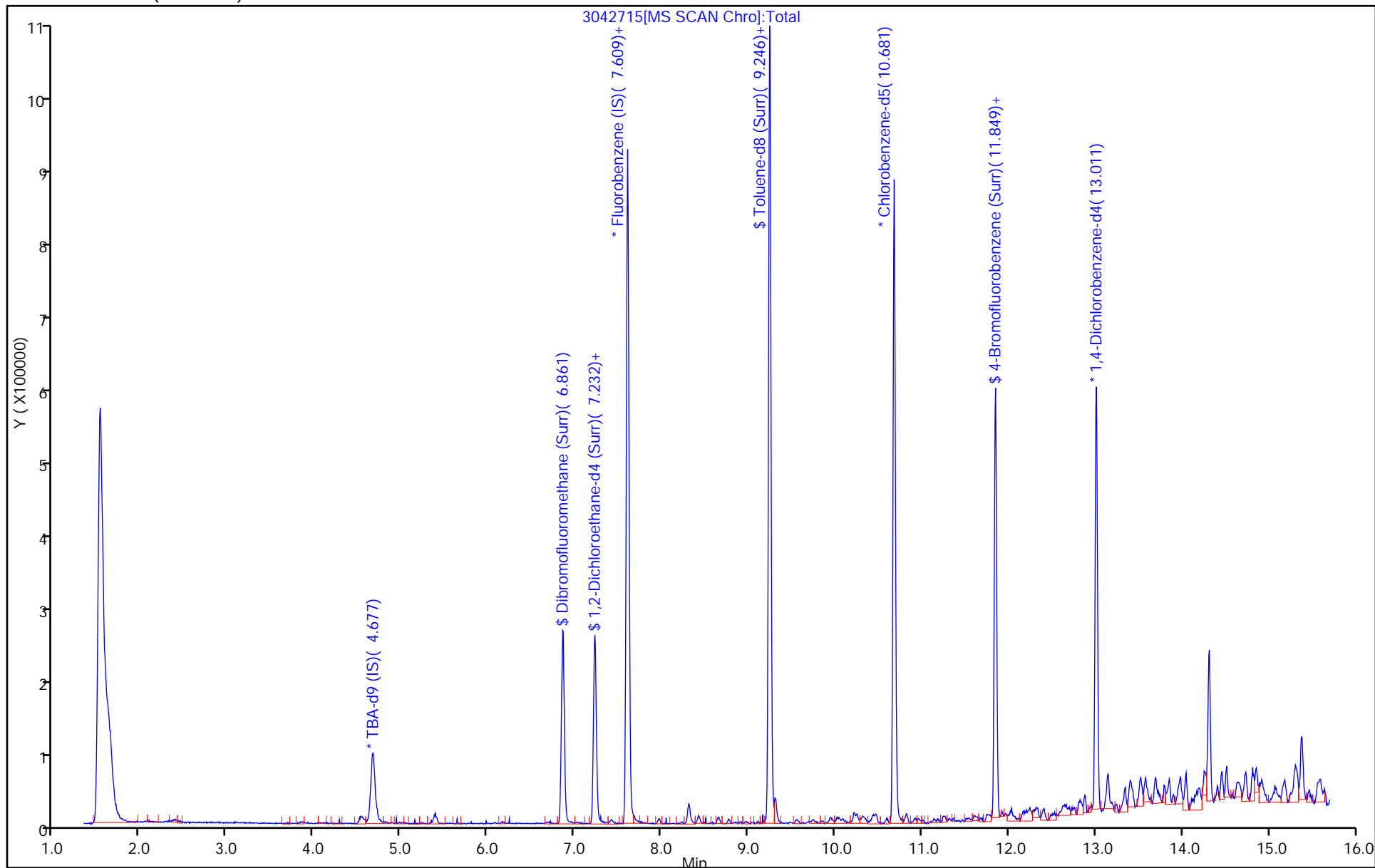
Dil. Factor: 1.0000

ALS Bottle#: 15

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\3042715.D

Injection Date: 27-Apr-2015 11:57:30

Instrument ID: CHHP3

Lims ID: 180-43411-B-2-A

Lab Sample ID: 180-43411-2

Client ID: F05-SD

Operator ID: 10099

ALS Bottle#: 15

Worklist Smp#: 15

Purge Vol: 5.000 mL

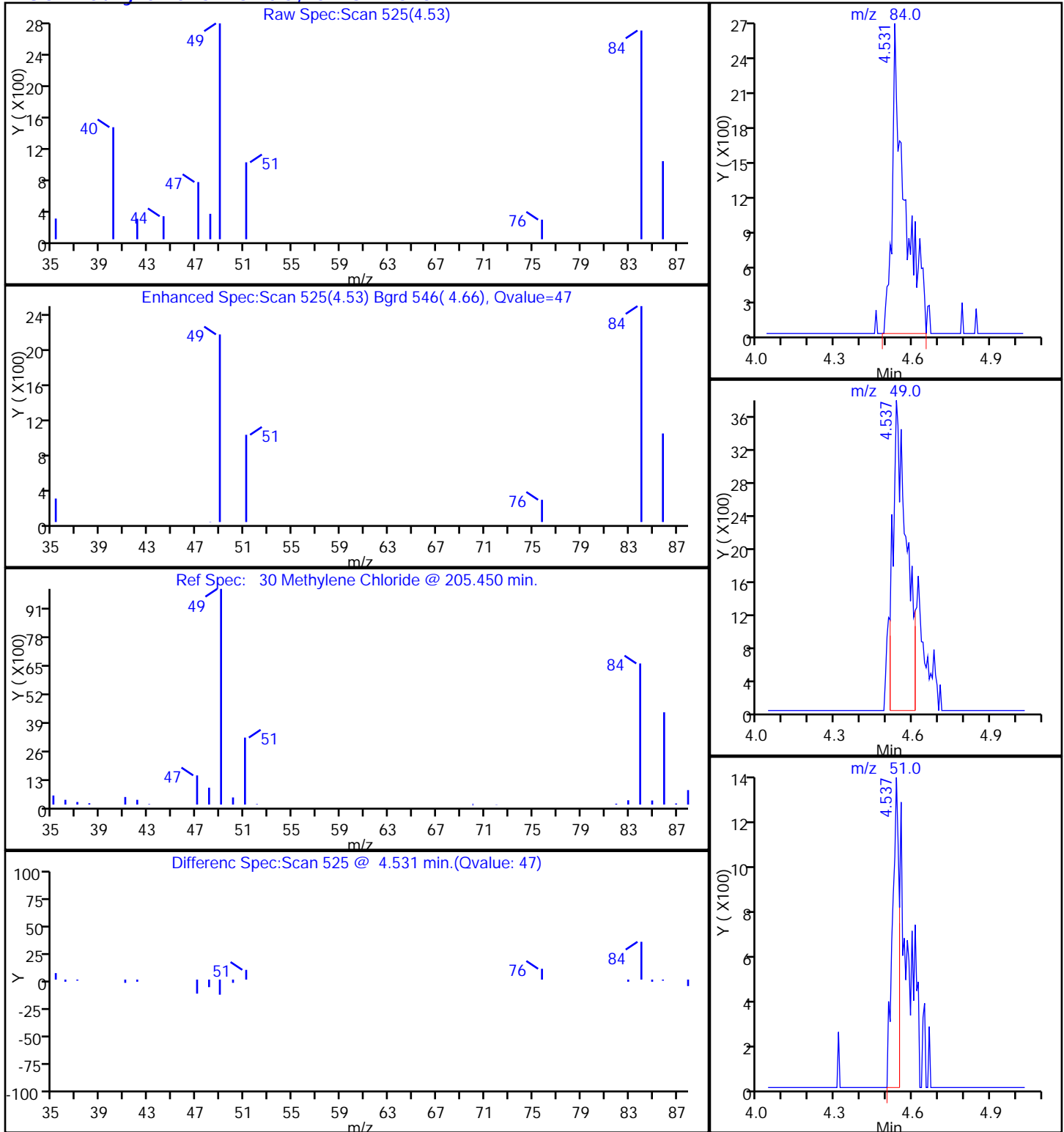
Dil. Factor: 1.0000

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)

Detector: MS SCAN

**30 Methylene Chloride, CAS: 75-09-2**

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\3042715.D

Injection Date: 27-Apr-2015 11:57:30

Instrument ID: CHHP3

Lims ID: 180-43411-B-2-A

Lab Sample ID: 180-43411-2

Client ID: F05-SD

Operator ID: 10099

ALS Bottle#: 15

Worklist Smp#: 15

Purge Vol: 5.000 mL

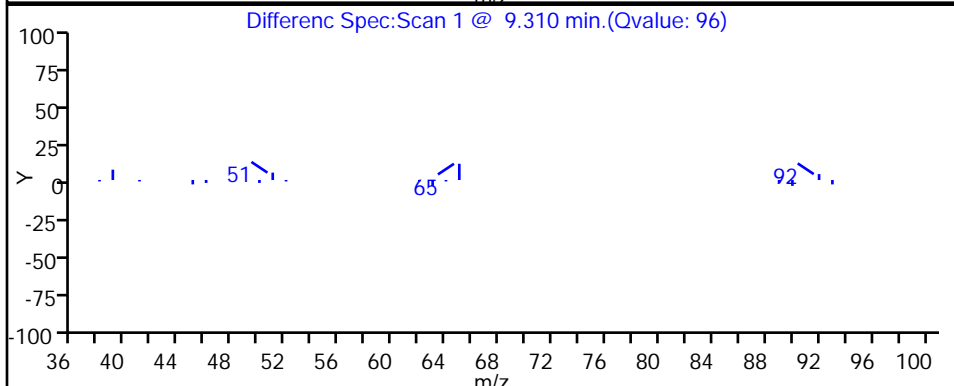
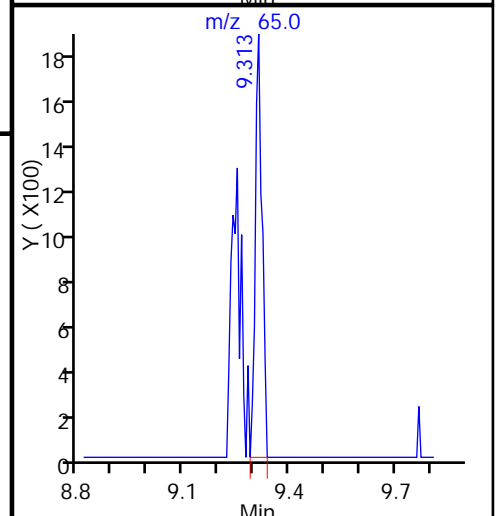
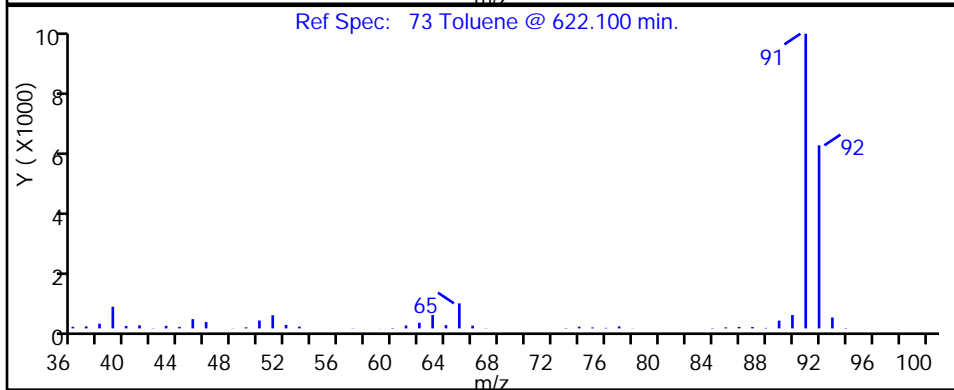
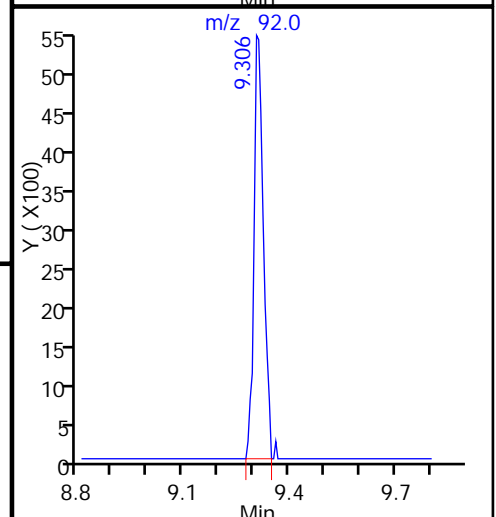
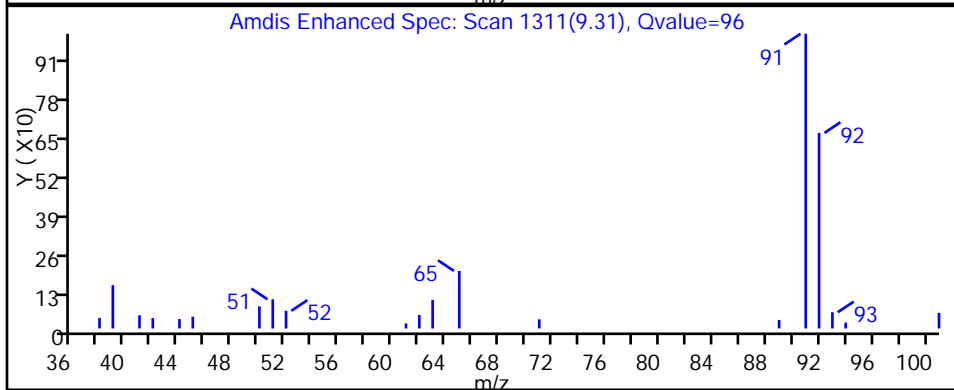
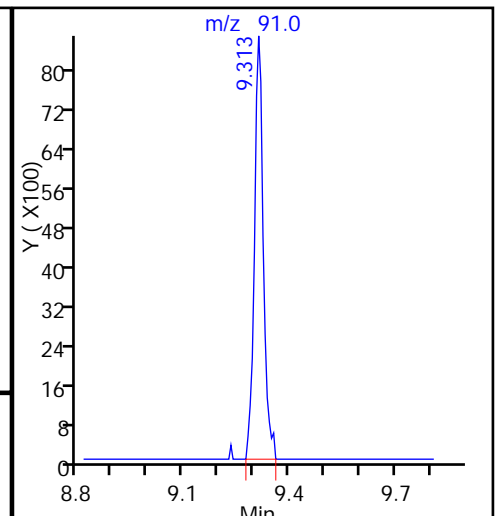
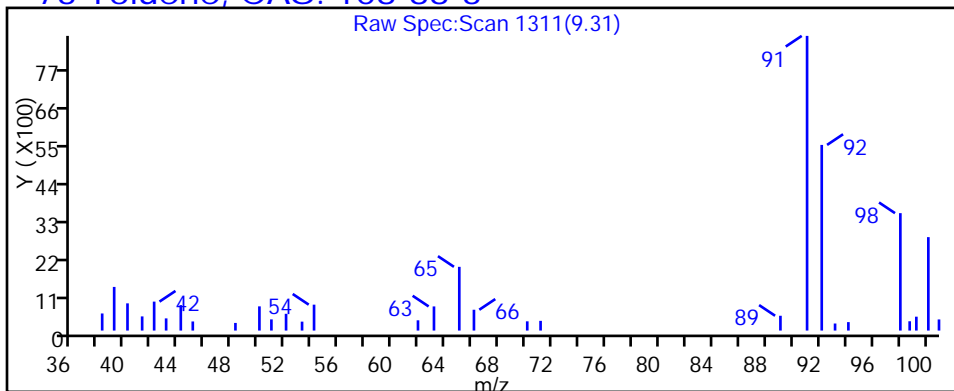
Dil. Factor: 1.0000

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)

Detector: MS SCAN

**73 Toluene, CAS: 108-88-3**

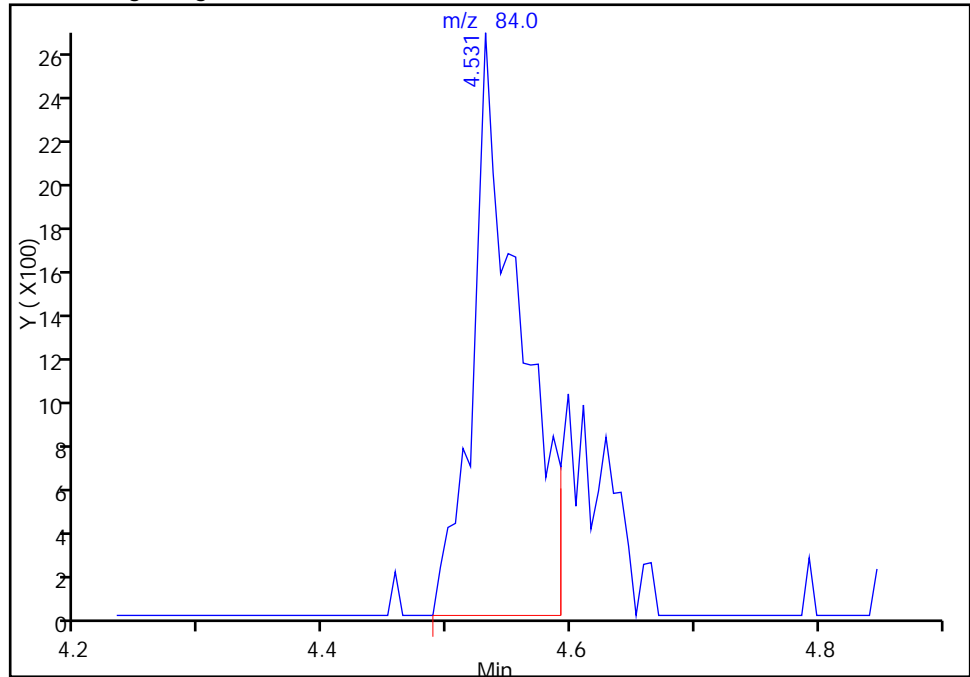
## TestAmerica Pittsburgh

|                 |  |                |                |
|-----------------|--|----------------|----------------|
| Data File:      | \\PITCHROM\ChromData\CHHP3\20150427-6640.b\3042715.D |                |                |
| Injection Date: | 27-Apr-2015 11:57:30                                 | Instrument ID: | CHHP3          |
| Lims ID:        | 180-43411-B-2-A                                      | Lab Sample ID: | 180-43411-2    |
| Client ID:      | F05-SD   |                |                |
| Operator ID:    | 10099  | ALS Bottle#:   | 15             |
| Purge Vol:      | 5.000 mL   | Dil. Factor:   | 1.0000         |
| Method:         | MSVOA_S_CHHP3  | Limit Group:   | VOA 8260C ICAL |
| Column:         | DB-624 (0.18 mm)                                     | Detector:      | MS SCAN        |
|                 |  | Worklist Smp#: | 15             |

## 30 Methylene Chloride, CAS: 75-09-2

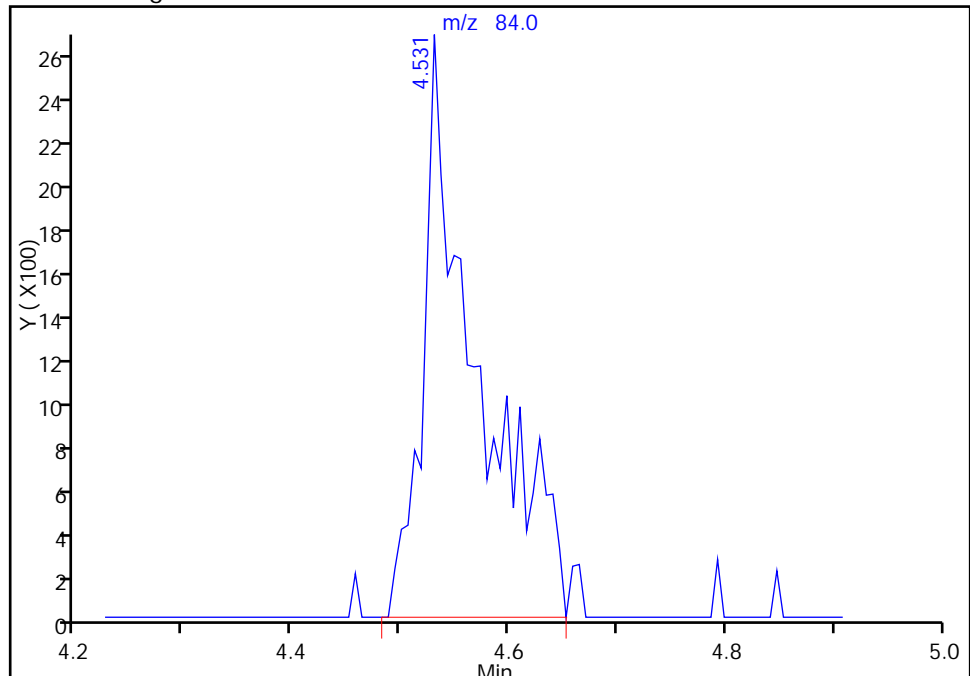
RT: 4.53  
Area: 7093  
Amount: 6.175635  
Amount Units: ng

## Processing Integration Results



RT: 4.53  
Area: 9185  
Amount: 7.997068  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 27-Apr-2015 12:15:42  
Audit Action: Manually Integrated  
Audit Reason: Poor chromatography

FORM VI  
GC/MS VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 136245

SDG No.: \_\_\_\_\_

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 03/23/2015 13:00 Calibration End Date: 03/23/2015 15:37 Calibration ID: 22530

Calibration Files:

| LEVEL:  | LAB SAMPLE ID:  | LAB FILE ID: |
|---------|-----------------|--------------|
| Level 1 | IC 180-136245/3 | 30323K05.D   |
| Level 2 | IC 180-136245/4 | 30323K06.D   |
| Level 3 | IC 180-136245/5 | 30323K07.D   |
| Level 4 | IC 180-136245/6 | 30323K08.D   |
| Level 5 | IC 180-136245/7 | 30323K09.D   |
| Level 6 | IC 180-136245/8 | 30323K10.D   |
| Level 7 | IC 180-136245/9 | 30323K11.D   |

| ANALYTE                | RRF              |                  |        |        |        | CURVE TYPE | COEFFICIENT |        |    | # | MIN RRF | %RSD | # | MAX %RSD | R^2 OR COD | # | MIN R^2 OR COD |
|------------------------|------------------|------------------|--------|--------|--------|------------|-------------|--------|----|---|---------|------|---|----------|------------|---|----------------|
|                        | LVL 1<br>LVL 6   | LVL 2<br>LVL 7   | LVL 3  | LVL 4  | LVL 5  |            | B           | M1     | M2 |   |         |      |   |          |            |   |                |
| Ethanol                | 0.3239<br>0.2332 | 0.2435<br>0.2497 | 0.2353 | 0.2085 | 0.2191 | Ave        |             | 0.2448 |    |   | 0.0100  | 15.4 |   | 20.0     |            |   |                |
| Isopropyl alcohol      | 0.0239<br>0.0189 | 0.0207<br>0.0194 | 0.0221 | 0.0215 | 0.0199 | Ave        |             | 0.0209 |    |   | 0.0100  | 8.4  |   | 20.0     |            |   |                |
| Acetonitrile           | 0.0354<br>0.0213 | 0.0243<br>0.0235 | 0.0332 | 0.0232 | 0.0243 | Lin        | 2.8053      | 0.0229 |    |   | 0.0100  |      |   |          | 0.9950     |   | 0.9900         |
| Chloroprene            | 0.7803<br>0.7695 | 0.7445<br>0.7759 | 0.8249 | 0.8311 | 0.8443 | Ave        |             | 0.7958 |    |   | 0.0100  | 4.7  |   | 20.0     |            |   |                |
| Isopropyl ether        | 1.9354<br>1.8292 | 1.8773<br>1.7325 | 2.0634 | 2.0548 | 2.0673 | Ave        |             | 1.9371 |    |   | 0.0100  | 6.8  |   | 20.0     |            |   |                |
| Tert-butyl ethyl ether | 1.2325<br>1.1749 | 1.1616<br>1.1299 | 1.2528 | 1.2716 | 1.2453 | Ave        |             | 1.2098 |    |   | 0.0100  | 4.4  |   | 20.0     |            |   |                |
| Propionitrile          | 0.0444<br>0.0423 | 0.0413<br>0.0434 | 0.0438 | 0.0495 | 0.0456 | Ave        |             | 0.0443 |    |   | 0.0100  | 6.1  |   | 20.0     |            |   |                |
| Ethyl acetate          | 0.1826<br>0.1664 | 0.1614<br>0.1647 | 0.1821 | 0.1931 | 0.1857 | Ave        |             | 0.1766 |    |   | 0.0100  | 6.9  |   | 20.0     |            |   |                |
| Methacrylonitrile      | 0.2064<br>0.1789 | 0.1908<br>0.1704 | 0.2054 | 0.2167 | 0.2075 | Ave        |             | 0.1966 |    |   | 0.0100  | 8.6  |   | 20.0     |            |   |                |
| Tert-amyl methyl ether | 0.0568<br>0.0649 | 0.0642<br>0.0646 | 0.0726 | 0.0705 | 0.0653 | Ave        |             | 0.0655 |    |   | 0.0100  | 7.7  |   | 20.0     |            |   |                |
| Isooctane              | 2.7624<br>2.3265 | 2.4206<br>2.2292 | 2.5509 | 2.5907 | 2.5827 | Ave        |             | 2.4947 |    |   | 0.0100  | 7.2  |   | 20.0     |            |   |                |
| n-Butanol              | 0.0063<br>0.0074 | 0.0063<br>0.0077 | 0.0075 | 0.0081 | 0.0077 | Ave        |             | 0.0073 |    | * | 0.0100  | 9.7  |   | 20.0     |            |   |                |
| Ethyl acrylate         | 1.4432<br>1.4503 | 1.4312<br>1.4352 | 1.5903 | 1.6398 | 1.6607 | Ave        |             | 1.5215 |    |   | 0.0100  | 6.8  |   | 20.0     |            |   |                |
| Methyl methacrylate    | 0.1197<br>0.1195 | 0.1176<br>0.1201 | 0.1311 | 0.1344 | 0.1338 | Ave        |             | 0.1252 |    |   | 0.0100  | 6.0  |   | 20.0     |            |   |                |

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
GC/MS VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 136245  
SDG No.: \_\_\_\_\_  
Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) Y  
Calibration Start Date: 03/23/2015 13:00 Calibration End Date: 03/23/2015 15:37 Calibration ID: 22530

| ANALYTE                   | RRF              |                  |        |        |        | CURVE<br>TYPE | COEFFICIENT |        |    | # | MIN RRF | %RSD | # | MAX<br>%RSD | R^2<br>OR COD | # | MIN R^2<br>OR COD |
|---------------------------|------------------|------------------|--------|--------|--------|---------------|-------------|--------|----|---|---------|------|---|-------------|---------------|---|-------------------|
|                           | LVL 1<br>LVL 6   | LVL 2<br>LVL 7   | LVL 3  | LVL 4  | LVL 5  |               | B           | M1     | M2 |   |         |      |   |             |               |   |                   |
| 2-Nitropropane            | 0.1693<br>0.1837 | 0.1824<br>0.1896 | 0.1947 | 0.2049 | 0.1996 | Ave           |             | 0.1892 |    |   | 0.0100  | 6.3  |   | 20.0        |               |   |                   |
| 2-Chloroethyl vinyl ether | 0.1787<br>0.1640 | 0.1709<br>0.1686 | 0.1673 | 0.1811 | 0.1791 | Ave           |             | 0.1728 |    |   | 0.0100  | 3.9  |   | 20.0        |               |   |                   |
| n-Butyl acetate           | 1.8686<br>1.3608 | 1.6558<br>1.3458 | 1.5957 | 1.5736 | 1.5893 | Ave           |             | 1.5699 |    |   | 0.0100  | 11.4 |   | 20.0        |               |   |                   |
| Cyclohexanone             | 0.0487<br>0.0481 | 0.0487<br>0.0487 | 0.0512 | 0.0547 | 0.0510 | Ave           |             | 0.0502 |    |   | 0.0100  | 4.7  |   | 20.0        |               |   |                   |
| 1,2,3-Trimethylbenzene    | 3.0367<br>2.9095 | 2.8230<br>2.8178 | 3.0588 | 3.1163 | 3.1230 | Ave           |             | 2.9836 |    |   | 0.0100  | 4.4  |   | 20.0        |               |   |                   |
| Benzyl chloride           | 0.8834<br>0.9664 | 0.8982<br>0.9735 | 1.0114 | 1.0322 | 0.9824 | Ave           |             | 0.9639 |    |   | 0.0100  | 5.7  |   | 20.0        |               |   |                   |
| 1,3,5-Trichlorobenzene    | 1.0855<br>1.0538 | 0.9898<br>1.1123 | 1.0082 | 1.0986 | 1.1209 | Ave           |             | 1.0670 |    |   | 0.0100  | 4.8  |   | 20.0        |               |   |                   |

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
GC/MS VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 136245

SDG No.: \_\_\_\_\_

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 03/23/2015 13:00 Calibration End Date: 03/23/2015 15:37 Calibration ID: 22530

Calibration Files:

|         |                 |              |
|---------|-----------------|--------------|
| LEVEL:  | LAB SAMPLE ID:  | LAB FILE ID: |
| Level 1 | IC 180-136245/3 | 30323K05.D   |
| Level 2 | IC 180-136245/4 | 30323K06.D   |
| Level 3 | IC 180-136245/5 | 30323K07.D   |
| Level 4 | IC 180-136245/6 | 30323K08.D   |
| Level 5 | IC 180-136245/7 | 30323K09.D   |
| Level 6 | IC 180-136245/8 | 30323K10.D   |
| Level 7 | IC 180-136245/9 | 30323K11.D   |

| ANALYTE                | IS REF | CURVE TYPE | RESPONSE          |                   |        |        |         | CONCENTRATION (NG) |                |       |       |       |
|------------------------|--------|------------|-------------------|-------------------|--------|--------|---------|--------------------|----------------|-------|-------|-------|
|                        |        |            | LVL 1<br>LVL 6    | LVL 2<br>LVL 7    | LVL 3  | LVL 4  | LVL 5   | LVL 1<br>LVL 6     | LVL 2<br>LVL 7 | LVL 3 | LVL 4 | LVL 5 |
| Ethanol                | TBA    | Ave        | 12569<br>221539   | 17493<br>438185   | 43546  | 58634  | 82483   | 1250<br>31250      | 2500<br>62500  | 6250  | 10000 | 12500 |
| Isopropyl alcohol      | FB     | Ave        | 12546<br>252927   | 21394<br>490310   | 56371  | 76943  | 106206  | 250<br>6250        | 500<br>12500   | 1250  | 2000  | 2500  |
| Acetonitrile           | FB     | Lin        | 18552<br>285539   | 25147<br>594912   | 84725  | 83108  | 129977  | 250<br>6250        | 500<br>12500   | 1250  | 2000  | 2500  |
| Chloroprene            | FB     | Ave        | 40899<br>1031429  | 77129<br>1961660  | 210594 | 297735 | 451038  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Isopropyl ether        | FB     | Ave        | 101444<br>2451851 | 194477<br>4380153 | 526749 | 736111 | 1104325 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Tert-butyl ethyl ether | FB     | Ave        | 64601<br>1574822  | 120339<br>2856618 | 319813 | 455531 | 665258  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Propionitrile          | FB     | Ave        | 23264<br>566339   | 42766<br>1096772  | 111774 | 177343 | 243546  | 250<br>6250        | 500<br>12500   | 1250  | 2000  | 2500  |
| Ethyl acetate          | FB     | Ave        | 19142<br>446031   | 33437<br>832827   | 92956  | 138370 | 198396  | 50.0<br>1250       | 100<br>2500    | 250   | 400   | 500   |
| Methacrylonitrile      | FB     | Ave        | 108194<br>2398128 | 197631<br>4307237 | 524389 | 776174 | 1108383 | 250<br>6250        | 500<br>12500   | 1250  | 2000  | 2500  |
| Tert-amyl methyl ether | FB     | Ave        | 2978<br>86963     | 6653<br>163319    | 18525  | 25245  | 34872   | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Isooctane              | FB     | Ave        | 144792<br>3118383 | 250764<br>5635807 | 651212 | 928105 | 1379694 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| n-Butanol              | FB     | Ave        | 8228<br>248212    | 16397<br>488684   | 47766  | 72578  | 102832  | 625<br>15625       | 1250<br>31250  | 3125  | 5000  | 6250  |
| Ethyl acrylate         | CBZ    | Ave        | 17652<br>465622   | 34207<br>870263   | 96374  | 141337 | 208411  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Methyl methacrylate    | FB     | Ave        | 12548<br>320325   | 24370<br>607402   | 66929  | 96292  | 142906  | 50.0<br>1250       | 100<br>2500    | 250   | 400   | 500   |
| 2-Nitropropane         | CBZ    | Ave        | 4142<br>117955    | 8721<br>229932    | 23594  | 35323  | 50090   | 50.0<br>1250       | 100<br>2500    | 250   | 400   | 500   |

FORM VI  
GC/MS VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 136245

SDG No.: \_\_\_\_\_

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 03/23/2015 13:00 Calibration End Date: 03/23/2015 15:37 Calibration ID: 22530

| ANALYTE                   | IS<br>REF | CURVE<br>TYPE | RESPONSE         |                  |        |        |        | CONCENTRATION (NG) |                |       |       |       |
|---------------------------|-----------|---------------|------------------|------------------|--------|--------|--------|--------------------|----------------|-------|-------|-------|
|                           |           |               | LVL 1<br>LVL 6   | LVL 2<br>LVL 7   | LVL 3  | LVL 4  | LVL 5  | LVL 1<br>LVL 6     | LVL 2<br>LVL 7 | LVL 3 | LVL 4 | LVL 5 |
| 2-Chloroethyl vinyl ether | FB        | Ave           | 18738<br>439671  | 35413<br>852744  | 85425  | 129750 | 191350 | 50.0<br>1250       | 100<br>2500    | 250   | 400   | 500   |
| n-Butyl acetate           | CBZ       | Ave           | 22856<br>436902  | 39573<br>816067  | 96701  | 135627 | 199450 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Cyclohexanone             | CBZ       | Ave           | 11921<br>308583  | 23268<br>590105  | 62069  | 94339  | 127979 | 500<br>12500       | 1000<br>25000  | 2500  | 4000  | 5000  |
| 1,2,3-Trimethylbenzene    | DCB       | Ave           | 54857<br>1397376 | 99933<br>2622339 | 279030 | 395403 | 585147 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Benzyl chloride           | DCB       | Ave           | 15958<br>464169  | 31795<br>905915  | 92260  | 130966 | 184059 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 1,3,5-Trichlorobenzene    | DCB       | Ave           | 19609<br>506105  | 35038<br>1035108 | 91966  | 139387 | 210025 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |

Curve Type Legend:

Ave = Average ISTD  
Lin = Linear ISTD



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K05.D  
 Lims ID: IC VSTD5  
 Client ID:  
 Sample Type: IC Calib Level: 1  
 Inject. Date: 23-Mar-2015 13:00:30 ALS Bottle#: 5 Worklist Smp#: 3  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: IC VSTD5  
 Operator ID: 10099 Instrument ID: CHHP3  
 Sublist: chrom-MSVOA\_S\_CHHP3\*sub3  
 Method: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\MSVOA\_S\_CHHP3.m  
 Limit Group: VOA 8260C ICAL  
 Last Update: 24-Mar-2015 04:21:18 Calib Date: 23-Mar-2015 15:37:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K11.D  
 Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
 Process Host: XAWRK011

First Level Reviewer: gordonk

Date: 24-Mar-2015 03:55:20

| Compound                     | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q  | Response | Cal Amt ng | OnCol Amt ng | Flags |
|------------------------------|-----|-----------|---------------|---------------|----|----------|------------|--------------|-------|
| * 1 TBA-d9 (IS)              | 65  | 4.677     | 4.677         | 0.000         | 99 | 155198   | 5000.0     | 5000.0       |       |
| * 2 Fluorobenzene (IS)       | 96  | 7.621     | 7.621         | 0.000         | 97 | 524155   | 250.0      | 250.0        |       |
| * 3 Chlorobenzene-d5         | 119 | 10.693    | 10.693        | 0.000         | 87 | 122315   | 250.0      | 250.0        |       |
| * 4 1,4-Dichlorobenzene-d4   | 152 | 13.017    | 13.017        | 0.000         | 95 | 180649   | 250.0      | 250.0        |       |
| 18 Ethanol                   | 45  | 3.283     | 3.283         | 0.000         | 93 | 12569    | 1250.0     | 1654.4       | M     |
| 26 Isopropyl alcohol         | 45  | 4.153     | 4.153         | 0.000         | 94 | 12546    | 250.0      | 286.3        |       |
| 27 Acetonitrile              | 40  | 4.330     | 4.330         | 0.000         | 98 | 18552    | 250.0      | 264.3        |       |
| 38 2-Chloro-1,3-butadiene    | 53  | 5.680     | 5.680         | 0.000         | 91 | 40899    | 25.0       | 24.5         |       |
| 39 Isopropyl ether           | 45  | 5.711     | 5.711         | 0.000         | 99 | 101444   | 25.0       | 25.0         |       |
| 40 Tert-butyl ethyl ether    | 59  | 6.167     | 6.167         | 0.000         | 96 | 64601    | 25.0       | 25.5         |       |
| 44 Propionitrile             | 54  | 6.386     | 6.386         | 0.000         | 97 | 23264    | 250.0      | 250.4        |       |
| 45 Ethyl acetate             | 43  | 6.435     | 6.435         | 0.000         | 98 | 19142    | 50.0       | 51.7         |       |
| 46 Methacrylonitrile         | 41  | 6.581     | 6.581         | 0.000         | 95 | 108194   | 250.0      | 262.5        |       |
| 57 Tert-amyl methyl ether    | 73  | 7.341     | 7.341         | 0.000         | 51 | 2978     | 25.0       | 21.7         |       |
| 58 Isooctane                 | 57  | 7.438     | 7.438         | 0.000         | 96 | 144792   | 25.0       | 27.7         |       |
| 61 n-Butanol                 | 56  | 7.962     | 7.962         | 0.000         | 93 | 8228     | 625.0      | 538.3        |       |
| 62 Ethyl acrylate            | 55  | 8.132     | 8.132         | 0.000         | 98 | 17652    | 25.0       | 23.7         |       |
| 66 Methyl methacrylate       | 69  | 8.363     | 8.363         | 0.000         | 89 | 12548    | 50.0       | 47.8         |       |
| 69 2-Nitropropane            | 41  | 8.746     | 8.746         | 0.000         | 79 | 4142     | 50.0       | 44.8         |       |
| 70 2-Chloroethyl vinyl ether | 63  | 8.838     | 8.838         | 0.000         | 77 | 18738    | 50.0       | 51.7         |       |
| 80 n-Butyl acetate           | 43  | 10.097    | 10.097        | 0.000         | 96 | 22856    | 25.0       | 29.8         |       |
| 92 Cyclohexanone             | 55  | 11.788    | 11.788        | 0.000         | 94 | 11921    | 500.0      | 485.8        |       |
| 102 Pentachloroethane        | 167 | 12.634    | 12.634        | 0.000         | 88 | 5116     | 25.0       | 24.7         |       |
| 108 1,2,3-Trimethylbenzene   | 105 | 13.096    | 13.096        | 0.000         | 97 | 54857    | 25.0       | 25.4         |       |
| 109 Benzyl chloride          | 91  | 13.169    | 13.169        | 0.000         | 98 | 15958    | 25.0       | 22.9         |       |
| 113 1,3,5-Trichlorobenzene   | 180 | 14.428    | 14.428        | 0.000         | 96 | 19609    | 25.0       | 25.4         |       |
| 118 2-Methylnaphthalene      | 142 | 16.698    | 16.698        | 0.000         | 94 | 9945     | 25.0       | 22.3         |       |

**QC Flag Legend**

Review Flags

M - Manually Integrated

**Reagents:**

VOAAPPXPRI\_00008

Amount Added: 1.00

Units: uL

voaW2CLEpRest\_00001

Amount Added: 1.00

Units: uL

VOA8260INT\_00030

Amount Added: 10.00

Units: uL

Run Reagent

Report Date: 24-Mar-2015 04:21:18

Chrom Revision: 2.2 13-Mar-2015 11:20:44

TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K05.D

Injection Date: 23-Mar-2015 13:00:30

Instrument ID: CHHP3

Operator ID: 10099

Lims ID: IC VSTD5

Worklist Smp#: 3

Client ID:

Purge Vol: 5.000 mL

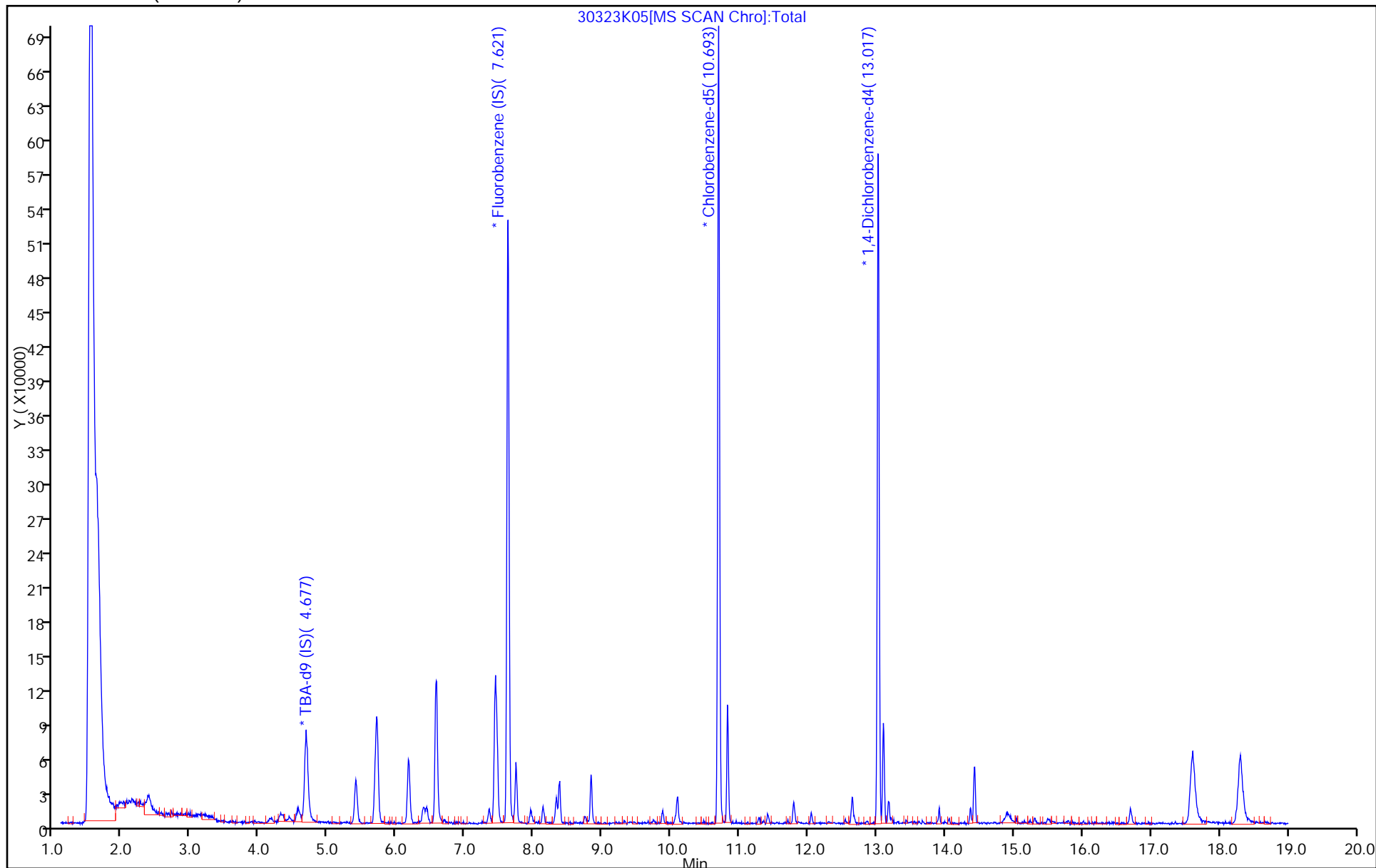
Dil. Factor: 1.0000

ALS Bottle#: 5

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K05.D

Injection Date: 23-Mar-2015 13:00:30

Instrument ID: CHHP3

Lims ID: IC VSTD5

Client ID:

Operator ID: 10099

ALS Bottle#:

5

Worklist Smp#: 3

Purge Vol: 5.000 mL

Dil. Factor: 1.0000

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

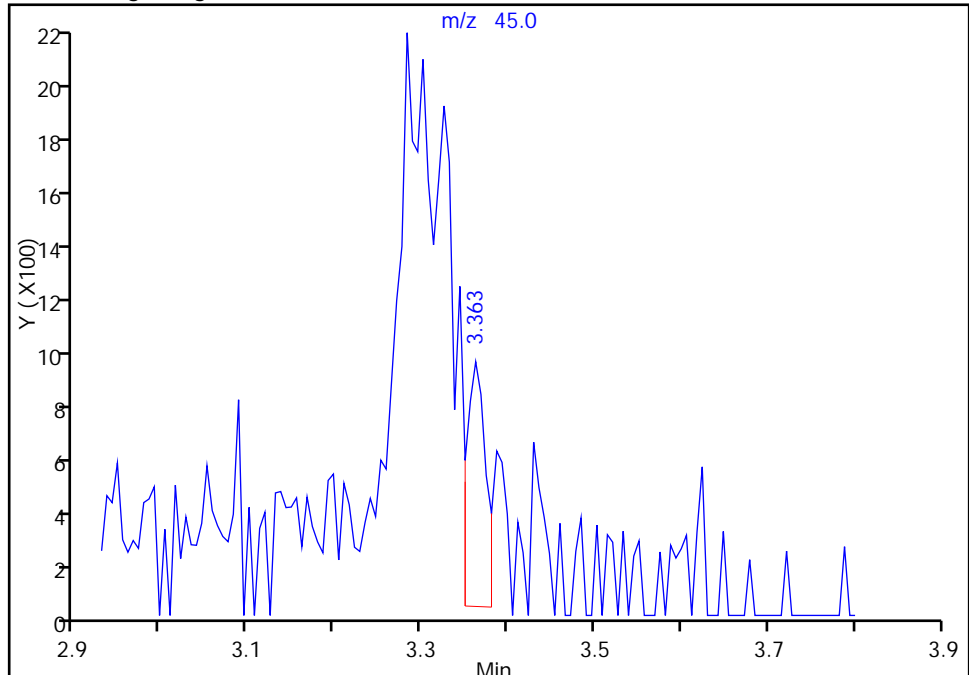
Column: DB-624 (0.18 mm)

Detector: MS SCAN

## 18 Ethanol, CAS: 64-17-5

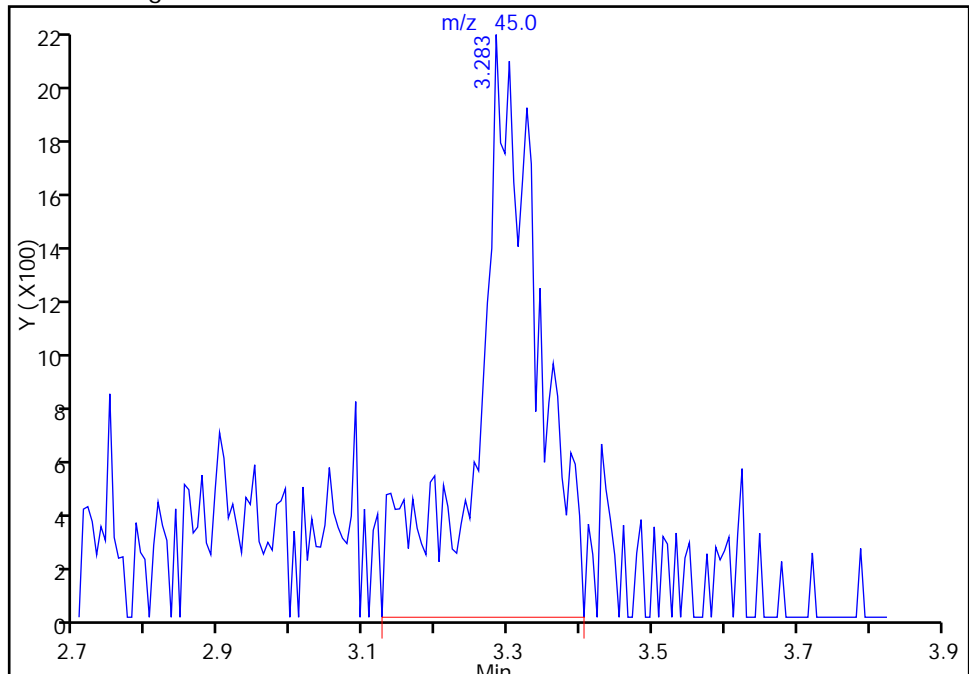
RT: 3.36  
Area: 1360  
Amount: 1577.4184  
Amount Units: ng

## Processing Integration Results



RT: 3.28  
Area: 12569  
Amount: 1654.4309  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 24-Mar-2015 03:55:20

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K06.D  
 Lims ID: IC VSTD10  
 Client ID:  
 Sample Type: IC Calib Level: 2  
 Inject. Date: 23-Mar-2015 13:26:30 ALS Bottle#: 6 Worklist Smp#: 4  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: IC VSTD10  
 Operator ID: 10099 Instrument ID: CHHP3  
 Sublist: chrom-MSVOA\_S\_CHHP3\*sub3  
 Method: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\MSVOA\_S\_CHHP3.m  
 Limit Group: VOA 8260C ICAL  
 Last Update: 24-Mar-2015 04:21:19 Calib Date: 23-Mar-2015 15:37:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K11.D  
 Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
 Process Host: XAWRK011

First Level Reviewer: gordonk

Date: 24-Mar-2015 03:58:22

| Compound                     | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q  | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|------------------------------|-----|--------------|------------------|------------------|----|----------|---------------|-----------------|-------|
| * 1 TBA-d9 (IS)              | 65  | 4.676        | 4.677            | -0.001           | 99 | 143656   | 5000.0        | 5000.0          |       |
| * 2 Fluorobenzene (IS)       | 96  | 7.614        | 7.621            | -0.007           | 98 | 517979   | 250.0         | 250.0           |       |
| * 3 Chlorobenzene-d5         | 119 | 10.692       | 10.693           | -0.001           | 89 | 119501   | 250.0         | 250.0           |       |
| * 4 1,4-Dichlorobenzene-d4   | 152 | 13.022       | 13.017           | 0.005            | 94 | 177001   | 250.0         | 250.0           |       |
| 18 Ethanol                   | 45  | 3.313        | 3.283            | 0.030            | 76 | 17493    | 2500.0        | 2487.6          | M     |
| 26 Isopropyl alcohol         | 45  | 4.152        | 4.153            | -0.001           | 99 | 21394    | 500.0         | 494.1           |       |
| 27 Acetonitrile              | 40  | 4.329        | 4.330            | -0.001           | 96 | 25147    | 500.0         | 408.1           |       |
| 38 2-Chloro-1,3-butadiene    | 53  | 5.692        | 5.680            | 0.012            | 90 | 77129    | 50.0          | 46.8            |       |
| 39 Isopropyl ether           | 45  | 5.716        | 5.711            | 0.005            | 99 | 194477   | 50.0          | 48.5            |       |
| 40 Tert-butyl ethyl ether    | 59  | 6.172        | 6.167            | 0.005            | 96 | 120339   | 50.0          | 48.0            |       |
| 44 Propionitrile             | 54  | 6.379        | 6.386            | -0.007           | 99 | 42766    | 500.0         | 465.8           |       |
| 45 Ethyl acetate             | 43  | 6.434        | 6.435            | -0.001           | 98 | 33437    | 100.0         | 91.4            |       |
| 46 Methacrylonitrile         | 41  | 6.568        | 6.581            | -0.013           | 95 | 197631   | 500.0         | 485.2           |       |
| 57 Tert-amyl methyl ether    | 73  | 7.346        | 7.341            | 0.005            | 56 | 6653     | 50.0          | 49.0            |       |
| 58 Isooctane                 | 57  | 7.437        | 7.438            | -0.001           | 96 | 250764   | 50.0          | 48.5            |       |
| 61 n-Butanol                 | 56  | 7.955        | 7.962            | -0.007           | 87 | 16397    | 1250.0        | 1085.4          |       |
| 62 Ethyl acrylate            | 55  | 8.131        | 8.132            | -0.001           | 97 | 34207    | 50.0          | 47.0            |       |
| 66 Methyl methacrylate       | 69  | 8.368        | 8.363            | 0.005            | 91 | 24370    | 100.0         | 94.0            |       |
| 69 2-Nitropropane            | 41  | 8.752        | 8.746            | 0.006            | 84 | 8721     | 100.0         | 96.4            |       |
| 70 2-Chloroethyl vinyl ether | 63  | 8.831        | 8.838            | -0.007           | 85 | 35413    | 100.0         | 98.9            |       |
| 80 n-Butyl acetate           | 43  | 10.090       | 10.097           | -0.007           | 97 | 39573    | 50.0          | 52.7            |       |
| 92 Cyclohexanone             | 55  | 11.787       | 11.788           | -0.001           | 92 | 23268    | 1000.0        | 970.6           |       |
| 102 Pentachloroethane        | 167 | 12.645       | 12.634           | 0.011            | 89 | 9064     | 50.0          | 44.7            |       |
| 108 1,2,3-Trimethylbenzene   | 105 | 13.095       | 13.096           | -0.001           | 97 | 99933    | 50.0          | 47.3            |       |
| 109 Benzyl chloride          | 91  | 13.174       | 13.169           | 0.005            | 98 | 31795    | 50.0          | 46.6            |       |
| 113 1,3,5-Trichlorobenzene   | 180 | 14.427       | 14.428           | -0.001           | 97 | 35038    | 50.0          | 46.4            |       |
| 118 2-Methylnaphthalene      | 142 | 16.703       | 16.698           | 0.005            | 94 | 17911    | 50.0          | 41.0            |       |

**QC Flag Legend**

Review Flags

M - Manually Integrated

**Reagents:**

voaW2CLEpRest\_00001

Amount Added: 2.00

Units: uL

VOAAPPXPRI\_00008

Amount Added: 2.00

Units: uL

VOA8260INT\_00030

Amount Added: 10.00

Units: uL

Run Reagent

Report Date: 24-Mar-2015 04:21:19

Chrom Revision: 2.2 13-Mar-2015 11:20:44

TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K06.D

Injection Date: 23-Mar-2015 13:26:30

Instrument ID: CHHP3

Operator ID: 10099

Lims ID: IC VSTD10

Worklist Smp#: 4

Client ID:

Purge Vol: 5.000 mL

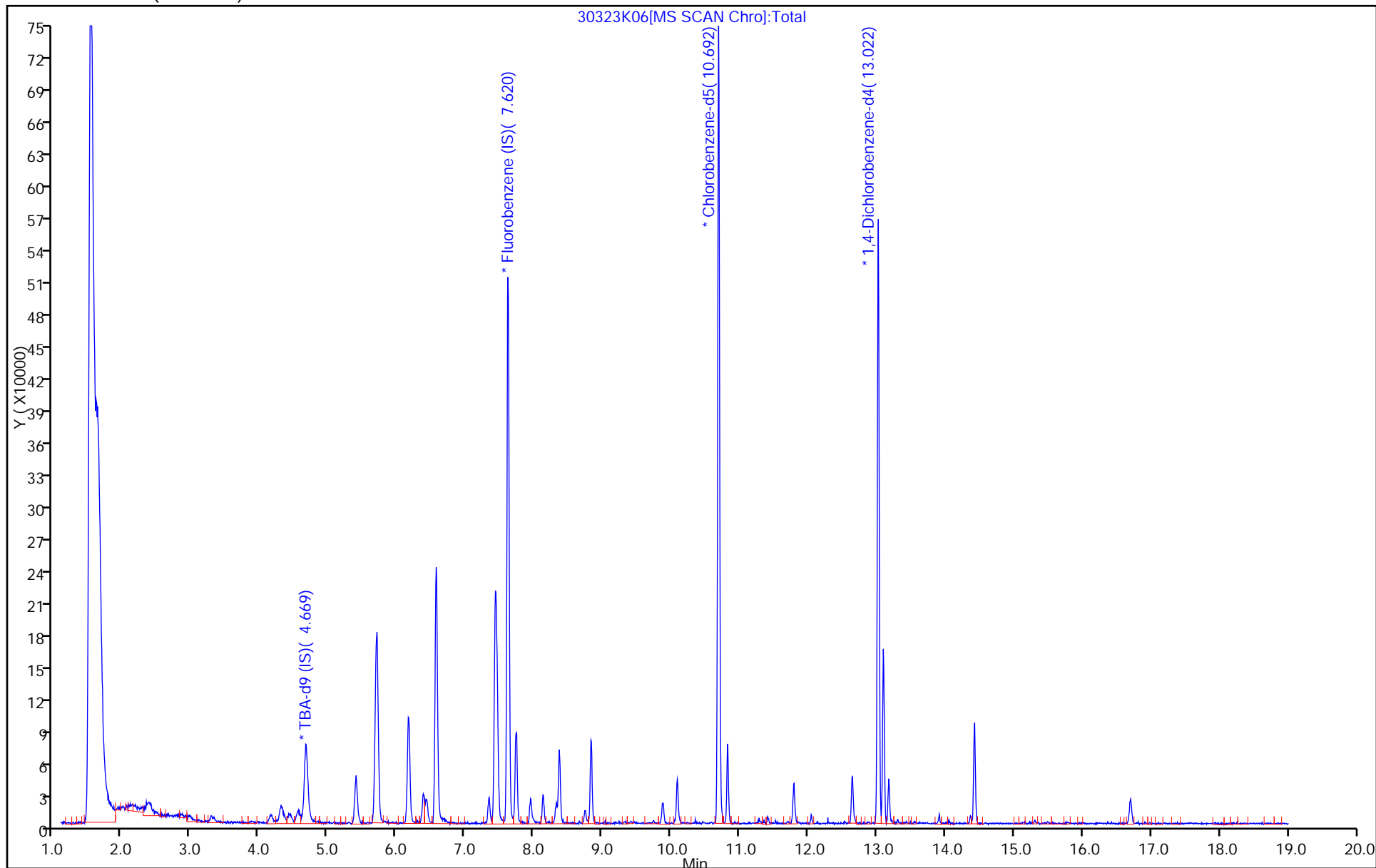
Dil. Factor: 1.0000

ALS Bottle#: 6

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)



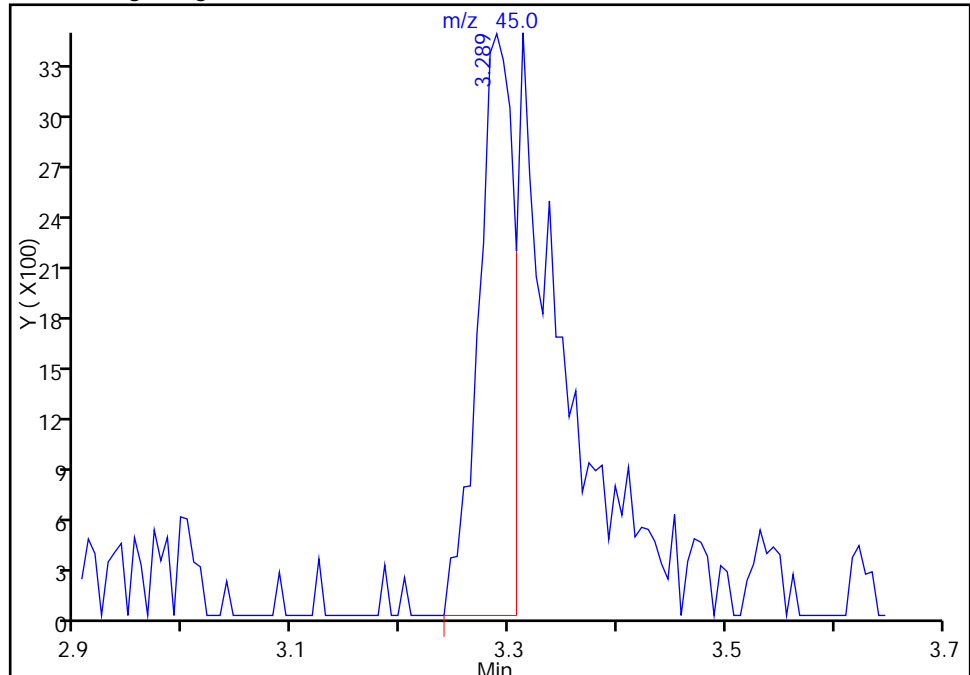
## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K06.D  
Injection Date: 23-Mar-2015 13:26:30 Instrument ID: CHHP3  
Lims ID: IC VSTD10  
Client ID:  
Operator ID: 10099 ALS Bottle#: 6 Worklist Smp#: 4  
Purge Vol: 5.000 mL Dil. Factor: 1.0000  
Method: MSVOA\_S\_CHHP3 Limit Group: VOA 8260C ICAL  
Column: DB-624 (0.18 mm) Detector: MS SCAN

## 18 Ethanol, CAS: 64-17-5

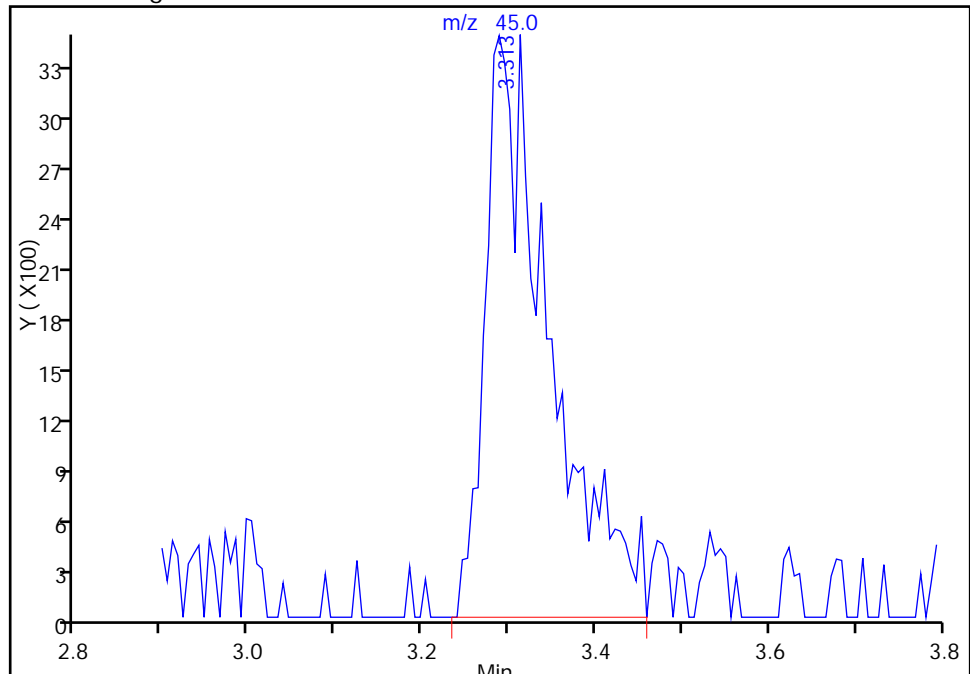
RT: 3.29  
Area: 7680  
Amount: 1429.3831  
Amount Units: ng

## Processing Integration Results



RT: 3.31  
Area: 17493  
Amount: 2487.5657  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 24-Mar-2015 03:58:22  
Audit Action: Manually Integrated  
Audit Reason: Poor chromatography



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K07.D  
 Lims ID: IC VSTD25  
 Client ID:  
 Sample Type: IC Calib Level: 3  
 Inject. Date: 23-Mar-2015 13:52:30 ALS Bottle#: 7 Worklist Smp#: 5  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: IC VSTD25  
 Operator ID: 10099 Instrument ID: CHHP3  
 Sublist: chrom-MSVOA\_S\_CHHP3\*sub3  
 Method: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\MSVOA\_S\_CHHP3.m  
 Limit Group: VOA 8260C ICAL  
 Last Update: 24-Mar-2015 04:21:20 Calib Date: 23-Mar-2015 15:37:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K11.D  
 Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
 Process Host: XAWRK011

First Level Reviewer: gordonk

Date: 24-Mar-2015 03:59:45

| Compound                     | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|------------------------------|-----|--------------|------------------|------------------|-----|----------|---------------|-----------------|-------|
| * 1 TBA-d9 (IS)              | 65  | 4.679        | 4.677            | 0.002            | 99  | 148051   | 5000.0        | 5000.0          |       |
| * 2 Fluorobenzene (IS)       | 96  | 7.624        | 7.621            | 0.003            | 98  | 510574   | 250.0         | 250.0           |       |
| * 3 Chlorobenzene-d5         | 119 | 10.696       | 10.693           | 0.003            | 87  | 121203   | 250.0         | 250.0           |       |
| * 4 1,4-Dichlorobenzene-d4   | 152 | 13.020       | 13.017           | 0.003            | 95  | 182445   | 250.0         | 250.0           |       |
| 18 Ethanol                   | 45  | 3.310        | 3.283            | 0.027            | 96  | 43546    | 6250.0        | 6008.6          |       |
| 26 Isopropyl alcohol         | 45  | 4.168        | 4.153            | 0.015            | 100 | 56371    | 1250.0        | 1320.7          |       |
| 27 Acetonitrile              | 40  | 4.314        | 4.330            | -0.016           | 98  | 84725    | 1250.0        | 1691.7          |       |
| 38 2-Chloro-1,3-butadiene    | 53  | 5.689        | 5.680            | 0.009            | 90  | 210594   | 125.0         | 129.6           |       |
| 39 Isopropyl ether           | 45  | 5.713        | 5.711            | 0.002            | 99  | 526749   | 125.0         | 133.1           |       |
| 40 Tert-butyl ethyl ether    | 59  | 6.176        | 6.167            | 0.009            | 95  | 319813   | 125.0         | 129.4           |       |
| 44 Propionitrile             | 54  | 6.389        | 6.386            | 0.003            | 99  | 111774   | 1250.0        | 1235.1          |       |
| 45 Ethyl acetate             | 43  | 6.431        | 6.435            | -0.004           | 98  | 92956    | 250.0         | 257.8           |       |
| 46 Methacrylonitrile         | 41  | 6.571        | 6.581            | -0.010           | 96  | 524389   | 1250.0        | 1306.2          |       |
| 57 Tert-amyl methyl ether    | 73  | 7.350        | 7.341            | 0.009            | 57  | 18525    | 125.0         | 138.4           |       |
| 58 Isooctane                 | 57  | 7.441        | 7.438            | 0.003            | 96  | 651212   | 125.0         | 127.8           |       |
| 61 n-Butanol                 | 56  | 7.952        | 7.962            | -0.010           | 89  | 47766    | 3125.0        | 3207.8          |       |
| 62 Ethyl acrylate            | 55  | 8.135        | 8.132            | 0.003            | 98  | 96374    | 125.0         | 130.6           |       |
| 66 Methyl methacrylate       | 69  | 8.372        | 8.363            | 0.009            | 91  | 66929    | 250.0         | 261.8           |       |
| 69 2-Nitropropane            | 41  | 8.749        | 8.746            | 0.003            | 91  | 23594    | 250.0         | 257.3           |       |
| 70 2-Chloroethyl vinyl ether | 63  | 8.834        | 8.838            | -0.004           | 81  | 85425    | 250.0         | 242.0           |       |
| 80 n-Butyl acetate           | 43  | 10.087       | 10.097           | -0.010           | 97  | 96701    | 125.0         | 127.0           |       |
| 92 Cyclohexanone             | 55  | 11.791       | 11.788           | 0.003            | 90  | 62069    | 2500.0        | 2552.9          |       |
| 102 Pentachloroethane        | 167 | 12.642       | 12.634           | 0.008            | 92  | 31730    | 125.0         | 151.8           |       |
| 108 1,2,3-Trimethylbenzene   | 105 | 13.099       | 13.096           | 0.003            | 98  | 279030   | 125.0         | 128.2           |       |
| 109 Benzyl chloride          | 91  | 13.172       | 13.169           | 0.003            | 99  | 92260    | 125.0         | 131.2           |       |
| 113 1,3,5-Trichlorobenzene   | 180 | 14.425       | 14.428           | -0.003           | 97  | 91966    | 125.0         | 118.1           |       |
| 118 2-Methylnaphthalene      | 142 | 16.706       | 16.698           | 0.008            | 92  | 53224    | 125.0         | 118.1           |       |

**Reagents:**

VOAAPPIXPRI\_00008

Amount Added: 5.00

Units: uL

voaW2CLEpRest\_00001

Amount Added: 5.00

Units: uL

VOA8260INT\_00030

Amount Added: 10.00

Units: uL

Run Reagent

Report Date: 24-Mar-2015 04:21:20

Chrom Revision: 2.2 13-Mar-2015 11:20:44

TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K07.D

Injection Date: 23-Mar-2015 13:52:30

Instrument ID: CHHP3

Operator ID: 10099

Lims ID: IC VSTD25

Worklist Smp#: 5

Client ID:

Purge Vol: 5.000 mL

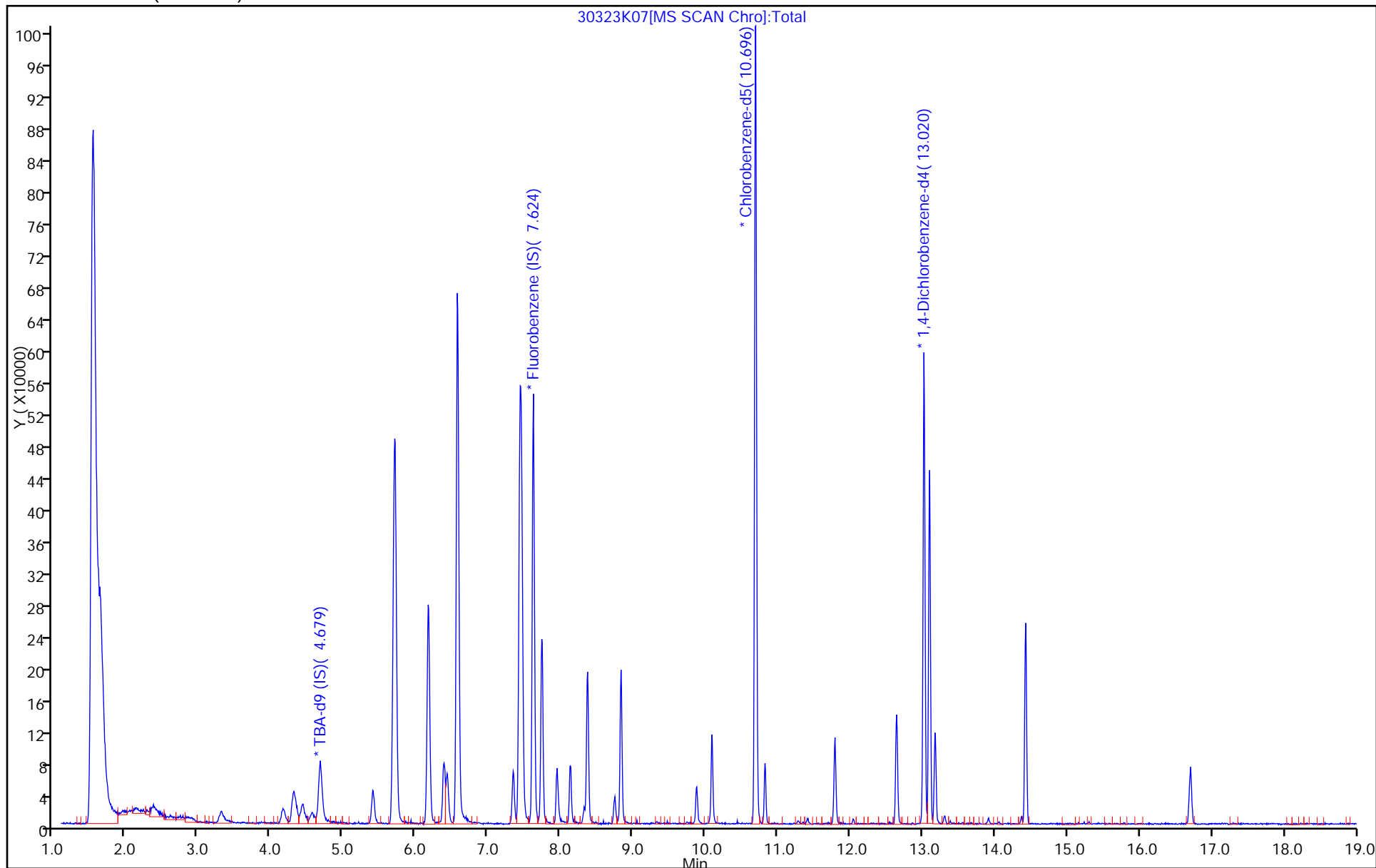
Dil. Factor: 1.0000

ALS Bottle#: 7

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K08.D  
 Lims ID: IC VSTD40  
 Client ID:  
 Sample Type: IC Calib Level: 4  
 Inject. Date: 23-Mar-2015 14:19:30 ALS Bottle#: 8 Worklist Smp#: 6  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: IC VSTD40  
 Operator ID: 10099 Instrument ID: CHHP3  
 Sublist: chrom-MSVOA\_S\_CHHP3\*sub3  
 Method: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\MSVOA\_S\_CHHP3.m  
 Limit Group: VOA 8260C ICAL  
 Last Update: 24-Mar-2015 04:21:20 Calib Date: 23-Mar-2015 15:37:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K11.D  
 Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
 Process Host: XAWRK011

First Level Reviewer: gordonk

Date: 24-Mar-2015 04:02:28

| Compound                     | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|------------------------------|-----|--------------|------------------|------------------|-----|----------|---------------|-----------------|-------|
| * 1 TBA-d9 (IS)              | 65  | 4.677        | 4.677            | 0.000            | 100 | 140605   | 5000.0        | 5000.0          |       |
| * 2 Fluorobenzene (IS)       | 96  | 7.621        | 7.621            | 0.000            | 97  | 447806   | 250.0         | 250.0           |       |
| * 3 Chlorobenzene-d5         | 119 | 10.693       | 10.693           | 0.000            | 86  | 107738   | 250.0         | 250.0           |       |
| * 4 1,4-Dichlorobenzene-d4   | 152 | 13.017       | 13.017           | 0.000            | 95  | 158602   | 250.0         | 250.0           |       |
| 18 Ethanol                   | 45  | 3.308        | 3.308            | 0.000            | 95  | 58634    | 10000         | 8518.9          |       |
| 26 Isopropyl alcohol         | 45  | 4.160        | 4.160            | 0.000            | 100 | 76943    | 2000.0        | 2055.4          |       |
| 27 Acetonitrile              | 40  | 4.306        | 4.306            | 0.000            | 98  | 83108    | 2000.0        | 1906.5          |       |
| 38 2-Chloro-1,3-butadiene    | 53  | 5.687        | 5.687            | 0.000            | 89  | 297735   | 200.0         | 208.9           |       |
| 39 Isopropyl ether           | 45  | 5.711        | 5.711            | 0.000            | 99  | 736111   | 200.0         | 212.1           |       |
| 40 Tert-butyl ethyl ether    | 59  | 6.167        | 6.167            | 0.000            | 95  | 455531   | 200.0         | 210.2           |       |
| 44 Propionitrile             | 54  | 6.386        | 6.386            | 0.000            | 100 | 177343   | 2000.0        | 2234.4          |       |
| 45 Ethyl acetate             | 43  | 6.429        | 6.429            | 0.000            | 98  | 138370   | 400.0         | 437.5           |       |
| 46 Methacrylonitrile         | 41  | 6.575        | 6.575            | 0.000            | 96  | 776174   | 2000.0        | 2204.4          |       |
| 57 Tert-amyl methyl ether    | 73  | 7.347        | 7.347            | 0.000            | 56  | 25245    | 200.0         | 215.0           |       |
| 58 Isooctane                 | 57  | 7.439        | 7.439            | 0.000            | 96  | 928105   | 200.0         | 207.7           |       |
| 61 n-Butanol                 | 56  | 7.950        | 7.950            | 0.000            | 91  | 72578    | 5000.0        | 5557.3          |       |
| 62 Ethyl acrylate            | 55  | 8.132        | 8.132            | 0.000            | 97  | 141337   | 200.0         | 215.5           |       |
| 66 Methyl methacrylate       | 69  | 8.369        | 8.369            | 0.000            | 91  | 96292    | 400.0         | 429.5           |       |
| 69 2-Nitropropane            | 41  | 8.740        | 8.740            | 0.000            | 85  | 35323    | 400.0         | 433.3           |       |
| 70 2-Chloroethyl vinyl ether | 63  | 8.832        | 8.832            | 0.000            | 85  | 129750   | 400.0         | 419.1           |       |
| 80 n-Butyl acetate           | 43  | 10.091       | 10.091           | 0.000            | 99  | 135627   | 200.0         | 200.5           |       |
| 92 Cyclohexanone             | 55  | 11.788       | 11.788           | 0.000            | 90  | 94339    | 4000.0        | 4365.0          |       |
| 102 Pentachloroethane        | 167 | 12.646       | 12.646           | 0.000            | 93  | 36653    | 200.0         | 201.7           |       |
| 108 1,2,3-Trimethylbenzene   | 105 | 13.096       | 13.096           | 0.000            | 98  | 395403   | 200.0         | 208.9           |       |
| 109 Benzyl chloride          | 91  | 13.175       | 13.175           | 0.000            | 99  | 130966   | 200.0         | 214.2           |       |
| 113 1,3,5-Trichlorobenzene   | 180 | 14.422       | 14.422           | 0.000            | 97  | 139387   | 200.0         | 205.9           |       |
| 118 2-Methylnaphthalene      | 142 | 16.710       | 16.710           | 0.000            | 93  | 86939    | 200.0         | 222.0           |       |

**Reagents:**

voaW2CLEpRest\_00001

Amount Added: 8.00

Units: uL

VOAAPPXPRI\_00008

Amount Added: 8.00

Units: uL

VOA8260INT\_00030

Amount Added: 10.00

Units: uL

Run Reagent

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K08.D

Injection Date: 23-Mar-2015 14:19:30

Instrument ID: CHHP3

Operator ID: 10099

Lims ID: IC VSTD40

Worklist Smp#: 6

Client ID:

Purge Vol: 5.000 mL

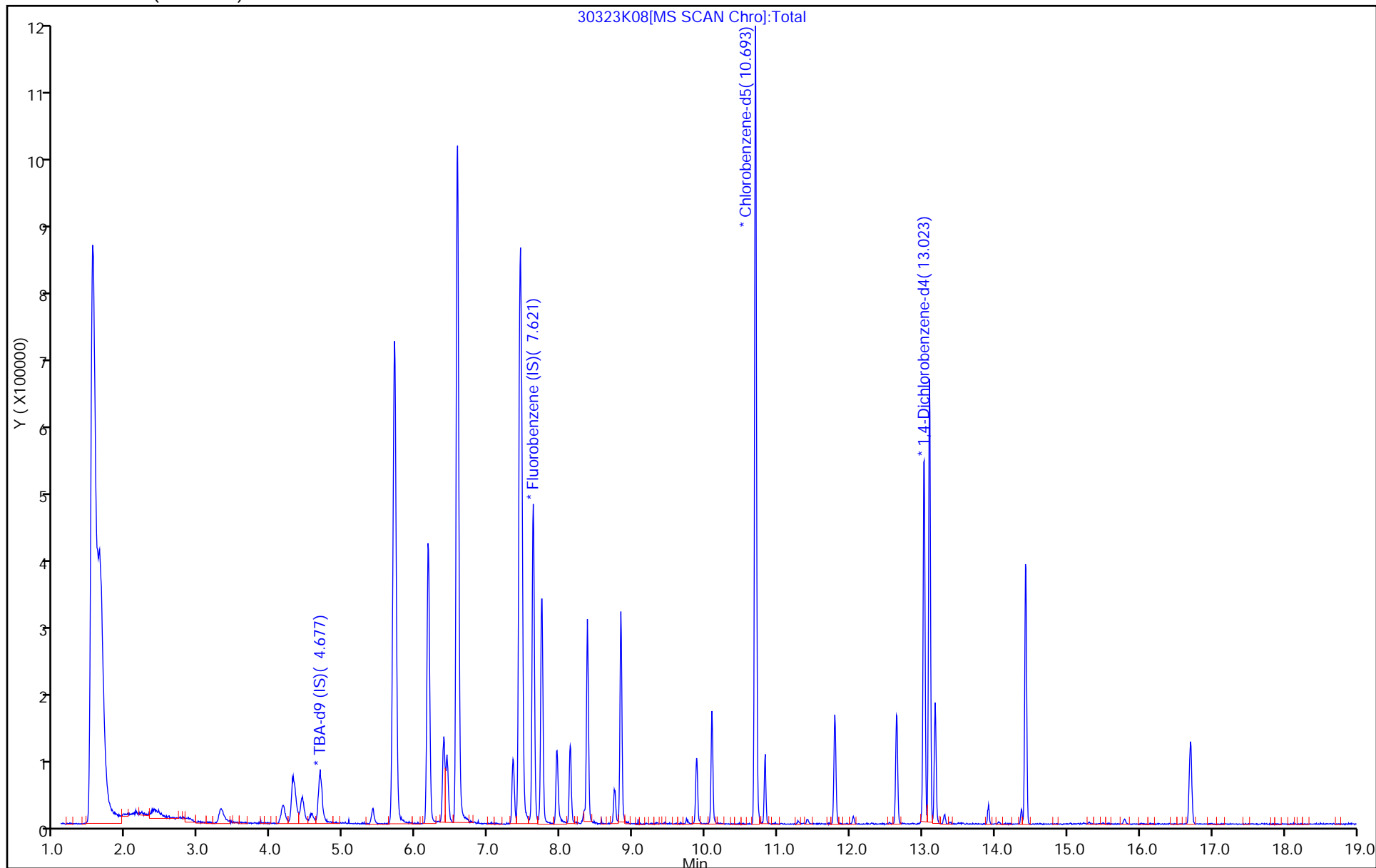
Dil. Factor: 1.0000

ALS Bottle#: 8

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K09.D  
 Lims ID: IC VSTD50  
 Client ID:  
 Sample Type: IC Calib Level: 5  
 Inject. Date: 23-Mar-2015 14:45:30 ALS Bottle#: 9 Worklist Smp#: 7  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: IC VSTD50  
 Operator ID: 10099 Instrument ID: CHHP3  
 Sublist: chrom-MSVOA\_S\_CHHP3\*sub3  
 Method: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\MSVOA\_S\_CHHP3.m  
 Limit Group: VOA 8260C ICAL  
 Last Update: 24-Mar-2015 04:21:21 Calib Date: 23-Mar-2015 15:37:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K11.D  
 Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
 Process Host: XAWRK011

First Level Reviewer: gordonk

Date: 24-Mar-2015 04:05:46

| Compound                     | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|------------------------------|-----|--------------|------------------|------------------|-----|----------|---------------|-----------------|-------|
| * 1 TBA-d9 (IS)              | 65  | 4.682        | 4.677            | 0.005            | 100 | 150603   | 5000.0        | 5000.0          |       |
| * 2 Fluorobenzene (IS)       | 96  | 7.620        | 7.621            | -0.001           | 97  | 534200   | 250.0         | 250.0           |       |
| * 3 Chlorobenzene-d5         | 119 | 10.692       | 10.693           | -0.001           | 86  | 125494   | 250.0         | 250.0           |       |
| * 4 1,4-Dichlorobenzene-d4   | 152 | 13.022       | 13.017           | 0.005            | 95  | 187365   | 250.0         | 250.0           |       |
| 18 Ethanol                   | 45  | 3.307        | 3.308            | -0.001           | 97  | 82483    | 12500         | 11188           |       |
| 26 Isopropyl alcohol         | 45  | 4.158        | 4.160            | -0.002           | 100 | 106206   | 2500.0        | 2378.3          |       |
| 27 Acetonitrile              | 40  | 4.311        | 4.306            | 0.005            | 96  | 129977   | 2500.0        | 2537.6          |       |
| 38 2-Chloro-1,3-butadiene    | 53  | 5.691        | 5.687            | 0.004            | 90  | 451038   | 250.0         | 265.2           |       |
| 39 Isopropyl ether           | 45  | 5.716        | 5.711            | 0.005            | 99  | 1104325  | 250.0         | 266.8           |       |
| 40 Tert-butyl ethyl ether    | 59  | 6.172        | 6.167            | 0.005            | 96  | 665258   | 250.0         | 257.3           |       |
| 44 Propionitrile             | 54  | 6.385        | 6.386            | -0.001           | 99  | 243546   | 2500.0        | 2572.2          |       |
| 45 Ethyl acetate             | 43  | 6.434        | 6.429            | 0.005            | 98  | 198396   | 500.0         | 525.9           |       |
| 46 Methacrylonitrile         | 41  | 6.574        | 6.575            | -0.001           | 96  | 1108383  | 2500.0        | 2638.7          |       |
| 57 Tert-amyl methyl ether    | 73  | 7.340        | 7.347            | -0.007           | 56  | 34872    | 250.0         | 249.0           |       |
| 58 Isooctane                 | 57  | 7.444        | 7.439            | 0.005            | 96  | 1379694  | 250.0         | 258.8           |       |
| 61 n-Butanol                 | 56  | 7.948        | 7.950            | -0.002           | 90  | 102832   | 6250.0        | 6600.5          |       |
| 62 Ethyl acrylate            | 55  | 8.137        | 8.132            | 0.005            | 98  | 208411   | 250.0         | 272.9           |       |
| 66 Methyl methacrylate       | 69  | 8.374        | 8.369            | 0.005            | 92  | 142906   | 500.0         | 534.3           |       |
| 69 2-Nitropropane            | 41  | 8.745        | 8.740            | 0.005            | 58  | 50090    | 500.0         | 527.5           |       |
| 70 2-Chloroethyl vinyl ether | 63  | 8.831        | 8.832            | -0.001           | 83  | 191350   | 500.0         | 518.1           |       |
| 80 n-Butyl acetate           | 43  | 10.090       | 10.091           | -0.001           | 97  | 199450   | 250.0         | 253.1           |       |
| 92 Cyclohexanone             | 55  | 11.787       | 11.788           | -0.001           | 90  | 127979   | 5000.0        | 5083.7          |       |
| 102 Pentachloroethane        | 167 | 12.645       | 12.646           | -0.001           | 91  | 48019    | 250.0         | 223.7           |       |
| 108 1,2,3-Trimethylbenzene   | 105 | 13.095       | 13.096           | -0.001           | 97  | 585147   | 250.0         | 261.7           |       |
| 109 Benzyl chloride          | 91  | 13.174       | 13.175           | -0.001           | 99  | 184059   | 250.0         | 254.8           |       |
| 113 1,3,5-Trichlorobenzene   | 180 | 14.421       | 14.422           | -0.001           | 97  | 210025   | 250.0         | 262.6           |       |
| 118 2-Methylnaphthalene      | 142 | 16.703       | 16.710           | -0.007           | 94  | 133740   | 250.0         | 289.0           |       |

**Reagents:**

VOAAPPIXPRI\_00008

Amount Added: 10.00

Units: uL

voaW2CLEpRest\_00001

Amount Added: 10.00

Units: uL

VOA8260INT\_00030

Amount Added: 10.00

Units: uL

Run Reagent



Report Date: 24-Mar-2015 04:21:22

Chrom Revision: 2.2 13-Mar-2015 11:20:44

TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K09.D

Injection Date: 23-Mar-2015 14:45:30

Instrument ID: CHHP3

Operator ID: 10099

Lims ID: IC VSTD50

Worklist Smp#: 7

Client ID:

Purge Vol: 5.000 mL

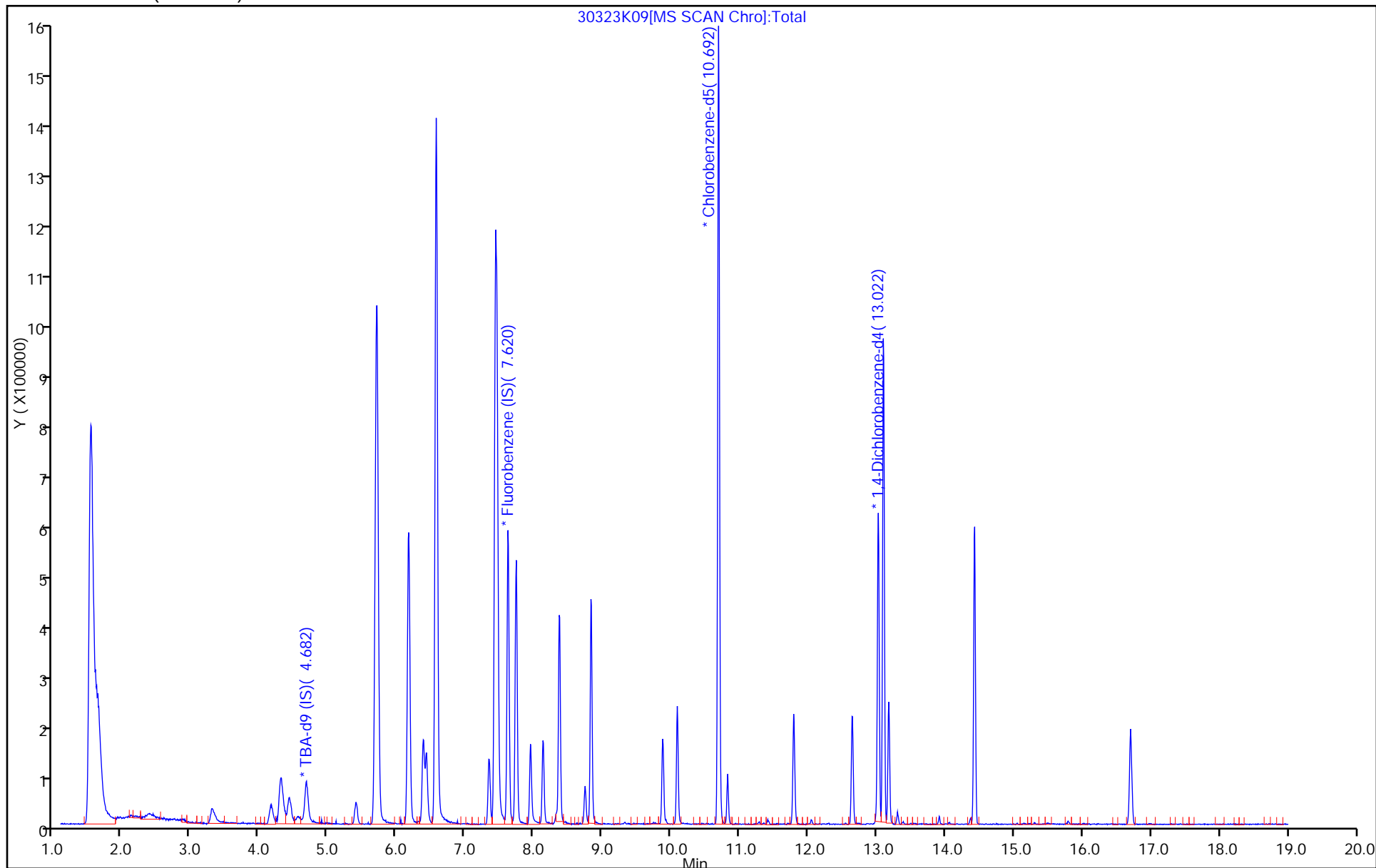
Dil. Factor: 1.0000

ALS Bottle#: 9

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K10.D  
 Lims ID: IC VSTD125  
 Client ID:  
 Sample Type: IC Calib Level: 6  
 Inject. Date: 23-Mar-2015 15:11:30 ALS Bottle#: 10 Worklist Smp#: 8  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: IC VSTD125  
 Operator ID: 10099 Instrument ID: CHHP3  
 Sublist: chrom-MSVOA\_S\_CHHP3\*sub3  
 Method: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\MSVOA\_S\_CHHP3.m  
 Limit Group: VOA 8260C ICAL  
 Last Update: 24-Mar-2015 04:21:22 Calib Date: 23-Mar-2015 15:37:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K11.D  
 Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
 Process Host: XAWRK011

First Level Reviewer: gordonk

Date: 24-Mar-2015 04:06:38

| Compound                     | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|------------------------------|-----|--------------|------------------|------------------|-----|----------|---------------|-----------------|-------|
| * 1 TBA-d9 (IS)              | 65  | 4.688        | 4.677            | 0.011            | 100 | 151992   | 5000.0        | 5000.0          |       |
| * 2 Fluorobenzene (IS)       | 96  | 7.626        | 7.621            | 0.005            | 97  | 536155   | 250.0         | 250.0           |       |
| * 3 Chlorobenzene-d5         | 119 | 10.692       | 10.693           | -0.001           | 66  | 128422   | 250.0         | 250.0           |       |
| * 4 1,4-Dichlorobenzene-d4   | 152 | 13.022       | 13.017           | 0.005            | 94  | 192113   | 250.0         | 250.0           |       |
| 18 Ethanol                   | 45  | 3.331        | 3.308            | 0.023            | 97  | 221539   | 31250         | 29776           |       |
| 26 Isopropyl alcohol         | 45  | 4.177        | 4.160            | 0.017            | 100 | 252927   | 6250.0        | 5643.2          |       |
| 27 Acetonitrile              | 40  | 4.304        | 4.306            | -0.002           | 98  | 285539   | 6250.0        | 5700.3          |       |
| 38 2-Chloro-1,3-butadiene    | 53  | 5.685        | 5.687            | -0.002           | 91  | 1031429  | 625.0         | 604.3           |       |
| 39 Isopropyl ether           | 45  | 5.710        | 5.711            | -0.001           | 99  | 2451851  | 625.0         | 590.2           |       |
| 40 Tert-butyl ethyl ether    | 59  | 6.172        | 6.167            | 0.005            | 96  | 1574822  | 625.0         | 607.0           |       |
| 44 Propionitrile             | 54  | 6.385        | 6.386            | -0.001           | 99  | 566339   | 6250.0        | 5959.6          |       |
| 45 Ethyl acetate             | 43  | 6.434        | 6.429            | 0.005            | 98  | 446031   | 1250.0        | 1177.9          |       |
| 46 Methacrylonitrile         | 41  | 6.573        | 6.575            | -0.002           | 96  | 2398128  | 6250.0        | 5688.4          |       |
| 57 Tert-amyl methyl ether    | 73  | 7.346        | 7.347            | -0.001           | 56  | 86963    | 625.0         | 618.6           |       |
| 58 Isooctane                 | 57  | 7.443        | 7.439            | 0.004            | 95  | 3118383  | 625.0         | 582.9           |       |
| 61 n-Butanol                 | 56  | 7.954        | 7.950            | 0.004            | 91  | 248212   | 15625         | 15874           |       |
| 62 Ethyl acrylate            | 55  | 8.131        | 8.132            | -0.001           | 98  | 465622   | 625.0         | 595.7           |       |
| 66 Methyl methacrylate       | 69  | 8.374        | 8.369            | 0.005            | 92  | 320325   | 1250.0        | 1193.3          |       |
| 69 2-Nitropropane            | 41  | 8.745        | 8.740            | 0.005            | 92  | 117955   | 1250.0        | 1213.8          |       |
| 70 2-Chloroethyl vinyl ether | 63  | 8.830        | 8.832            | -0.002           | 86  | 439671   | 1250.0        | 1186.2          |       |
| 80 n-Butyl acetate           | 43  | 10.090       | 10.091           | -0.001           | 99  | 436902   | 625.0         | 541.8           |       |
| 92 Cyclohexanone             | 55  | 11.787       | 11.788           | -0.001           | 91  | 308583   | 12500         | 11978           |       |
| 102 Pentachloroethane        | 167 | 12.645       | 12.646           | -0.001           | 95  | 101250   | 625.0         | 460.0           |       |
| 108 1,2,3-Trimethylbenzene   | 105 | 13.095       | 13.096           | -0.001           | 98  | 1397376  | 625.0         | 609.5           |       |
| 109 Benzyl chloride          | 91  | 13.174       | 13.175           | -0.001           | 99  | 464169   | 625.0         | 626.6           |       |
| 113 1,3,5-Trichlorobenzene   | 180 | 14.427       | 14.422           | 0.005            | 97  | 506105   | 625.0         | 617.3           |       |
| 118 2-Methylnaphthalene      | 142 | 16.702       | 16.710           | -0.008           | 94  | 295845   | 625.0         | 623.6           |       |

**Reagents:**

voaW2CLEpRest\_00001

Amount Added: 25.00

Units: uL

VOAAPPXPRI\_00008

Amount Added: 25.00

Units: uL

VOA8260INT\_00030

Amount Added: 10.00

Units: uL

Run Reagent

Report Date: 24-Mar-2015 04:21:23

Chrom Revision: 2.2 13-Mar-2015 11:20:44

TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K10.D

Injection Date: 23-Mar-2015 15:11:30

Instrument ID: CHHP3

Operator ID: 10099

Lims ID: IC VSTD125

Worklist Smp#: 8

Client ID:

Purge Vol: 5.000 mL

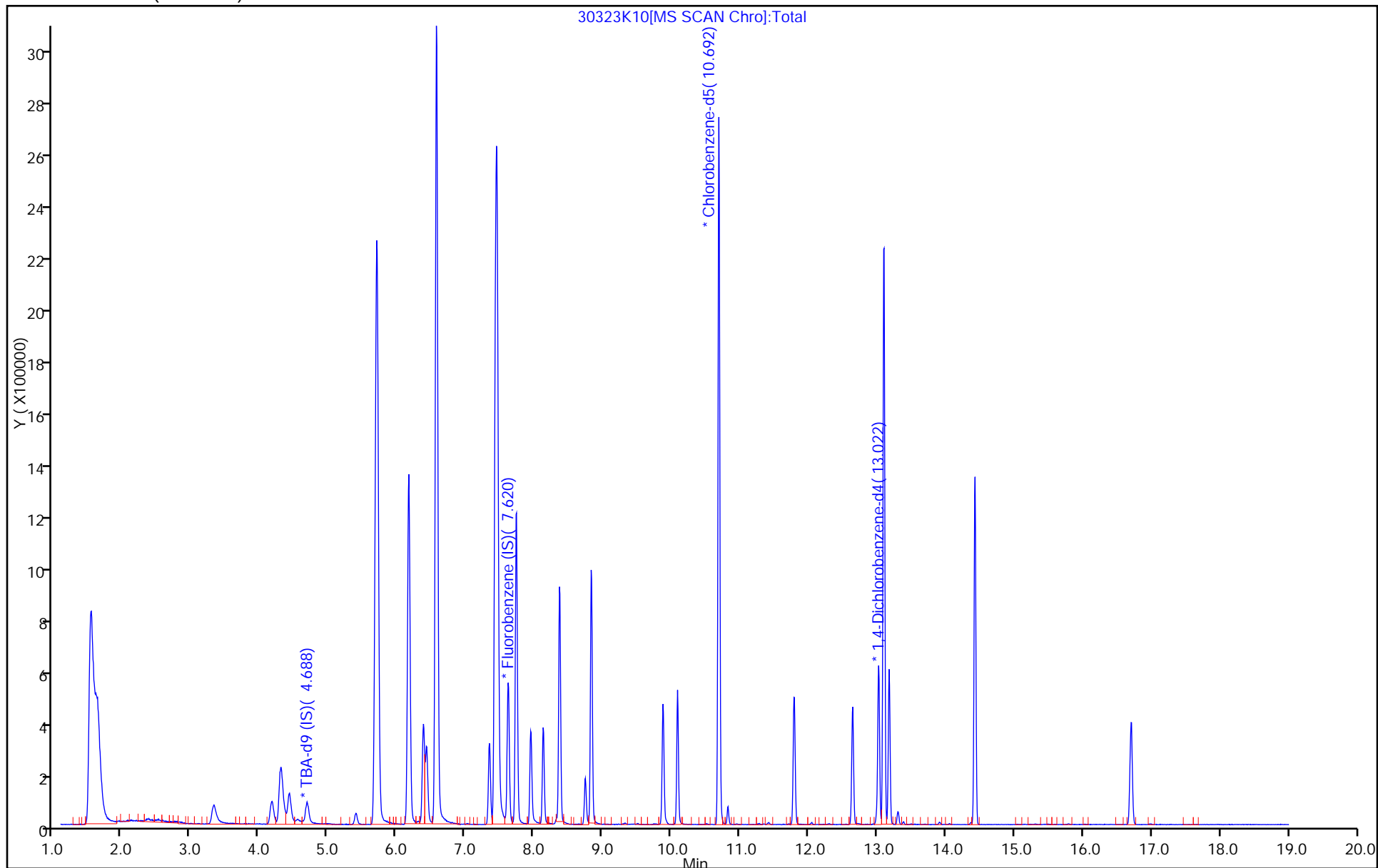
Dil. Factor: 1.0000

ALS Bottle#: 10

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K11.D  
 Lims ID: IC VSTD250  
 Client ID:  
 Sample Type: IC Calib Level: 7  
 Inject. Date: 23-Mar-2015 15:37:30 ALS Bottle#: 11 Worklist Smp#: 9  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: IC VSTD250  
 Operator ID: 10099 Instrument ID: CHHP3  
 Sublist: chrom-MSVOA\_S\_CHHP3\*sub3  
 Method: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\MSVOA\_S\_CHHP3.m  
 Limit Group: VOA 8260C ICAL  
 Last Update: 24-Mar-2015 04:21:23 Calib Date: 23-Mar-2015 15:37:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K11.D  
 Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
 Process Host: XAWRK011

First Level Reviewer: gordonk

Date: 24-Mar-2015 04:11:30

| Compound                     | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q   | Response | Cal Amt ng | OnCol Amt ng | Flags |
|------------------------------|-----|-----------|---------------|---------------|-----|----------|------------|--------------|-------|
| * 1 TBA-d9 (IS)              | 65  | 4.700     | 4.677         | 0.023         | 99  | 140376   | 5000.0     | 5000.0       |       |
| * 2 Fluorobenzene (IS)       | 96  | 7.620     | 7.621         | -0.001        | 97  | 505637   | 250.0      | 250.0        |       |
| * 3 Chlorobenzene-d5         | 119 | 10.693    | 10.693        | 0.000         | 50  | 121276   | 250.0      | 250.0        |       |
| * 4 1,4-Dichlorobenzene-d4   | 152 | 13.023    | 13.017        | 0.006         | 95  | 186124   | 250.0      | 250.0        |       |
| 18 Ethanol                   | 45  | 3.356     | 3.308         | 0.048         | 98  | 438185   | 62500      | 63767        |       |
| 26 Isopropyl alcohol         | 45  | 4.189     | 4.160         | 0.029         | 100 | 490310   | 12500      | 11600        |       |
| 27 Acetonitrile              | 40  | 4.311     | 4.306         | 0.005         | 100 | 594912   | 12500      | 12742        |       |
| 38 2-Chloro-1,3-butadiene    | 53  | 5.680     | 5.687         | -0.007        | 91  | 1961660  | 1250.0     | 1218.8       |       |
| 39 Isopropyl ether           | 45  | 5.710     | 5.711         | -0.001        | 98  | 4380153  | 1250.0     | 1118.0       |       |
| 40 Tert-butyl ethyl ether    | 59  | 6.167     | 6.167         | -0.001        | 95  | 2856618  | 1250.0     | 1167.5       |       |
| 44 Propionitrile             | 54  | 6.392     | 6.386         | 0.006         | 99  | 1096772  | 12500      | 12238        |       |
| 45 Ethyl acetate             | 43  | 6.428     | 6.429         | -0.001        | 98  | 832827   | 2500.0     | 2332.1       |       |
| 46 Methacrylonitrile         | 41  | 6.580     | 6.575         | 0.005         | 96  | 4307237  | 12500      | 10834        |       |
| 57 Tert-amyl methyl ether    | 73  | 7.353     | 7.347         | 0.006         | 55  | 163319   | 1250.0     | 1231.9       |       |
| 58 Isooctane                 | 57  | 7.438     | 7.439         | -0.001        | 95  | 5635807  | 1250.0     | 1117.0       |       |
| 61 n-Butanol                 | 56  | 7.955     | 7.950         | 0.005         | 90  | 488684   | 31250      | 33139        |       |
| 62 Ethyl acrylate            | 55  | 8.131     | 8.132         | -0.001        | 98  | 870263   | 1250.0     | 1179.1       |       |
| 66 Methyl methacrylate       | 69  | 8.369     | 8.369         | 0.000         | 92  | 607402   | 2500.0     | 2399.3       |       |
| 69 2-Nitropropane            | 41  | 8.746     | 8.740         | 0.006         | 92  | 229932   | 2500.0     | 2505.6       |       |
| 70 2-Chloroethyl vinyl ether | 63  | 8.831     | 8.832         | -0.001        | 85  | 852744   | 2500.0     | 2439.5       |       |
| 80 n-Butyl acetate           | 43  | 10.090    | 10.091        | -0.001        | 98  | 816067   | 1250.0     | 1071.5       |       |
| 92 Cyclohexanone             | 55  | 11.788    | 11.788        | 0.000         | 91  | 590105   | 25000      | 24256        |       |
| 102 Pentachloroethane        | 167 | 12.645    | 12.646        | -0.001        | 95  | 174278   | 1250.0     | 817.2        |       |
| 108 1,2,3-Trimethylbenzene   | 105 | 13.102    | 13.096        | 0.006         | 96  | 2622339  | 1250.0     | 1180.6       |       |
| 109 Benzyl chloride          | 91  | 13.175    | 13.175        | 0.000         | 99  | 905915   | 1250.0     | 1262.4       |       |
| 113 1,3,5-Trichlorobenzene   | 180 | 14.428    | 14.422        | 0.006         | 97  | 1035108  | 1250.0     | 1303.1       |       |
| 118 2-Methylnaphthalene      | 142 | 16.709    | 16.710        | -0.001        | 95  | 620702   | 1250.0     | 1350.4       |       |

**Reagents:**

VOAAPPIXPRI\_00008

Amount Added: 50.00

Units: uL

voaW2CLEpRest\_00001

Amount Added: 50.00

Units: uL

VOA8260INT\_00030

Amount Added: 10.00

Units: uL

Run Reagent

Report Date: 24-Mar-2015 04:21:23

Chrom Revision: 2.2 13-Mar-2015 11:20:44

TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K11.D

Injection Date: 23-Mar-2015 15:37:30

Instrument ID: CHHP3

Operator ID: 10099

Lims ID: IC VSTD250

Worklist Smp#: 9

Client ID:

Purge Vol: 5.000 mL

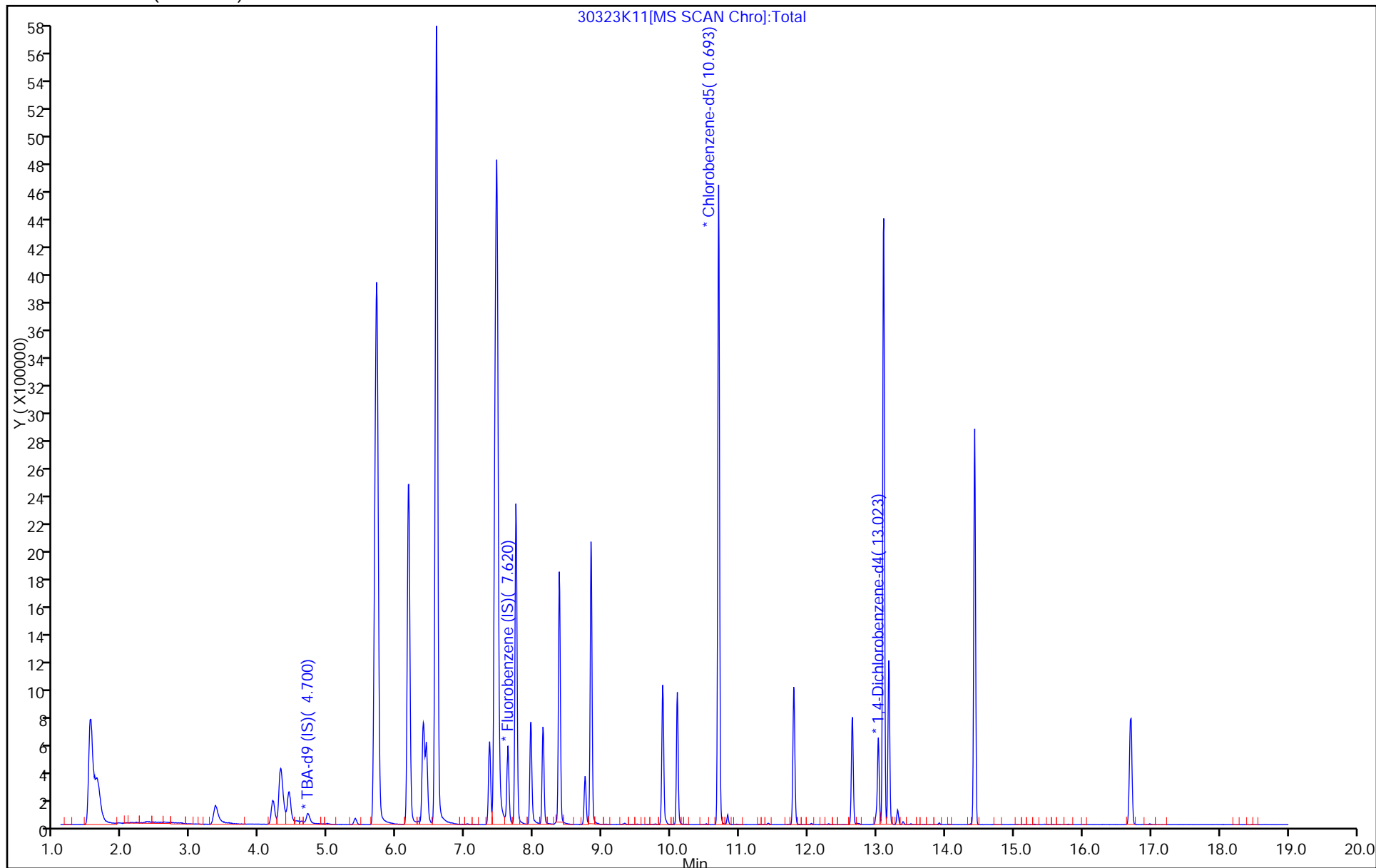
Dil. Factor: 1.0000

ALS Bottle#: 11

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)



FORM VI  
GC/MS VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 137003

SDG No.: \_\_\_\_\_

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 03/31/2015 10:54 Calibration End Date: 03/31/2015 14:29 Calibration ID: 22975

Calibration Files:

|         |                   |              |
|---------|-------------------|--------------|
| LEVEL:  | LAB SAMPLE ID:    | LAB FILE ID: |
| Level 1 | IC 180-137003/21  | 3033116.D    |
| Level 2 | IC 180-137003/6   | 3033107.D    |
| Level 3 | IC 180-137003/7   | 3033108.D    |
| Level 4 | ICIS 180-137003/8 | 3033109.D    |
| Level 5 | IC 180-137003/9   | 3033110.D    |
| Level 6 | IC 180-137003/10  | 3033111.D    |
| Level 7 | IC 180-137003/11  | 3033112.D    |

| ANALYTE                               | RRF              |                  |        |        |        | CURVE TYPE | COEFFICIENT |        |    | # | MIN RRF | %RSD | # | MAX %RSD | R^2 OR COD | # | MIN R^2 OR COD |
|---------------------------------------|------------------|------------------|--------|--------|--------|------------|-------------|--------|----|---|---------|------|---|----------|------------|---|----------------|
|                                       | LVL 1<br>LVL 6   | LVL 2<br>LVL 7   | LVL 3  | LVL 4  | LVL 5  |            | B           | M1     | M2 |   |         |      |   |          |            |   |                |
| Dichlorodifluoromethane               | 0.2213<br>0.2930 | 0.2530<br>0.2607 | 0.2673 | 0.2518 | 0.2704 | Ave        |             | 0.2597 |    |   | 0.1000  | 8.4  |   | 20.0     |            |   |                |
| Chloromethane                         | 0.4179<br>0.5133 | 0.4985<br>0.4552 | 0.4761 | 0.4584 | 0.4950 | Ave        |             | 0.4735 |    |   | 0.1000  | 6.9  |   | 20.0     |            |   |                |
| Vinyl chloride                        | 0.3546<br>0.4221 | 0.4071<br>0.3763 | 0.4052 | 0.3874 | 0.4151 | Ave        |             | 0.3954 |    |   | 0.1000  | 6.0  |   | 20.0     |            |   |                |
| 1,3-Butadiene                         | 0.3919<br>0.4382 | 0.4432<br>0.3732 | 0.4136 | 0.3967 | 0.4370 | Ave        |             | 0.4134 |    |   | 0.0100  | 6.6  |   | 20.0     |            |   |                |
| Bromomethane                          | 0.1058<br>0.1129 | 0.1061<br>0.1037 | 0.1058 | 0.1060 | 0.1066 | Ave        |             | 0.1067 |    |   | 0.0500  | 2.7  |   | 20.0     |            |   |                |
| Chloroethane                          | 0.1784<br>0.1365 | 0.1443<br>0.1202 | 0.1271 | 0.1248 | 0.1311 | Ave        |             | 0.1375 |    |   | 0.0500  | 14.3 |   | 20.0     |            |   |                |
| Dichlorofluoromethane                 | 0.3957<br>0.4338 | 0.4380<br>0.3569 | 0.4094 | 0.3874 | 0.4279 | Ave        |             | 0.4070 |    |   | 0.0100  | 7.2  |   | 20.0     |            |   |                |
| Trichlorofluoromethane                | 0.3013<br>0.3608 | 0.3483<br>0.3066 | 0.3237 | 0.3245 | 0.3590 | Ave        |             | 0.3320 |    |   | 0.1000  | 7.3  |   | 20.0     |            |   |                |
| Ethyl ether                           | 0.2234<br>0.2526 | 0.2353<br>0.2281 | 0.2469 | 0.2424 | 0.2445 | Ave        |             | 0.2390 |    |   | 0.0100  | 4.4  |   | 20.0     |            |   |                |
| Acrolein                              | 0.0227<br>0.0206 | 0.0225<br>0.0192 | 0.0207 | 0.0209 | 0.0209 | Ave        |             | 0.0211 |    |   | 0.0100  | 5.6  |   | 20.0     |            |   |                |
| 1,1-Dichloroethene                    | 0.2672<br>0.3150 | 0.3071<br>0.2834 | 0.2882 | 0.2761 | 0.3019 | Ave        |             | 0.2913 |    |   | 0.1000  | 6.0  |   | 20.0     |            |   |                |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.2554<br>0.3056 | 0.2993<br>0.2700 | 0.2879 | 0.2752 | 0.3015 | Ave        |             | 0.2850 |    |   | 0.1000  | 6.6  |   | 20.0     |            |   |                |
| Acetone                               | 0.1011<br>0.0740 | 0.0806<br>0.0655 | 0.0746 | 0.0692 | 0.0705 | Ave        |             | 0.0765 |    |   | 0.0500  | 15.5 |   | 20.0     |            |   |                |
| Iodomethane                           | 0.3683<br>0.4155 | 0.4030<br>0.3856 | 0.3881 | 0.3812 | 0.4083 | Ave        |             | 0.3929 |    |   | 0.0100  | 4.2  |   | 20.0     |            |   |                |

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 137003

SDG No.: \_\_\_\_\_

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 03/31/2015 10:54 Calibration End Date: 03/31/2015 14:29 Calibration ID: 22975

| ANALYTE                  | RRF              |                  |        |        |        | CURVE<br>TYPE | COEFFICIENT |        |    | # | MIN RRF | %RSD | # | MAX<br>%RSD | R^2<br>OR COD | # | MIN R^2<br>OR COD |
|--------------------------|------------------|------------------|--------|--------|--------|---------------|-------------|--------|----|---|---------|------|---|-------------|---------------|---|-------------------|
|                          | LVL 1<br>LVL 6   | LVL 2<br>LVL 7   | LVL 3  | LVL 4  | LVL 5  |               | B           | M1     | M2 |   |         |      |   |             |               |   |                   |
| Carbon disulfide         | 0.7911<br>0.9599 | 0.8846<br>0.8560 | 0.8790 | 0.8859 | 0.9290 | Ave           |             | 0.8836 |    |   | 0.1000  | 6.1  |   | 20.0        |               |   |                   |
| Allyl chloride           | 0.1563<br>0.1886 | 0.1796<br>0.1694 | 0.1791 | 0.1673 | 0.1762 | Ave           |             | 0.1738 |    |   | 0.0100  | 6.0  |   | 20.0        |               |   |                   |
| Methyl acetate           | 0.1457<br>0.1556 | 0.1676<br>0.1393 | 0.1658 | 0.1522 | 0.1570 | Ave           |             | 0.1547 |    |   | 0.1000  | 6.6  |   | 20.0        |               |   |                   |
| Methylene Chloride       | 0.4143<br>0.3055 | 0.3870<br>0.2714 | 0.3141 | 0.2870 | 0.3076 | Ave           |             | 0.3267 |    |   | 0.1000  | 16.3 |   | 20.0        |               |   |                   |
| tert-Butyl alcohol       | 1.8505<br>1.4548 | 1.4848<br>1.4464 | 1.5343 | 1.3058 | 1.3514 | Ave           |             | 1.4897 |    |   | 0.0100  | 11.9 |   | 20.0        |               |   |                   |
| Acrylonitrile            | 0.0722<br>0.0798 | 0.0810<br>0.0677 | 0.0819 | 0.0757 | 0.0800 | Ave           |             | 0.0769 |    |   | 0.0100  | 6.9  |   | 20.0        |               |   |                   |
| trans-1,2-Dichloroethene | 0.2731<br>0.3096 | 0.3114<br>0.2705 | 0.2925 | 0.2889 | 0.3096 | Ave           |             | 0.2936 |    |   | 0.1000  | 5.9  |   | 20.0        |               |   |                   |
| Methyl tert-butyl ether  | 0.5320<br>0.5968 | 0.5929<br>0.5291 | 0.5904 | 0.5745 | 0.5928 | Ave           |             | 0.5726 |    |   | 0.1000  | 5.2  |   | 20.0        |               |   |                   |
| Hexane                   | 0.7456<br>0.6258 | 0.7449<br>0.5639 | 0.6349 | 0.6212 | 0.6276 | Ave           |             | 0.6520 |    |   | 0.0100  | 10.4 |   | 20.0        |               |   |                   |
| 1,1-Dichloroethane       | 0.5277<br>0.6048 | 0.5926<br>0.5351 | 0.5907 | 0.5736 | 0.6036 | Ave           |             | 0.5754 |    |   | 0.2000  | 5.5  |   | 20.0        |               |   |                   |
| Vinyl acetate            | 0.2122<br>0.2406 | 0.2528<br>0.2098 | 0.2709 | 0.2562 | 0.2492 | Ave           |             | 0.2417 |    |   | 0.0100  | 9.5  |   | 20.0        |               |   |                   |
| 2,2-Dichloropropane      | 0.2120<br>0.2582 | 0.2635<br>0.2166 | 0.2389 | 0.2471 | 0.2525 | Ave           |             | 0.2413 |    |   | 0.0100  | 8.3  |   | 20.0        |               |   |                   |
| cis-1,2-Dichloroethene   | 0.3126<br>0.3263 | 0.3304<br>0.2916 | 0.3210 | 0.3118 | 0.3248 | Ave           |             | 0.3169 |    |   | 0.1000  | 4.1  |   | 20.0        |               |   |                   |
| 2-Butanone (MEK)         | 0.0948<br>0.0958 | 0.0966<br>0.0825 | 0.0920 | 0.0890 | 0.0875 | Ave           |             | 0.0912 |    |   | 0.0500  | 5.6  |   | 20.0        |               |   |                   |
| Chlorobromomethane       | 0.0994<br>0.1248 | 0.1206<br>0.1149 | 0.1155 | 0.1097 | 0.1179 | Ave           |             | 0.1147 |    |   | 0.0100  | 7.2  |   | 20.0        |               |   |                   |
| Tetrahydrofuran          | 0.0618<br>0.0603 | 0.0572<br>0.0538 | 0.0641 | 0.0585 | 0.0591 | Ave           |             | 0.0593 |    |   | 0.0100  | 5.6  |   | 20.0        |               |   |                   |
| Chloroform               | 0.4671<br>0.4775 | 0.4867<br>0.4162 | 0.4640 | 0.4500 | 0.4714 | Ave           |             | 0.4619 |    |   | 0.2000  | 5.0  |   | 20.0        |               |   |                   |
| 1,1,1-Trichloroethane    | 0.3325<br>0.3897 | 0.3969<br>0.3469 | 0.3775 | 0.3804 | 0.3872 | Ave           |             | 0.3730 |    |   | 0.1000  | 6.4  |   | 20.0        |               |   |                   |
| Cyclohexane              | 0.6807<br>0.7744 | 0.7979<br>0.6664 | 0.7540 | 0.7285 | 0.7653 | Ave           |             | 0.7382 |    |   | 0.1000  | 6.6  |   | 20.0        |               |   |                   |
| 1,1-Dichloropropene      | 0.3322<br>0.3787 | 0.3921<br>0.3306 | 0.3810 | 0.3598 | 0.3657 | Ave           |             | 0.3629 |    |   | 0.0100  | 6.6  |   | 20.0        |               |   |                   |

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
GC/MS VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 137003

SDG No.: \_\_\_\_\_

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 03/31/2015 10:54 Calibration End Date: 03/31/2015 14:29 Calibration ID: 22975

| ANALYTE                     | RRF              |                  |        |        |        | CURVE<br>TYPE | COEFFICIENT |        |    | # | MIN RRF | %RSD | # | MAX<br>%RSD | R^2<br>OR COD | # | MIN R^2<br>OR COD |
|-----------------------------|------------------|------------------|--------|--------|--------|---------------|-------------|--------|----|---|---------|------|---|-------------|---------------|---|-------------------|
|                             | LVL 1<br>LVL 6   | LVL 2<br>LVL 7   | LVL 3  | LVL 4  | LVL 5  |               | B           | M1     | M2 |   |         |      |   |             |               |   |                   |
| Carbon tetrachloride        | 0.2677<br>0.3323 | 0.3095<br>0.3059 | 0.3047 | 0.3083 | 0.3236 | Ave           |             | 0.3074 |    |   | 0.1000  | 6.6  |   | 20.0        |               |   |                   |
| Isobutyl alcohol            | 0.0067<br>0.0057 | 0.0060<br>0.0052 | 0.0059 | 0.0053 | 0.0058 | Ave           |             | 0.0058 |    | * | 0.0100  | 8.6  |   | 20.0        |               |   |                   |
| Benzene                     | 1.1004<br>1.1077 | 1.2172<br>0.9443 | 1.1464 | 1.1236 | 1.1400 | Ave           |             | 1.1114 |    |   | 0.5000  | 7.5  |   | 20.0        |               |   |                   |
| 1,2-Dichloroethane          | 0.3238<br>0.3147 | 0.3378<br>0.2817 | 0.3169 | 0.3069 | 0.3145 | Ave           |             | 0.3138 |    |   | 0.1000  | 5.5  |   | 20.0        |               |   |                   |
| n-Heptane                   | 0.5116<br>0.6180 | 0.6137<br>0.5533 | 0.5938 | 0.6208 | 0.6211 | Ave           |             | 0.5903 |    |   | 0.0100  | 7.2  |   | 20.0        |               |   |                   |
| Trichloroethene             | 0.2550<br>0.2995 | 0.2861<br>0.2753 | 0.2805 | 0.2788 | 0.2825 | Ave           |             | 0.2797 |    |   | 0.2000  | 4.8  |   | 20.0        |               |   |                   |
| Methylcyclohexane           | 0.5171<br>0.6141 | 0.6171<br>0.5174 | 0.5888 | 0.5755 | 0.6047 | Ave           |             | 0.5764 |    |   | 0.1000  | 7.4  |   | 20.0        |               |   |                   |
| 1,2-Dichloropropane         | 0.2763<br>0.3034 | 0.3080<br>0.2711 | 0.3050 | 0.3003 | 0.2993 | Ave           |             | 0.2948 |    |   | 0.1000  | 5.0  |   | 20.0        |               |   |                   |
| Dibromomethane              | 0.1133<br>0.1186 | 0.1098<br>0.1118 | 0.1135 | 0.1103 | 0.1132 | Ave           |             | 0.1129 |    |   | 0.0100  | 2.6  |   | 20.0        |               |   |                   |
| 1,4-Dioxane                 | 0.0020<br>0.0018 | 0.0018<br>0.0017 | 0.0021 | 0.0017 | 0.0018 | Ave           |             | 0.0018 |    | * | 0.0100  | 9.0  |   | 20.0        |               |   |                   |
| Dichlorobromomethane        | 0.2883<br>0.3288 | 0.3025<br>0.3015 | 0.3020 | 0.3020 | 0.3129 | Ave           |             | 0.3054 |    |   | 0.2000  | 4.1  |   | 20.0        |               |   |                   |
| cis-1,3-Dichloropropene     | 0.3381<br>0.4063 | 0.3627<br>0.3836 | 0.3836 | 0.3868 | 0.3970 | Ave           |             | 0.3797 |    |   | 0.2000  | 6.0  |   | 20.0        |               |   |                   |
| 4-Methyl-2-pentanone (MIBK) | 1.0995<br>0.9133 | 0.8681<br>0.8104 | 0.9687 | 0.8793 | 0.9275 | Ave           |             | 0.9238 |    |   | 0.1000  | 10.0 |   | 20.0        |               |   |                   |
| Toluene                     | 4.9631<br>4.8599 | 5.6643<br>4.0227 | 5.3924 | 5.0541 | 5.2363 | Ave           |             | 5.0275 |    |   | 0.4000  | 10.4 |   | 20.0        |               |   |                   |
| trans-1,3-Dichloropropene   | 1.2182<br>1.3001 | 1.1530<br>1.2192 | 1.3081 | 1.2513 | 1.3521 | Ave           |             | 1.2574 |    |   | 0.1000  | 5.4  |   | 20.0        |               |   |                   |
| Ethyl methacrylate          | 1.0683<br>1.0712 | 1.0590<br>0.9719 | 1.1581 | 1.0726 | 1.1211 | Ave           |             | 1.0746 |    |   | 0.0100  | 5.4  |   | 20.0        |               |   |                   |
| 1,1,2-Trichloroethane       | 0.7942<br>0.7655 | 0.8159<br>0.7028 | 0.8212 | 0.7570 | 0.7838 | Ave           |             | 0.7772 |    |   | 0.1000  | 5.2  |   | 20.0        |               |   |                   |
| Tetrachloroethene           | 0.9002<br>0.9917 | 0.9858<br>0.8713 | 0.9694 | 0.9195 | 0.9825 | Ave           |             | 0.9458 |    |   | 0.2000  | 5.1  |   | 20.0        |               |   |                   |
| 1,3-Dichloropropane         | 1.5935<br>1.3570 | 1.4302<br>1.1769 | 1.4513 | 1.4070 | 1.4389 | Ave           |             | 1.4078 |    |   | 0.0100  | 8.9  |   | 20.0        |               |   |                   |
| 2-Hexanone                  | 0.7356<br>0.5515 | 0.5832<br>0.5465 | 0.5919 | 0.5341 | 0.5823 | Ave           |             | 0.5893 |    |   | 0.1000  | 11.6 |   | 20.0        |               |   |                   |

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
GC/MS VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 137003  
SDG No.: \_\_\_\_\_  
Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) Y  
Calibration Start Date: 03/31/2015 10:54 Calibration End Date: 03/31/2015 14:29 Calibration ID: 22975

| ANALYTE                     | RRF              |                  |        |        |        | CURVE<br>TYPE | COEFFICIENT |        |    | # | MIN RRF | %RSD | # | MAX<br>%RSD | R^2<br>OR COD | # | MIN R^2<br>OR COD |
|-----------------------------|------------------|------------------|--------|--------|--------|---------------|-------------|--------|----|---|---------|------|---|-------------|---------------|---|-------------------|
|                             | LVL 1<br>LVL 6   | LVL 2<br>LVL 7   | LVL 3  | LVL 4  | LVL 5  |               | B           | M1     | M2 |   |         |      |   |             |               |   |                   |
| Chlorodibromomethane        | 0.8105<br>0.8556 | 0.7676<br>0.7919 | 0.8014 | 0.7812 | 0.8065 | Ave           |             | 0.8021 |    |   | 0.1000  | 3.5  |   | 20.0        |               |   |                   |
| 1,2-Dibromoethane           | 0.7756<br>0.7686 | 0.7524<br>0.6803 | 0.7518 | 0.7131 | 0.7745 | Ave           |             | 0.7452 |    |   | 0.1000  | 4.8  |   | 20.0        |               |   |                   |
| Chlorobenzene               | 3.3751<br>3.2499 | 3.3423<br>2.7721 | 3.3482 | 3.1580 | 3.3340 | Ave           |             | 3.2256 |    |   | 0.5000  | 6.6  |   | 20.0        |               |   |                   |
| 1,1,1,2-Tetrachloroethane   | 0.9934<br>1.0304 | 0.9377<br>0.9414 | 1.0022 | 0.9557 | 1.0249 | Ave           |             | 0.9837 |    |   | 0.0100  | 3.9  |   | 20.0        |               |   |                   |
| Ethylbenzene                | 1.9317<br>1.9197 | 1.9528<br>1.6299 | 1.9872 | 1.8726 | 1.9619 | Ave           |             | 1.8937 |    |   | 0.1000  | 6.4  |   | 20.0        |               |   |                   |
| m-Xylene & p-Xylene         | 2.3588<br>2.3782 | 2.4991<br>2.0625 | 2.4780 | 2.3416 | 2.4628 | Ave           |             | 2.3687 |    |   | 0.1000  | 6.3  |   | 20.0        |               |   |                   |
| o-Xylene                    | 2.3067<br>2.2759 | 2.4343<br>1.9539 | 2.3839 | 2.2783 | 2.4094 | Ave           |             | 2.2918 |    |   | 0.3000  | 7.1  |   | 20.0        |               |   |                   |
| Styrene                     | 4.2423<br>3.6933 | 3.9155<br>3.0119 | 3.9294 | 3.7017 | 3.9284 | Ave           |             | 3.7747 |    |   | 0.3000  | 10.1 |   | 20.0        |               |   |                   |
| Bromoform                   | 0.5211<br>0.5225 | 0.4334<br>0.4968 | 0.4516 | 0.4356 | 0.4662 | Ave           |             | 0.4753 |    |   | 0.1000  | 8.0  |   | 20.0        |               |   |                   |
| Isopropylbenzene            | 6.3543<br>5.9653 | 6.5001<br>4.6548 | 6.3506 | 6.0461 | 6.2961 | Ave           |             | 6.0239 |    |   | 0.1000  | 10.5 |   | 20.0        |               |   |                   |
| 1,1,2,2-Tetrachloroethane   | 1.1801<br>0.9028 | 0.9116<br>0.7809 | 0.9446 | 0.8538 | 0.9058 | Ave           |             | 0.9257 |    |   | 0.3000  | 13.4 |   | 20.0        |               |   |                   |
| Bromobenzene                | 1.0042<br>0.8271 | 0.8811<br>0.7358 | 0.8687 | 0.8112 | 0.8369 | Ave           |             | 0.8521 |    |   | 0.0100  | 9.6  |   | 20.0        |               |   |                   |
| 1,2,3-Trichloropropane      | 0.2716<br>0.1591 | 0.1870<br>0.1467 | 0.1972 | 0.1721 | 0.1801 | Lin1          | 3.2753      | 0.1505 |    |   | 0.0100  |      |   |             | 0.9950        |   | 0.9900            |
| trans-1,4-Dichloro-2-butene | 0.2542<br>0.1920 | 0.2186<br>0.1733 | 0.2061 | 0.1935 | 0.2075 | Ave           |             | 0.2065 |    |   | 0.0100  | 12.4 |   | 20.0        |               |   |                   |
| N-Propylbenzene             | 1.1794<br>1.0927 | 1.1760<br>0.9795 | 1.1734 | 1.1131 | 1.1406 | Ave           |             | 1.1221 |    |   | 0.0100  | 6.3  |   | 20.0        |               |   |                   |
| 2-Chlorotoluene             | 1.0210<br>0.8815 | 0.9450<br>0.7921 | 0.8984 | 0.8642 | 0.8784 | Ave           |             | 0.8972 |    |   | 0.0100  | 7.9  |   | 20.0        |               |   |                   |
| 1,3,5-Trimethylbenzene      | 3.7426<br>3.0467 | 3.5840<br>2.4615 | 3.4681 | 3.2372 | 3.3643 | Ave           |             | 3.2721 |    |   | 0.0100  | 12.9 |   | 20.0        |               |   |                   |
| 4-Chlorotoluene             | 1.1136<br>0.8948 | 0.9772<br>0.7765 | 0.9397 | 0.8725 | 0.9103 | Ave           |             | 0.9264 |    |   | 0.0100  | 11.2 |   | 20.0        |               |   |                   |
| tert-Butylbenzene           | 3.2149<br>2.8303 | 3.0819<br>2.3219 | 3.0423 | 2.8088 | 3.0018 | Ave           |             | 2.9003 |    |   | 0.0100  | 10.1 |   | 20.0        |               |   |                   |
| 1,2,4-Trimethylbenzene      | 3.9670<br>3.1848 | 3.6608<br>2.5588 | 3.4973 | 3.2867 | 3.4062 | Ave           |             | 3.3659 |    |   | 0.0100  | 13.0 |   | 20.0        |               |   |                   |

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
GC/MS VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 137003  
SDG No.: \_\_\_\_\_  
Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) Y  
Calibration Start Date: 03/31/2015 10:54 Calibration End Date: 03/31/2015 14:29 Calibration ID: 22975

| ANALYTE                      | RRF              |                  |        |        |        | CURVE<br>TYPE | COEFFICIENT |        |    | # | MIN RRF | %RSD | # | MAX<br>%RSD | R^2<br>OR COD | # | MIN R^2<br>OR COD |
|------------------------------|------------------|------------------|--------|--------|--------|---------------|-------------|--------|----|---|---------|------|---|-------------|---------------|---|-------------------|
|                              | LVL 1<br>LVL 6   | LVL 2<br>LVL 7   | LVL 3  | LVL 4  | LVL 5  |               | B           | M1     | M2 |   |         |      |   |             |               |   |                   |
| sec-Butylbenzene             | 4.9020<br>4.0854 | 4.6901<br>3.1818 | 4.4212 | 4.2656 | 4.4990 | Ave           |             | 4.2921 |    |   | 0.0100  | 13.0 |   | 20.0        |               |   |                   |
| 1,3-Dichlorobenzene          | 1.9301<br>1.5927 | 1.6359<br>1.3798 | 1.6186 | 1.5257 | 1.6212 | Ave           |             | 1.6148 |    |   | 0.6000  | 10.2 |   | 20.0        |               |   |                   |
| 4-Isopropyltoluene           | 4.0220<br>3.3748 | 3.8006<br>2.6592 | 3.6427 | 3.4629 | 3.6363 | Ave           |             | 3.5141 |    |   | 0.0100  | 12.3 |   | 20.0        |               |   |                   |
| 1,4-Dichlorobenzene          | 1.8900<br>1.5348 | 1.5573<br>1.3613 | 1.5725 | 1.4779 | 1.5537 | Ave           |             | 1.5639 |    |   | 0.5000  | 10.3 |   | 20.0        |               |   |                   |
| n-Butylbenzene               | 3.7251<br>3.2891 | 3.6253<br>2.5416 | 3.5101 | 3.4214 | 3.6247 | Ave           |             | 3.3910 |    |   | 0.0100  | 11.8 |   | 20.0        |               |   |                   |
| 1,2-Dichlorobenzene          | 1.7941<br>1.4107 | 1.5004<br>1.1947 | 1.4432 | 1.3262 | 1.4089 | Ave           |             | 1.4398 |    |   | 0.4000  | 12.8 |   | 20.0        |               |   |                   |
| 1,2-Dibromo-3-Chloropropane  | 0.1064<br>0.0899 | 0.0954<br>0.0823 | 0.0943 | 0.0820 | 0.0840 | Ave           |             | 0.0906 |    |   | 0.0500  | 9.8  |   | 20.0        |               |   |                   |
| 1,2,4-Trichlorobenzene       | 1.2737<br>1.0321 | 1.0436<br>0.9300 | 1.0292 | 0.9722 | 1.0713 | Ave           |             | 1.0503 |    |   | 0.2000  | 10.4 |   | 20.0        |               |   |                   |
| Hexachlorobutadiene          | 0.7456<br>0.7502 | 0.7383<br>0.6511 | 0.7037 | 0.6939 | 0.7395 | Ave           |             | 0.7175 |    |   | 0.0100  | 5.1  |   | 20.0        |               |   |                   |
| Naphthalene                  | 2.6074<br>1.5729 | 1.6802<br>1.3813 | 1.6920 | 1.5452 | 1.6466 | Lin1          | 26.932      | 1.4267 |    |   | 0.0100  |      |   |             | 0.9950        |   | 0.9900            |
| 1,2,3-Trichlorobenzene       | 1.1453<br>0.8067 | 0.8245<br>0.7248 | 0.8203 | 0.7497 | 0.8222 | Ave           |             | 0.8420 |    |   | 0.0100  | 16.6 |   | 20.0        |               |   |                   |
| Dibromofluoromethane (Surr)  | 0.2132<br>0.2158 | 0.2136<br>0.2029 | 0.2125 | 0.2133 | 0.2207 | Ave           |             | 0.2132 |    |   |         | 2.5  |   | 20.0        |               |   |                   |
| 1,2-Dichloroethane-d4 (Surr) | 0.2693<br>0.2435 | 0.2538<br>0.2275 | 0.2442 | 0.2447 | 0.2410 | Ave           |             | 0.2463 |    |   |         | 5.2  |   | 20.0        |               |   |                   |
| Toluene-d8 (Surr)            | 4.3567<br>3.9755 | 4.5202<br>3.4178 | 4.4238 | 4.2272 | 4.3874 | Ave           |             | 4.1870 |    |   |         | 9.1  |   | 20.0        |               |   |                   |
| 4-Bromofluorobenzene (Surr)  | 1.7202<br>1.6473 | 1.7523<br>1.4696 | 1.6883 | 1.6559 | 1.6858 | Ave           |             | 1.6599 |    |   |         | 5.5  |   | 20.0        |               |   |                   |

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
GC/MS VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 137003

SDG No.: \_\_\_\_\_

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 03/31/2015 10:54 Calibration End Date: 03/31/2015 14:29 Calibration ID: 22975

Calibration Files:

|         |                   |              |
|---------|-------------------|--------------|
| LEVEL:  | LAB SAMPLE ID:    | LAB FILE ID: |
| Level 1 | IC 180-137003/21  | 3033116.D    |
| Level 2 | IC 180-137003/6   | 3033107.D    |
| Level 3 | IC 180-137003/7   | 3033108.D    |
| Level 4 | ICIS 180-137003/8 | 3033109.D    |
| Level 5 | IC 180-137003/9   | 3033110.D    |
| Level 6 | IC 180-137003/10  | 3033111.D    |
| Level 7 | IC 180-137003/11  | 3033112.D    |

| ANALYTE                               | IS<br>REF | CURVE<br>TYPE | RESPONSE         |                   |        |        |        | CONCENTRATION (NG) |                |       |       |       |
|---------------------------------------|-----------|---------------|------------------|-------------------|--------|--------|--------|--------------------|----------------|-------|-------|-------|
|                                       |           |               | LVL 1<br>LVL 6   | LVL 2<br>LVL 7    | LVL 3  | LVL 4  | LVL 5  | LVL 1<br>LVL 6     | LVL 2<br>LVL 7 | LVL 3 | LVL 4 | LVL 5 |
| Dichlorodifluoromethane               | FB        | Ave           | 15481<br>483988  | 35567<br>922504   | 95127  | 142211 | 189105 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Chloromethane                         | FB        | Ave           | 29228<br>847803  | 70075<br>1610960  | 169403 | 258887 | 346190 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Vinyl chloride                        | FB        | Ave           | 24806<br>697213  | 57230<br>1331647  | 144179 | 218784 | 290317 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 1,3-Butadiene                         | FB        | Ave           | 27413<br>723812  | 62307<br>1320680  | 147189 | 224014 | 305649 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Bromomethane                          | FB        | Ave           | 7401<br>186498   | 14922<br>366911   | 37644  | 59835  | 74564  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Chloroethane                          | FB        | Ave           | 12478<br>225460  | 20291<br>425325   | 45219  | 70493  | 91678  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Dichlorofluoromethane                 | FB        | Ave           | 27678<br>716482  | 61567<br>1262931  | 145667 | 218774 | 299240 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Trichlorofluoromethane                | FB        | Ave           | 21074<br>595978  | 48960<br>1085089  | 115183 | 183258 | 251077 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Ethyl ether                           | FB        | Ave           | 15624<br>417245  | 33084<br>807069   | 87872  | 136878 | 171011 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Acrolein                              | FB        | Ave           | 31751<br>61228   | 39477<br>68077    | 44149  | 51674  | 58490  | 500<br>1125        | 625<br>1250    | 750   | 875   | 1000  |
| 1,1-Dichloroethene                    | FB        | Ave           | 18689<br>520336  | 43166<br>1002816  | 102545 | 155905 | 211133 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | FB        | Ave           | 21764<br>504798  | 42080<br>955663   | 102444 | 155390 | 210849 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Acetone                               | FB        | Ave           | 7072<br>122221   | 11324<br>231777   | 26550  | 39071  | 49303  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Iodomethane                           | FB        | Ave           | 25760<br>686332  | 56655<br>1364610  | 138087 | 215282 | 285575 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Carbon disulfide                      | FB        | Ave           | 55337<br>1585417 | 124358<br>3029307 | 312778 | 500265 | 649756 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |

FORM VI  
GC/MS VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 137003

SDG No.: \_\_\_\_\_

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 03/31/2015 10:54 Calibration End Date: 03/31/2015 14:29 Calibration ID: 22975

| ANALYTE                  | IS<br>REF | CURVE<br>TYPE | RESPONSE         |                   |        |        |        | CONCENTRATION (NG) |                |       |       |       |
|--------------------------|-----------|---------------|------------------|-------------------|--------|--------|--------|--------------------|----------------|-------|-------|-------|
|                          |           |               | LVL 1<br>LVL 6   | LVL 2<br>LVL 7    | LVL 3  | LVL 4  | LVL 5  | LVL 1<br>LVL 6     | LVL 2<br>LVL 7 | LVL 3 | LVL 4 | LVL 5 |
| Allyl chloride           | FB        | Ave           | 10932<br>311577  | 25245<br>599407   | 63714  | 94490  | 123256 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Methyl acetate           | FB        | Ave           | 50944<br>1285020 | 117781<br>2464057 | 294905 | 429848 | 549035 | 125<br>3125        | 250<br>6250    | 625   | 1000  | 1250  |
| Methylene Chloride       | FB        | Ave           | 28981<br>504617  | 54402<br>960589   | 111772 | 162093 | 215151 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| tert-Butyl alcohol       | TBA       | Ave           | 15856<br>285440  | 25766<br>623197   | 67709  | 92661  | 116489 | 250<br>6250        | 500<br>12500   | 1250  | 2000  | 2500  |
| Acrylonitrile            | FB        | Ave           | 50533<br>1317881 | 113840<br>2394483 | 291562 | 427685 | 559683 | 250<br>6250        | 500<br>12500   | 1250  | 2000  | 2500  |
| trans-1,2-Dichloroethene | FB        | Ave           | 19099<br>511391  | 43775<br>957290   | 104068 | 163125 | 216553 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Methyl tert-butyl ether  | FB        | Ave           | 37213<br>985720  | 83351<br>1872288  | 210083 | 324434 | 414613 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Hexane                   | FB        | Ave           | 52149<br>1033621 | 104718<br>1995579 | 225938 | 350780 | 438933 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 1,1-Dichloroethane       | FB        | Ave           | 36908<br>998998  | 83301<br>1893666  | 210185 | 323914 | 422134 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Vinyl acetate            | FB        | Ave           | 14846<br>397461  | 35541<br>742325   | 96397  | 144672 | 174318 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 2,2-Dichloropropane      | FB        | Ave           | 14831<br>426553  | 37049<br>766542   | 85013  | 139530 | 176600 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| cis-1,2-Dichloroethene   | FB        | Ave           | 21865<br>538974  | 46443<br>1031912  | 114218 | 176067 | 227166 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 2-Butanone (MEK)         | FB        | Ave           | 6628<br>158279   | 13577<br>291989   | 32745  | 50272  | 61217  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Chlorobromomethane       | FB        | Ave           | 6953<br>206161   | 16954<br>406580   | 41105  | 61958  | 82492  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Tetrahydrofuran          | FB        | Ave           | 8648<br>199258   | 16088<br>380704   | 45611  | 66112  | 82682  | 50.0<br>1250       | 100<br>2500    | 250   | 400   | 500   |
| Chloroform               | FB        | Ave           | 32670<br>788754  | 68424<br>1472985  | 165100 | 254137 | 329700 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 1,1,1-Trichloroethane    | FB        | Ave           | 23257<br>643679  | 55793<br>1227759  | 134313 | 214794 | 270809 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Cyclohexane              | FB        | Ave           | 47611<br>1279137 | 112171<br>2358332 | 268299 | 411384 | 535263 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 1,1-Dichloropropene      | FB        | Ave           | 23237<br>625450  | 55115<br>1169880  | 135573 | 203192 | 255790 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Carbon tetrachloride     | FB        | Ave           | 18722<br>548910  | 43512<br>1082633  | 108442 | 174092 | 226311 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Isobutyl alcohol         | FB        | Ave           | 11748<br>233810  | 21067<br>462909   | 52265  | 74551  | 102231 | 625<br>15625       | 1250<br>31250  | 3125  | 5000  | 6250  |

FORM VI  
GC/MS VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 137003

SDG No.: \_\_\_\_\_

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 03/31/2015 10:54 Calibration End Date: 03/31/2015 14:29 Calibration ID: 22975

| ANALYTE                     | IS<br>REF | CURVE<br>TYPE | RESPONSE         |                   |        |        |        | CONCENTRATION (NG) |                |       |       |       |
|-----------------------------|-----------|---------------|------------------|-------------------|--------|--------|--------|--------------------|----------------|-------|-------|-------|
|                             |           |               | LVL 1<br>LVL 6   | LVL 2<br>LVL 7    | LVL 3  | LVL 4  | LVL 5  | LVL 1<br>LVL 6     | LVL 2<br>LVL 7 | LVL 3 | LVL 4 | LVL 5 |
| Benzene                     | FB        | Ave           | 76970<br>1829583 | 171115<br>3341669 | 407952 | 634502 | 797311 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 1,2-Dichloroethane          | FB        | Ave           | 22647<br>519764  | 47485<br>997065   | 112783 | 173321 | 219969 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| n-Heptane                   | FB        | Ave           | 35786<br>1020841 | 86274<br>1958233  | 211313 | 350553 | 434410 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Trichloroethene             | FB        | Ave           | 17837<br>494700  | 40218<br>974209   | 99818  | 157469 | 197570 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Methylcyclohexane           | FB        | Ave           | 36168<br>1014306 | 86758<br>1831012  | 209507 | 325023 | 422919 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 1,2-Dichloropropane         | FB        | Ave           | 19323<br>501148  | 43295<br>959281   | 108535 | 169561 | 209347 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Dibromomethane              | FB        | Ave           | 7924<br>195925   | 15438<br>395569   | 40376  | 62268  | 79205  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 1,4-Dioxane                 | FB        | Ave           | 2821<br>58547    | 5055<br>120299    | 15291  | 19607  | 24858  | 500<br>12500       | 1000<br>25000  | 2500  | 4000  | 5000  |
| Dichlorobromomethane        | FB        | Ave           | 20164<br>543021  | 42527<br>1066837  | 107477 | 170556 | 218842 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| cis-1,3-Dichloropropene     | FB        | Ave           | 23647<br>671103  | 50984<br>1357458  | 136492 | 218417 | 277692 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 4-Methyl-2-pentanone (MIBK) | CBZ       | Ave           | 17507<br>348415  | 27456<br>692602   | 76919  | 113280 | 144714 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Toluene                     | CBZ       | Ave           | 79029<br>1853955 | 179152<br>3437767 | 428177 | 651151 | 817018 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| trans-1,3-Dichloropropene   | CBZ       | Ave           | 19398<br>495977  | 36469<br>1041938  | 103870 | 161215 | 210969 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Ethyl methacrylate          | CBZ       | Ave           | 17011<br>408650  | 33493<br>830608   | 91957  | 138189 | 174934 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 1,1,2-Trichloroethane       | CBZ       | Ave           | 12647<br>292031  | 25806<br>600643   | 65204  | 97533  | 122290 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Tetrachloroethene           | CBZ       | Ave           | 14335<br>378304  | 31180<br>744597   | 76973  | 118466 | 153300 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 1,3-Dichloropropane         | CBZ       | Ave           | 25374<br>517668  | 45234<br>1005809  | 115238 | 181276 | 224507 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 2-Hexanone                  | CBZ       | Ave           | 11714<br>210401  | 18447<br>467067   | 46999  | 68812  | 90850  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Chlorodibromomethane        | CBZ       | Ave           | 12906<br>326378  | 24279<br>676715   | 63634  | 100647 | 125832 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 1,2-Dibromoethane           | CBZ       | Ave           | 12350<br>293214  | 23796<br>581387   | 59698  | 91871  | 120851 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Chlorobenzene               | CBZ       | Ave           | 53743<br>1239785 | 105711<br>2368993 | 265860 | 406870 | 520200 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |

FORM VI  
GC/MS VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 137003

SDG No.: \_\_\_\_\_

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 03/31/2015 10:54 Calibration End Date: 03/31/2015 14:29 Calibration ID: 22975

| ANALYTE                     | IS<br>REF | CURVE<br>TYPE | RESPONSE          |                   |        |        |         | CONCENTRATION (NG) |                |       |       |       |
|-----------------------------|-----------|---------------|-------------------|-------------------|--------|--------|---------|--------------------|----------------|-------|-------|-------|
|                             |           |               | LVL 1<br>LVL 6    | LVL 2<br>LVL 7    | LVL 3  | LVL 4  | LVL 5   | LVL 1<br>LVL 6     | LVL 2<br>LVL 7 | LVL 3 | LVL 4 | LVL 5 |
| 1,1,1,2-Tetrachloroethane   | CBZ       | Ave           | 15818<br>393074   | 29659<br>804504   | 79579  | 123135 | 159914  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Ethylbenzene                | CBZ       | Ave           | 30759<br>732335   | 61763<br>1392906  | 157794 | 241257 | 306118  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| m-Xylene & p-Xylene         | CBZ       | Ave           | 37560<br>907234   | 79044<br>1762606  | 196762 | 301690 | 384277  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| o-Xylene                    | CBZ       | Ave           | 36731<br>868226   | 76993<br>1669795  | 189288 | 293535 | 375946  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Styrene                     | CBZ       | Ave           | 67552<br>1408920  | 123842<br>2573993 | 312007 | 476921 | 612946  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Bromoform                   | CBZ       | Ave           | 8298<br>199318    | 13709<br>424543   | 35857  | 56127  | 72747   | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Isopropylbenzene            | CBZ       | Ave           | 101182<br>2275648 | 205589<br>3977998 | 504265 | 778960 | 982391  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 1,1,2,2-Tetrachloroethane   | CBZ       | Ave           | 18792<br>344391   | 28832<br>667334   | 75005  | 110002 | 141326  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Bromobenzene                | DCB       | Ave           | 23481<br>509336   | 41514<br>993799   | 105254 | 158694 | 205213  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 1,2,3-Trichloropropane      | DCB       | Lin1          | 6351<br>97975     | 8810<br>198125    | 23892  | 33671  | 44173   | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| trans-1,4-Dichloro-2-butene | DCB       | Ave           | 5945<br>118218    | 10298<br>234017   | 24973  | 37846  | 50892   | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| N-Propylbenzene             | DCB       | Ave           | 27579<br>672883   | 55406<br>1322928  | 142165 | 217747 | 279681  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 2-Chlorotoluene             | DCB       | Ave           | 23875<br>542851   | 44523<br>1069854  | 108846 | 169058 | 215385  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 1,3,5-Trimethylbenzene      | DCB       | Ave           | 87513<br>1876216  | 168857<br>3324666 | 420195 | 633275 | 824936  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 4-Chlorotoluene             | DCB       | Ave           | 26040<br>551068   | 46042<br>1048832  | 113849 | 170685 | 223206  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| tert-Butylbenzene           | DCB       | Ave           | 75174<br>1742967  | 145201<br>3136171 | 368601 | 549471 | 736060  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 1,2,4-Trimethylbenzene      | DCB       | Ave           | 92761<br>1961293  | 172475<br>3456111 | 423724 | 642945 | 835231  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| sec-Butylbenzene            | DCB       | Ave           | 114624<br>2515864 | 220968<br>4297528 | 535669 | 834441 | 1103179 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 1,3-Dichlorobenzene         | DCB       | Ave           | 45131<br>980805   | 77072<br>1863682  | 196109 | 298461 | 397518  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 4-Isopropyltoluene          | DCB       | Ave           | 94047<br>2078293  | 179063<br>3591772 | 441344 | 677414 | 891634  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 1,4-Dichlorobenzene         | DCB       | Ave           | 44193<br>945177   | 73373<br>1838627  | 190526 | 289115 | 380970  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |



FORM VI  
GC/MS VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 137003

SDG No.: \_\_\_\_\_

Instrument ID: CHHP3 GC Column: DB-624 ID: 0.18 (mm) Heated Purge: (Y/N) Y

Calibration Start Date: 03/31/2015 10:54 Calibration End Date: 03/31/2015 14:29 Calibration ID: 22975

| ANALYTE                      | IS<br>REF | CURVE<br>TYPE | RESPONSE         |                   |        |        |        | CONCENTRATION (NG) |                |       |       |       |
|------------------------------|-----------|---------------|------------------|-------------------|--------|--------|--------|--------------------|----------------|-------|-------|-------|
|                              |           |               | LVL 1<br>LVL 6   | LVL 2<br>LVL 7    | LVL 3  | LVL 4  | LVL 5  | LVL 1<br>LVL 6     | LVL 2<br>LVL 7 | LVL 3 | LVL 4 | LVL 5 |
| n-Butylbenzene               | DCB       | Ave           | 87103<br>2025519 | 170804<br>3432816 | 425279 | 669300 | 888807 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 1,2-Dichlorobenzene          | DCB       | Ave           | 41951<br>868763  | 70691<br>1613612  | 174861 | 259430 | 345478 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 1,2-Dibromo-3-Chloropropane  | DCB       | Ave           | 2488<br>55388    | 4494<br>111165    | 11427  | 16040  | 20603  | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 1,2,4-Trichlorobenzene       | DCB       | Ave           | 29782<br>635617  | 49169<br>1256112  | 124699 | 190192 | 262686 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Hexachlorobutadiene          | DCB       | Ave           | 17434<br>461979  | 34784<br>879410   | 85255  | 135748 | 181335 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Naphthalene                  | DCB       | Lin1          | 60969<br>968618  | 79162<br>1865675  | 205005 | 302266 | 403766 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 1,2,3-Trichlorobenzene       | DCB       | Ave           | 26781<br>496796  | 38847<br>978944   | 99389  | 146665 | 201620 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Dibromofluoromethane (Surr)  | FB        | Ave           | 14910<br>356431  | 30033<br>718186   | 75628  | 120469 | 154337 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 1,2-Dichloroethane-d4 (Surr) | FB        | Ave           | 18837<br>402254  | 35682<br>805111   | 86897  | 138199 | 168523 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| Toluene-d8 (Surr)            | CBZ       | Ave           | 69374<br>1516560 | 142967<br>2920875 | 351267 | 544625 | 684565 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |
| 4-Bromofluorobenzene (Surr)  | CBZ       | Ave           | 27391<br>628417  | 55421<br>1255926  | 134054 | 213341 | 263035 | 25.0<br>625        | 50.0<br>1250   | 125   | 200   | 250   |

Curve Type Legend:

Ave = Average ISTD  
Lin1 = Linear 1/conc ISTD

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033107.D  
 Lims ID: IC VSTD10  
 Client ID:  
 Sample Type: IC Calib Level: 2  
 Inject. Date: 31-Mar-2015 10:54:30 ALS Bottle#: 7 Worklist Smp#: 6  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: IC VSTD10  
 Misc. Info.: 180-0006243-006180-0006243-006  
 Operator ID: 10099 Instrument ID: CHHP3  
 Sublist: chrom-MSVOA\_S\_CHHP3\*sub4  
 Method: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\MSVOA\_S\_CHHP3.m  
 Limit Group: VOA 8260C ICAL  
 Last Update: 01-Apr-2015 04:54:10 Calib Date: 31-Mar-2015 14:29:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last Ical File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D  
 Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
 Process Host: XAWRK006

First Level Reviewer: gordonk

Date: 31-Mar-2015 11:16:18

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q  | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|---------------------------------|-----|--------------|------------------|------------------|----|----------|---------------|-----------------|-------|
| * 1 TBA-d9 (IS)                 | 65  | 4.725        | 4.740            | -0.015           | 99 | 173530   | 5000.0        | 5000.0          |       |
| * 2 Fluorobenzene (IS)          | 96  | 7.621        | 7.618            | 0.003            | 98 | 702898   | 250.0         | 250.0           |       |
| * 3 Chlorobenzene-d5            | 119 | 10.693       | 10.696           | -0.003           | 89 | 158142   | 250.0         | 250.0           |       |
| * 4 1,4-Dichlorobenzene-d4      | 152 | 13.023       | 13.026           | -0.003           | 98 | 235571   | 250.0         | 250.0           |       |
| \$ 5 Dibromofluoromethane (Surr | 113 | 6.873        | 6.876            | -0.003           | 93 | 30033    | 50.0          | 50.1            |       |
| \$ 6 1,2-Dichloroethane-d4 (Sur | 65  | 7.238        | 7.247            | -0.009           | 93 | 35682    | 50.0          | 51.5            |       |
| \$ 7 Toluene-d8 (Surr)          | 98  | 9.263        | 9.260            | 0.003            | 94 | 142967   | 50.0          | 54.0            |       |
| \$ 8 4-Bromofluorobenzene (Surr | 95  | 11.861       | 11.858           | 0.003            | 83 | 55421    | 50.0          | 52.8            |       |
| 10 Dichlorodifluoromethane      | 85  | 1.775        | 1.766            | 0.009            | 99 | 35567    | 50.0          | 48.7            |       |
| 11 Chloromethane                | 50  | 1.957        | 1.954            | 0.003            | 99 | 70075    | 50.0          | 52.6            |       |
| 12 Vinyl chloride               | 62  | 2.115        | 2.112            | 0.003            | 98 | 57230    | 50.0          | 51.5            |       |
| 13 Butadiene                    | 39  | 2.152        | 2.143            | 0.009            | 96 | 62307    | 50.0          | 53.6            |       |
| 14 Bromomethane                 | 94  | 2.480        | 2.483            | -0.003           | 91 | 14922    | 50.0          | 49.7            |       |
| 15 Chloroethane                 | 64  | 2.626        | 2.611            | 0.015            | 95 | 20291    | 50.0          | 52.5            | M     |
| 16 Dichlorofluoromethane        | 67  | 2.943        | 2.915            | 0.028            | 98 | 61567    | 50.0          | 53.8            | M     |
| 17 Trichlorofluoromethane       | 101 | 2.985        | 2.952            | 0.033            | 77 | 48960    | 50.0          | 52.4            | M     |
| 19 Ethyl ether                  | 59  | 3.442        | 3.439            | 0.003            | 95 | 33084    | 50.0          | 49.2            |       |
| 20 Acrolein                     | 56  | 3.612        | 3.609            | 0.003            | 97 | 39477    | 625.0         | 666.4           | M     |
| 21 1,1-Dichloroethene           | 96  | 3.782        | 3.737            | 0.045            | 85 | 43166    | 50.0          | 52.7            |       |
| 22 1,1,2-Trichloro-1,2,2-trif   | 101 | 3.837        | 3.822            | 0.015            | 94 | 42080    | 50.0          | 52.5            | M     |
| 23 Acetone                      | 43  | 3.886        | 3.889            | -0.003           | 98 | 11324    | 50.0          | 52.7            |       |
| 24 Iodomethane                  | 142 | 3.971        | 3.956            | 0.015            | 90 | 56655    | 50.0          | 51.3            |       |
| 25 Carbon disulfide             | 76  | 4.099        | 4.059            | 0.040            | 99 | 124358   | 50.0          | 50.1            |       |
| 28 3-Chloro-1-propene           | 76  | 4.360        | 4.357            | 0.003            | 93 | 25245    | 50.0          | 51.7            |       |
| 29 Methyl acetate               | 43  | 4.439        | 4.436            | 0.003            | 99 | 117781   | 250.0         | 270.7           | M     |
| 30 Methylene Chloride           | 84  | 4.555        | 4.546            | 0.009            | 98 | 54402    | 50.0          | 59.2            | M     |
| 31 2-Methyl-2-propanol          | 59  | 4.847        | 4.856            | -0.009           | 97 | 25766    | 500.0         | 498.4           |       |
| 32 Acrylonitrile                | 53  | 4.926        | 4.935            | -0.009           | 97 | 113840   | 500.0         | 526.5           | M     |
| 33 trans-1,2-Dichloroethene     | 96  | 4.969        | 4.959            | 0.010            | 95 | 43775    | 50.0          | 53.0            |       |
| 34 Methyl tert-butyl ether      | 73  | 5.005        | 5.014            | -0.009           | 98 | 83351    | 50.0          | 51.8            |       |

| Compound                       | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q  | Response | Cal Amt ng | OnCol Amt ng | Flags |
|--------------------------------|-----|-----------|---------------|---------------|----|----------|------------|--------------|-------|
| 35 Hexane                      | 57  | 5.394     | 5.391         | 0.003         | 92 | 104718   | 50.0       | 57.1         |       |
| 36 1,1-Dichloroethane          | 63  | 5.559     | 5.556         | 0.003         | 95 | 83301    | 50.0       | 51.5         |       |
| 37 Vinyl acetate               | 43  | 5.674     | 5.671         | 0.003         | 97 | 35541    | 50.0       | 52.3         |       |
| 41 2,2-Dichloropropane         | 77  | 6.301     | 6.298         | 0.003         | 54 | 37049    | 50.0       | 54.6         |       |
| 42 cis-1,2-Dichloroethene      | 96  | 6.307     | 6.298         | 0.009         | 85 | 46443    | 50.0       | 52.1         |       |
| 43 2-Butanone (MEK)            | 43  | 6.349     | 6.340         | 0.009         | 87 | 13577    | 50.0       | 53.0         |       |
| 47 Chlorobromomethane          | 128 | 6.587     | 6.578         | 0.009         | 90 | 16954    | 50.0       | 52.6         |       |
| 48 Tetrahydrofuran             | 42  | 6.654     | 6.645         | 0.009         | 94 | 16088    | 100.0      | 96.5         |       |
| 49 Chloroform                  | 83  | 6.696     | 6.693         | 0.003         | 97 | 68424    | 50.0       | 52.7         |       |
| 50 1,1,1-Trichloroethane       | 97  | 6.891     | 6.894         | -0.003        | 97 | 55793    | 50.0       | 53.2         |       |
| 51 Cyclohexane                 | 56  | 6.976     | 6.967         | 0.009         | 91 | 112171   | 50.0       | 54.0         |       |
| 52 1,1-Dichloropropene         | 75  | 7.086     | 7.083         | 0.003         | 93 | 55115    | 50.0       | 54.0         |       |
| 53 Carbon tetrachloride        | 117 | 7.098     | 7.089         | 0.009         | 76 | 43512    | 50.0       | 50.3         |       |
| 54 Isobutyl alcohol            | 41  | 7.262     | 7.265         | -0.003        | 91 | 21067    | 1250.0     | 1291.6       |       |
| 55 Benzene                     | 78  | 7.311     | 7.314         | -0.003        | 98 | 171115   | 50.0       | 54.8         |       |
| 56 1,2-Dichloroethane          | 62  | 7.329     | 7.326         | 0.003         | 65 | 47485    | 50.0       | 53.8         |       |
| 59 n-Heptane                   | 43  | 7.639     | 7.636         | 0.003         | 96 | 86274    | 50.0       | 52.0         |       |
| 60 Trichloroethene             | 130 | 8.016     | 8.013         | 0.003         | 95 | 40218    | 50.0       | 51.1         |       |
| 63 Methylcyclohexane           | 83  | 8.223     | 8.226         | -0.003        | 97 | 86758    | 50.0       | 53.5         |       |
| 64 1,2-Dichloropropane         | 63  | 8.235     | 8.238         | -0.003        | 97 | 43295    | 50.0       | 52.2         |       |
| 65 Dibromomethane              | 93  | 8.363     | 8.354         | 0.009         | 93 | 15438    | 50.0       | 48.6         |       |
| 67 1,4-Dioxane                 | 88  | 8.387     | 8.384         | 0.003         | 83 | 5055     | 1000.0     | 972.0        |       |
| 68 Dichlorobromomethane        | 83  | 8.527     | 8.524         | 0.003         | 97 | 42527    | 50.0       | 49.5         |       |
| 71 cis-1,3-Dichloropropene     | 75  | 8.984     | 8.981         | 0.003         | 92 | 50984    | 50.0       | 47.8         |       |
| 72 4-Methyl-2-pentanone (MIBK) | 43  | 9.142     | 9.133         | 0.009         | 97 | 27456    | 50.0       | 47.0         |       |
| 73 Toluene                     | 91  | 9.324     | 9.327         | -0.003        | 97 | 179152   | 50.0       | 56.3         |       |
| 74 trans-1,3-Dichloropropene   | 75  | 9.531     | 9.528         | 0.003         | 94 | 36469    | 50.0       | 45.8         |       |
| 75 Ethyl methacrylate          | 69  | 9.628     | 9.625         | 0.003         | 91 | 33493    | 50.0       | 49.3         |       |
| 76 1,1,2-Trichloroethane       | 97  | 9.714     | 9.717         | -0.003        | 91 | 25806    | 50.0       | 52.5         |       |
| 78 1,3-Dichloropropane         | 76  | 9.884     | 9.881         | 0.003         | 98 | 45234    | 50.0       | 50.8         |       |
| 77 Tetrachloroethene           | 164 | 9.878     | 9.881         | -0.003        | 97 | 31180    | 50.0       | 52.1         |       |
| 79 2-Hexanone                  | 43  | 9.969     | 9.960         | 0.009         | 95 | 18447    | 50.0       | 49.5         |       |
| 81 Chlorodibromomethane        | 129 | 10.109    | 10.112        | -0.003        | 93 | 24279    | 50.0       | 47.9         |       |
| 82 Ethylene Dibromide          | 107 | 10.225    | 10.228        | -0.003        | 95 | 23796    | 50.0       | 50.5         |       |
| 83 Chlorobenzene               | 112 | 10.724    | 10.720        | 0.004         | 92 | 105711   | 50.0       | 51.8         |       |
| 85 1,1,1,2-Tetrachloroethane   | 131 | 10.803    | 10.800        | 0.003         | 92 | 29659    | 50.0       | 47.7         |       |
| 86 Ethylbenzene                | 106 | 10.833    | 10.836        | -0.003        | 99 | 61763    | 50.0       | 51.6         |       |
| 87 m-Xylene & p-Xylene         | 106 | 10.949    | 10.946        | 0.003         | 99 | 79044    | 50.0       | 52.8         |       |
| 88 o-Xylene                    | 106 | 11.344    | 11.341        | 0.003         | 93 | 76993    | 50.0       | 53.1         |       |
| 89 Styrene                     | 104 | 11.350    | 11.353        | -0.003        | 90 | 123842   | 50.0       | 51.9         |       |
| 90 Bromoform                   | 173 | 11.539    | 11.536        | 0.003         | 96 | 13709    | 50.0       | 45.6         |       |
| 91 Isopropylbenzene            | 105 | 11.709    | 11.712        | -0.003        | 96 | 205589   | 50.0       | 54.0         |       |
| 93 1,1,2,2-Tetrachloroethane   | 83  | 11.989    | 11.992        | -0.003        | 93 | 28832    | 50.0       | 49.2         |       |
| 94 Bromobenzene                | 156 | 12.013    | 12.016        | -0.003        | 96 | 41514    | 50.0       | 51.7         |       |
| 95 1,2,3-Trichloropropane      | 110 | 12.038    | 12.035        | 0.004         | 84 | 8810     | 50.0       | 40.3         |       |
| 96 trans-1,4-Dichloro-2-buten  | 53  | 12.038    | 12.041        | -0.003        | 59 | 10298    | 50.0       | 52.9         |       |
| 97 N-Propylbenzene             | 120 | 12.123    | 12.120        | 0.003         | 99 | 55406    | 50.0       | 52.4         |       |
| 98 2-Chlorotoluene             | 126 | 12.214    | 12.211        | 0.003         | 96 | 44523    | 50.0       | 52.7         |       |
| 99 1,3,5-Trimethylbenzene      | 105 | 12.293    | 12.290        | 0.003         | 94 | 168857   | 50.0       | 54.8         |       |
| 100 4-Chlorotoluene            | 126 | 12.317    | 12.320        | -0.003        | 98 | 46042    | 50.0       | 52.7         |       |
| 101 tert-Butylbenzene          | 119 | 12.628    | 12.625        | 0.003         | 93 | 145201   | 50.0       | 53.1         |       |
| 103 1,2,4-Trimethylbenzene     | 105 | 12.670    | 12.673        | -0.003        | 97 | 172475   | 50.0       | 54.4         |       |

| Compound                         | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q  | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|----------------------------------|-----|--------------|------------------|------------------|----|----------|---------------|-----------------|-------|
| 104 sec-Butylbenzene             | 105 | 12.847       | 12.850           | -0.003           | 94 | 220968   | 50.0          | 54.6            |       |
| 105 1,3-Dichlorobenzene          | 146 | 12.962       | 12.959           | 0.003            | 95 | 77072    | 50.0          | 50.7            |       |
| 106 4-Isopropyltoluene           | 119 | 12.987       | 12.990           | -0.003           | 96 | 179063   | 50.0          | 54.1            |       |
| 107 1,4-Dichlorobenzene          | 146 | 13.053       | 13.050           | 0.003            | 94 | 73373    | 50.0          | 49.8            |       |
| 110 n-Butylbenzene               | 91  | 13.400       | 13.397           | 0.003            | 98 | 170804   | 50.0          | 53.5            |       |
| 111 1,2-Dichlorobenzene          | 146 | 13.425       | 13.422           | 0.003            | 93 | 70691    | 50.0          | 52.1            |       |
| 112 1,2-Dibromo-3-Chloropropan   | 75  | 14.197       | 14.200           | -0.003           | 81 | 4494     | 50.0          | 52.6            |       |
| 114 1,2,4-Trichlorobenzene       | 180 | 15.049       | 15.046           | 0.003            | 94 | 49169    | 50.0          | 49.7            |       |
| 115 Hexachlorobutadiene          | 225 | 15.231       | 15.228           | 0.003            | 91 | 34784    | 50.0          | 51.5            |       |
| 116 Naphthalene                  | 128 | 15.310       | 15.307           | 0.003            | 97 | 79162    | 50.0          | 40.0            |       |
| 117 1,2,3-Trichlorobenzene       | 180 | 15.584       | 15.575           | 0.009            | 93 | 38847    | 50.0          | 49.0            |       |
| S 130 1,2-Dichloroethene, Total  | 96  |              |                  |                  | 0  |          | 100.0         | 105.1           |       |
| S 129 Xylenes, Total             | 106 |              |                  |                  | 0  |          | 100.0         | 105.9           |       |
| S 131 1,3-Dichloropropene, Total | 1   |              |                  |                  | 0  |          | 100.0         | 93.6            |       |

### QC Flag Legend

Review Flags

M - Manually Integrated

### Reagents:

|                     |                     |           |             |
|---------------------|---------------------|-----------|-------------|
| VOA8260SURR_00032   | Amount Added: 2.00  | Units: uL |             |
| VOA8260VOAPRI_00108 | Amount Added: 2.00  | Units: uL |             |
| VOAVAPRI_00005      | Amount Added: 2.00  | Units: uL |             |
| VOAACRPRI_00005     | Amount Added: 25.00 | Units: uL |             |
| VOA8260INT_00030    | Amount Added: 10.00 | Units: uL | Run Reagent |

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033107.D

Injection Date: 31-Mar-2015 10:54:30

Instrument ID: CHHP3

Operator ID: 10099

Lims ID: IC VSTD10

Worklist Smp#: 6

Client ID:

Purge Vol: 5.000 mL

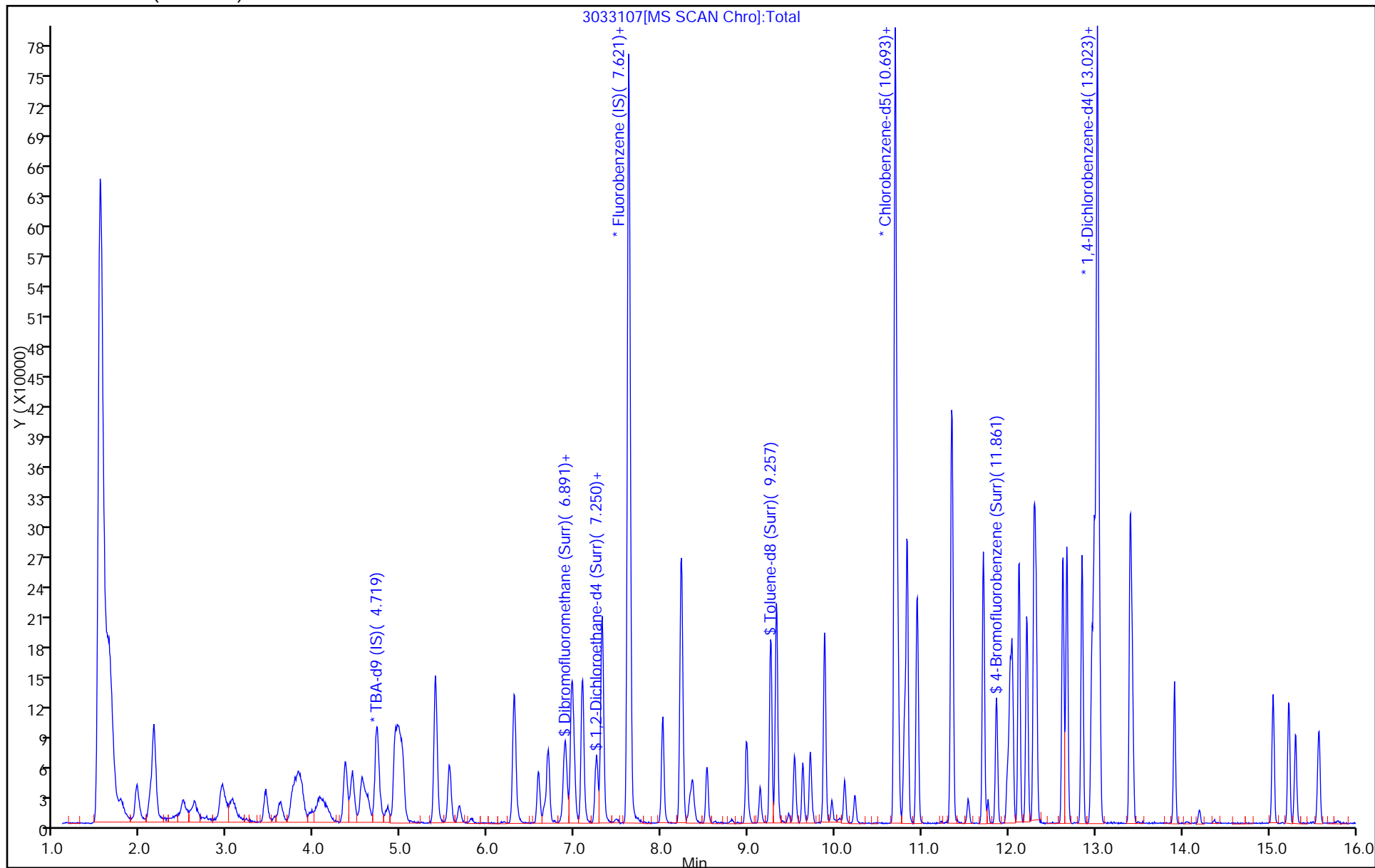
Dil. Factor: 1.0000

ALS Bottle#: 7

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033107.D

Injection Date: 31-Mar-2015 10:54:30

Instrument ID: CHHP3

Lims ID: IC VSTD10

Client ID:

Operator ID: 10099

ALS Bottle#:

7

Worklist Smp#: 6

Purge Vol: 5.000 mL

Dil. Factor:

1.0000

Method: MSVOA\_S\_CHHP3

Limit Group:

VOA 8260C ICAL

Column: DB-624 (0.18 mm)

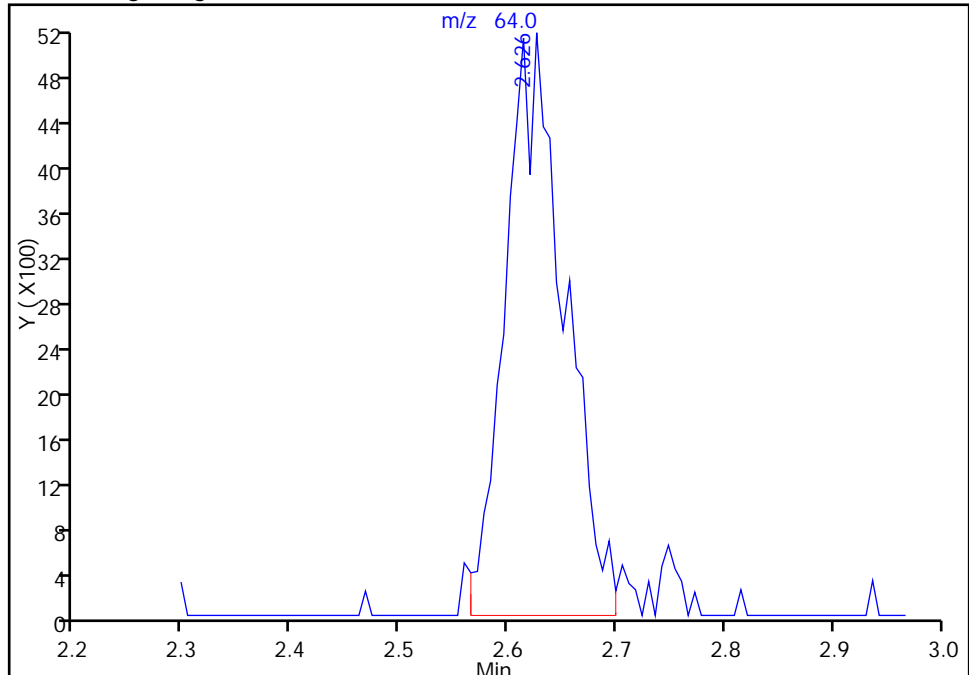
Detector

MS SCAN

## 15 Chloroethane, CAS: 75-00-3

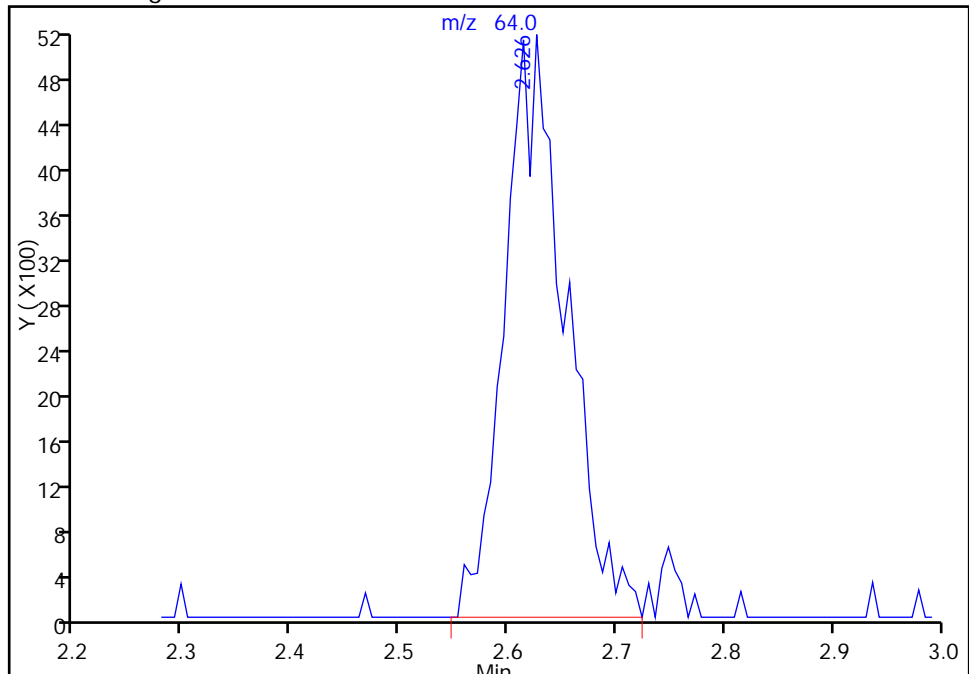
RT: 2.63  
Area: 19771  
Amount: 40.202813  
Amount Units: ng

## Processing Integration Results



RT: 2.63  
Area: 20291  
Amount: 52.491816  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 31-Mar-2015 11:16:18

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033107.D

Injection Date: 31-Mar-2015 10:54:30

Instrument ID: CHHP3

Lims ID: IC VSTD10

Client ID:

Operator ID: 10099

ALS Bottle#:

7

Worklist Smp#: 6

Purge Vol: 5.000 mL

Dil. Factor:

1.0000

Method: MSVOA\_S\_CHHP3

Limit Group:

VOA 8260C ICAL

Column: DB-624 (0.18 mm)

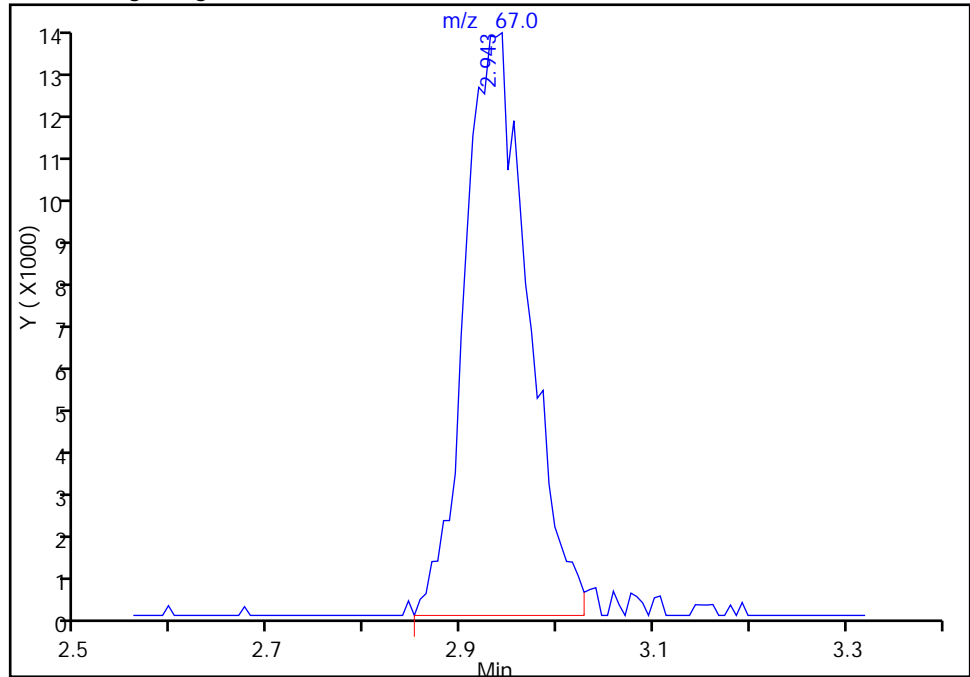
Detector

MS SCAN

## 16 Dichlorofluoromethane, CAS: 75-43-4

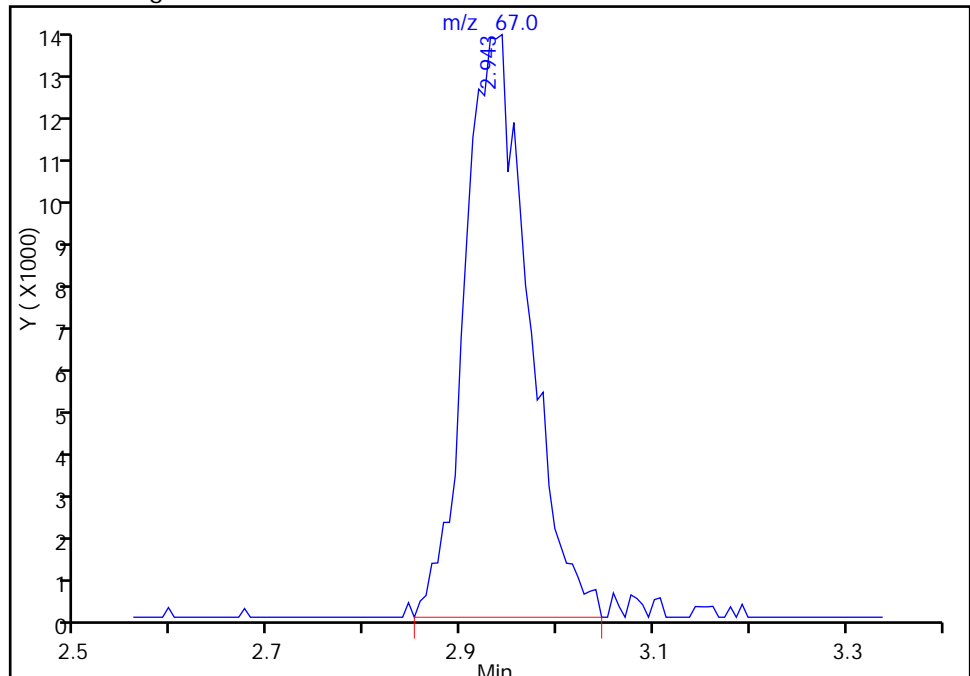
RT: 2.94  
Area: 61117  
Amount: 37.638638  
Amount Units: ng

## Processing Integration Results



RT: 2.94  
Area: 61567  
Amount: 53.803820  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 31-Mar-2015 11:16:18

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

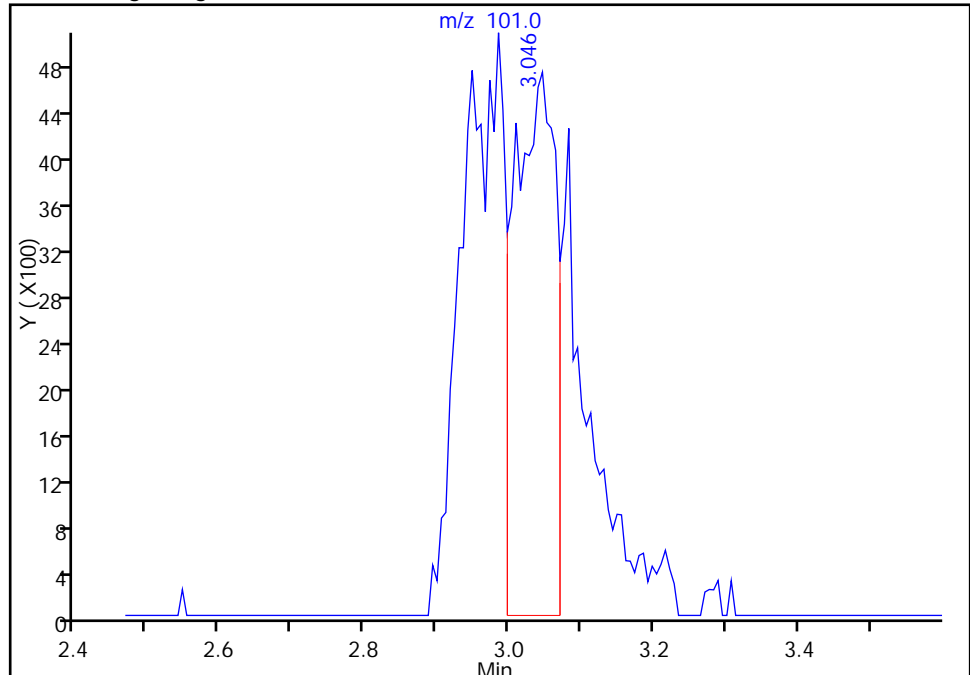
## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033107.D  
Injection Date: 31-Mar-2015 10:54:30 Instrument ID: CHHP3  
Lims ID: IC VSTD10  
Client ID:  
Operator ID: 10099 ALS Bottle#: 7 Worklist Smp#: 6  
Purge Vol: 5.000 mL Dil. Factor: 1.0000  
Method: MSVOA\_S\_CHHP3 Limit Group: VOA 8260C ICAL  
Column: DB-624 (0.18 mm) Detector: MS SCAN

**17 Trichlorofluoromethane, CAS: 75-69-4**

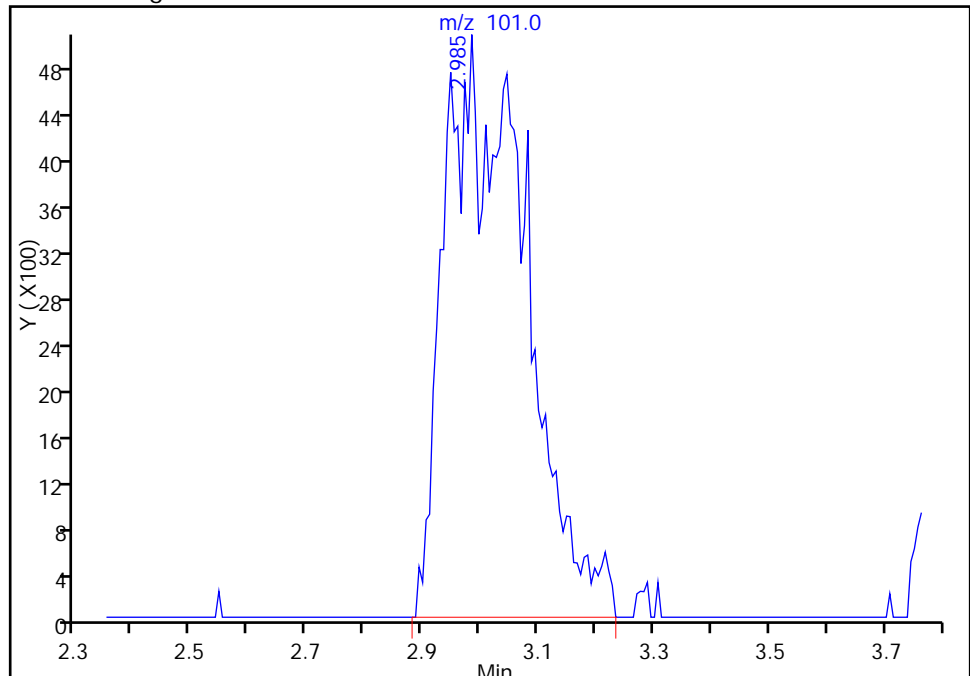
RT: 3.05  
Area: 18924  
Amount: 23.280004  
Amount Units: ng

## Processing Integration Results



RT: 2.99  
Area: 48960  
Amount: 52.446251  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 31-Mar-2015 11:16:18  
Audit Action: Manually Integrated  
Audit Reason: Poor chromatography



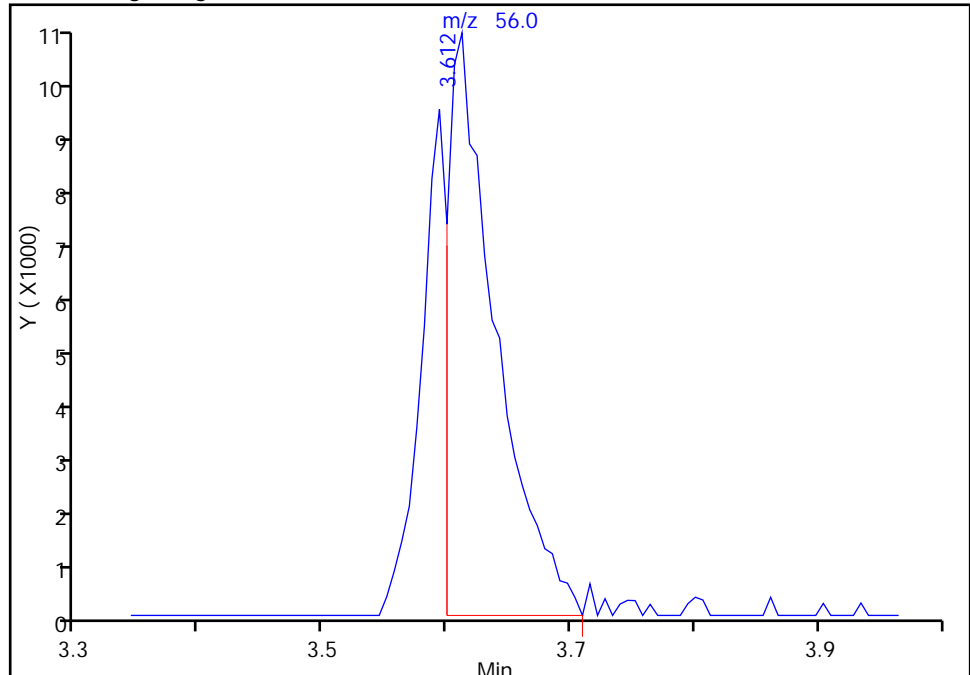
## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033107.D  
Injection Date: 31-Mar-2015 10:54:30 Instrument ID: CHHP3  
Lims ID: IC VSTD10  
Client ID:  
Operator ID: 10099 ALS Bottle#: 7 Worklist Smp#: 6  
Purge Vol: 5.000 mL Dil. Factor: 1.0000  
Method: MSVOA\_S\_CHHP3 Limit Group: VOA 8260C ICAL  
Column: DB-624 (0.18 mm) Detector: MS SCAN

## 20 Acrolein, CAS: 107-02-8

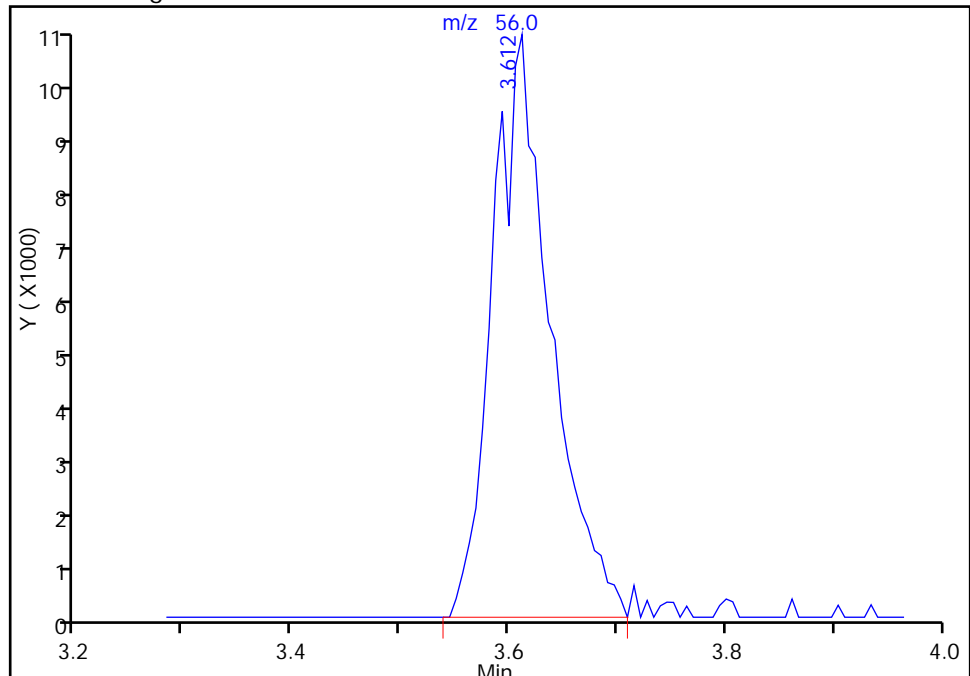
RT: 3.61  
Area: 28423  
Amount: 556.8313  
Amount Units: ng

## Processing Integration Results



RT: 3.61  
Area: 39477  
Amount: 666.3724  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 31-Mar-2015 11:16:18  
Audit Action: Manually Integrated  
Audit Reason: Poor chromatography

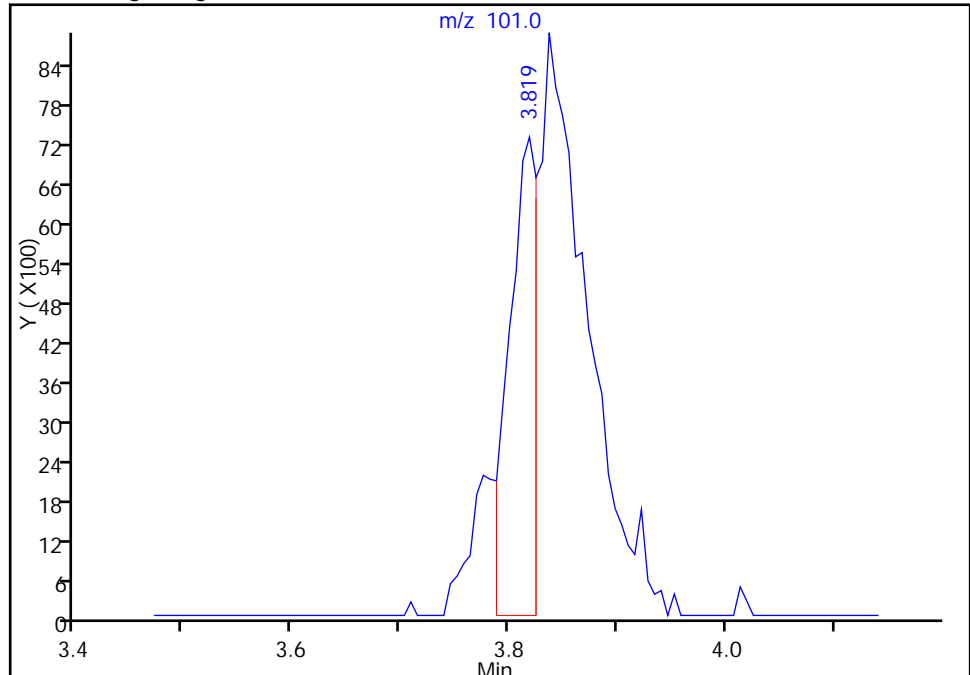
## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033107.D  
Injection Date: 31-Mar-2015 10:54:30 Instrument ID: CHHP3  
Lims ID: IC VSTD10  
Client ID:  
Operator ID: 10099 ALS Bottle#: 7 Worklist Smp#: 6  
Purge Vol: 5.000 mL Dil. Factor: 1.0000  
Method: MSVOA\_S\_CHHP3 Limit Group: VOA 8260C ICAL  
Column: DB-624 (0.18 mm) Detector MS SCAN

**22 1,1,2-Trichloro-1,2,2-trifluoroethane, CAS: 76-13-1**

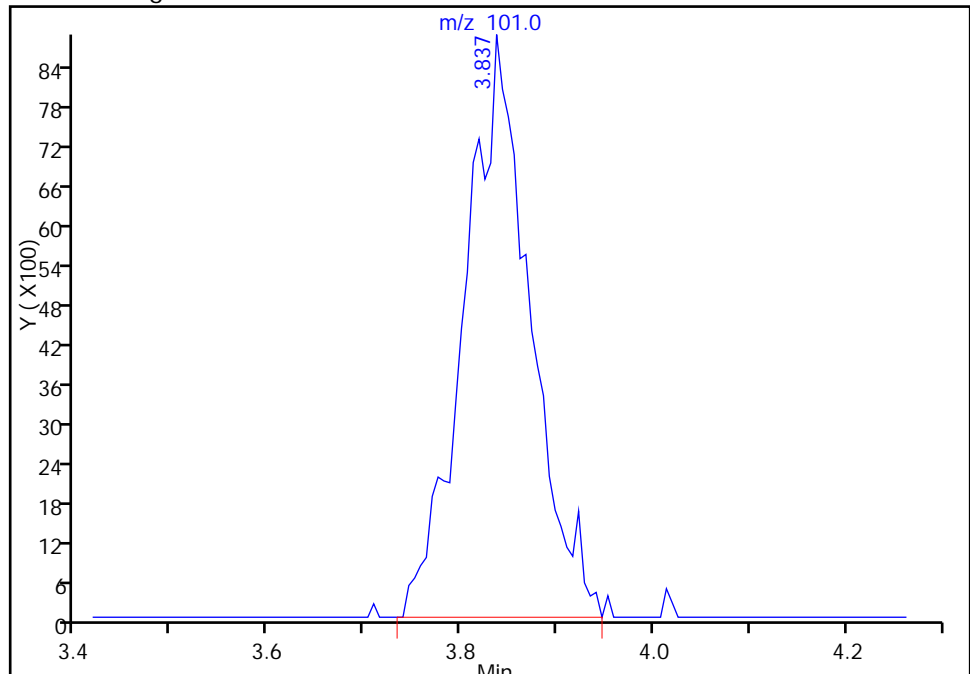
RT: 3.82  
Area: 13032  
Amount: 18.683292  
Amount Units: ng

## Processing Integration Results



RT: 3.84  
Area: 42080  
Amount: 52.516486  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 31-Mar-2015 11:16:18  
Audit Action: Manually Integrated  
Audit Reason: Poor chromatography

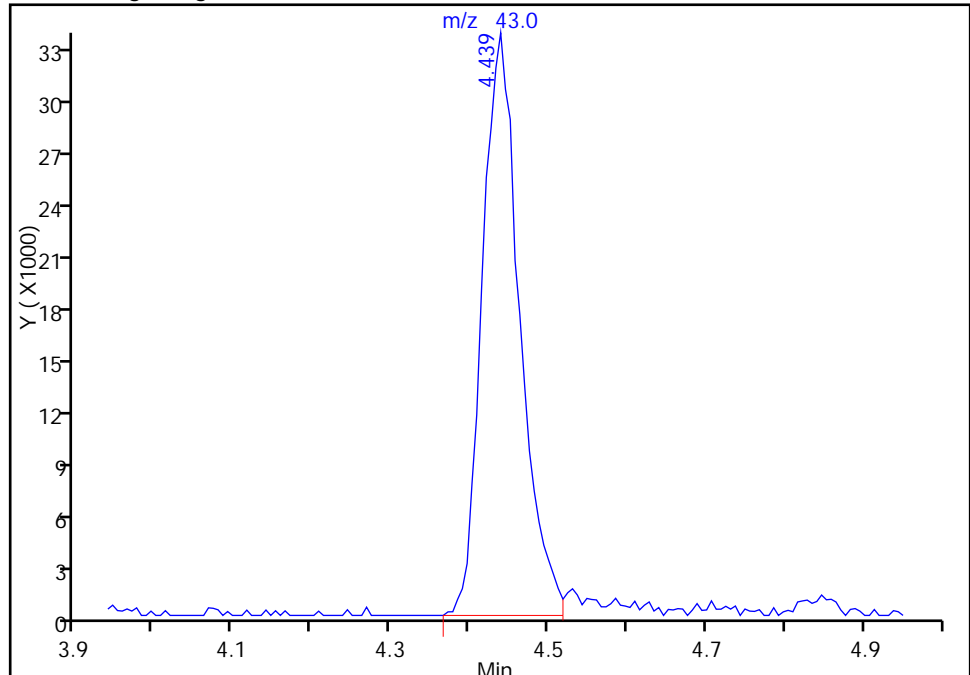
## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033107.D  
Injection Date: 31-Mar-2015 10:54:30 Instrument ID: CHHP3  
Lims ID: IC VSTD10  
Client ID:  
Operator ID: 10099 ALS Bottle#: 7 Worklist Smp#: 6  
Purge Vol: 5.000 mL Dil. Factor: 1.0000  
Method: MSVOA\_S\_CHHP3 Limit Group: VOA 8260C ICAL  
Column: DB-624 (0.18 mm) Detector MS SCAN

## 29 Methyl acetate, CAS: 79-20-9

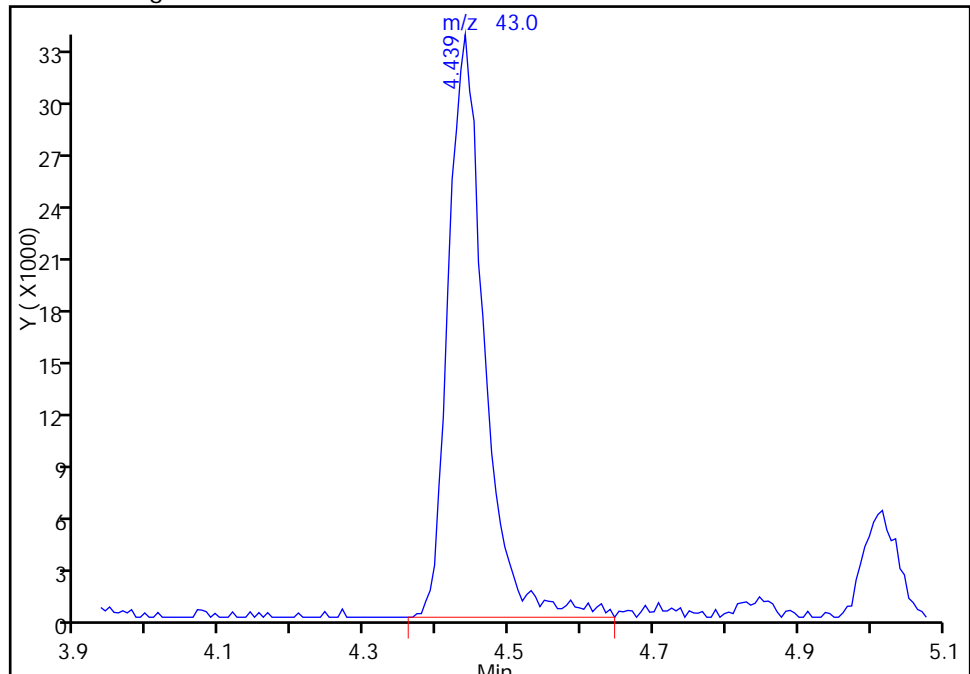
RT: 4.44  
Area: 112325  
Amount: 157.8073  
Amount Units: ng

## Processing Integration Results



RT: 4.44  
Area: 117781  
Amount: 270.7470  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 31-Mar-2015 11:16:18  
Audit Action: Manually Integrated  
Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033107.D

Injection Date: 31-Mar-2015 10:54:30

Instrument ID: CHHP3

Lims ID: IC VSTD10

Client ID:

Operator ID: 10099

ALS Bottle#:

7

Worklist Smp#: 6

Purge Vol: 5.000 mL

Dil. Factor:

1.0000

Method: MSVOA\_S\_CHHP3

Limit Group:

VOA 8260C ICAL

Column: DB-624 (0.18 mm)

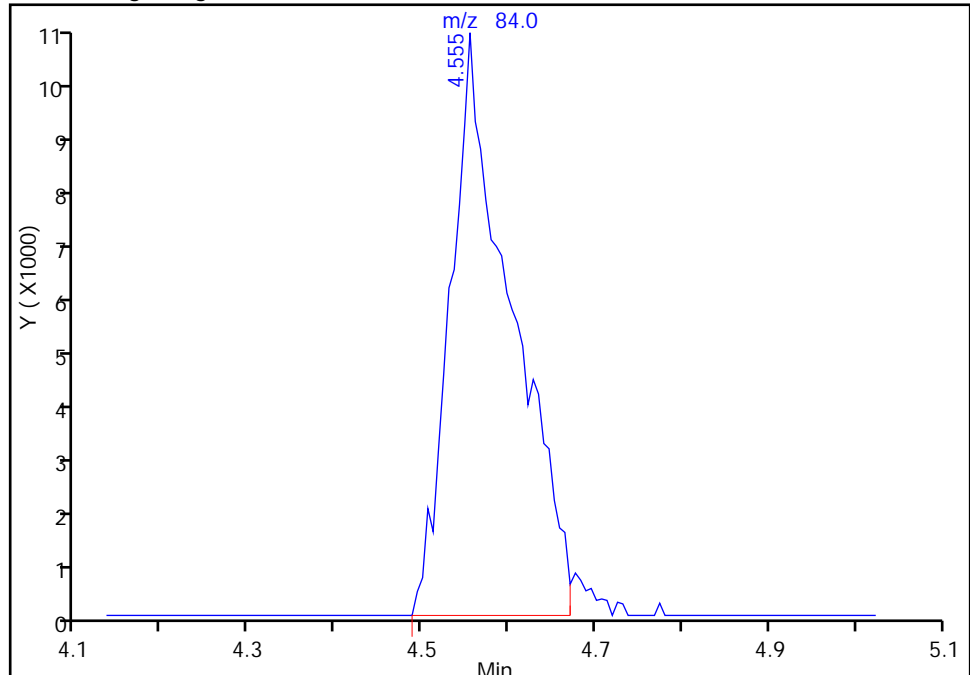
Detector

MS SCAN

## 30 Methylene Chloride, CAS: 75-09-2

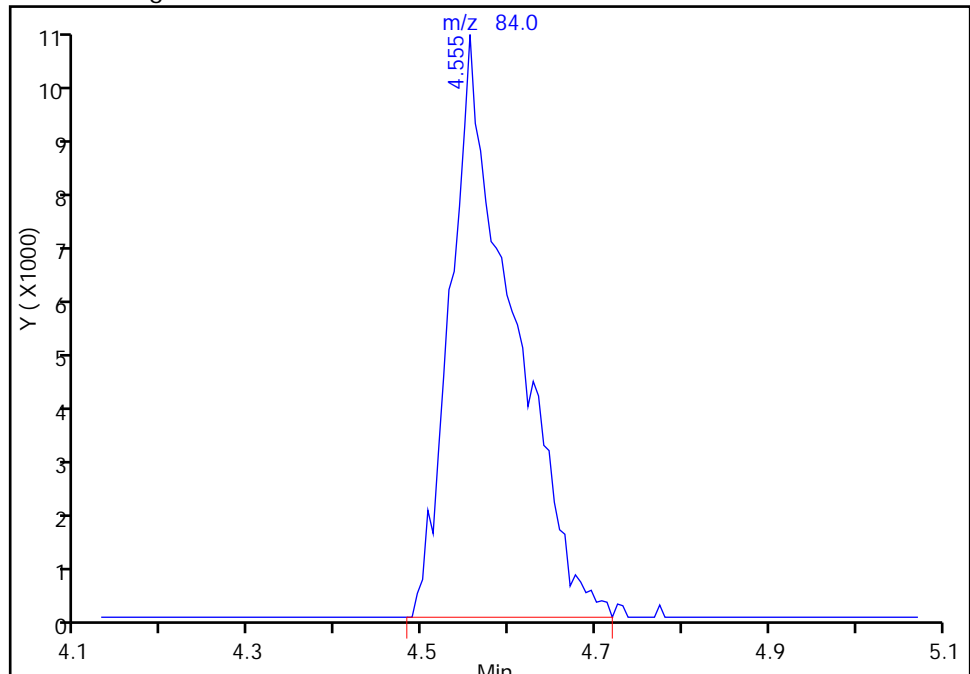
RT: 4.55  
Area: 53205  
Amount: 33.625930  
Amount Units: ng

## Processing Integration Results



RT: 4.55  
Area: 54402  
Amount: 59.222869  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 31-Mar-2015 11:16:18

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

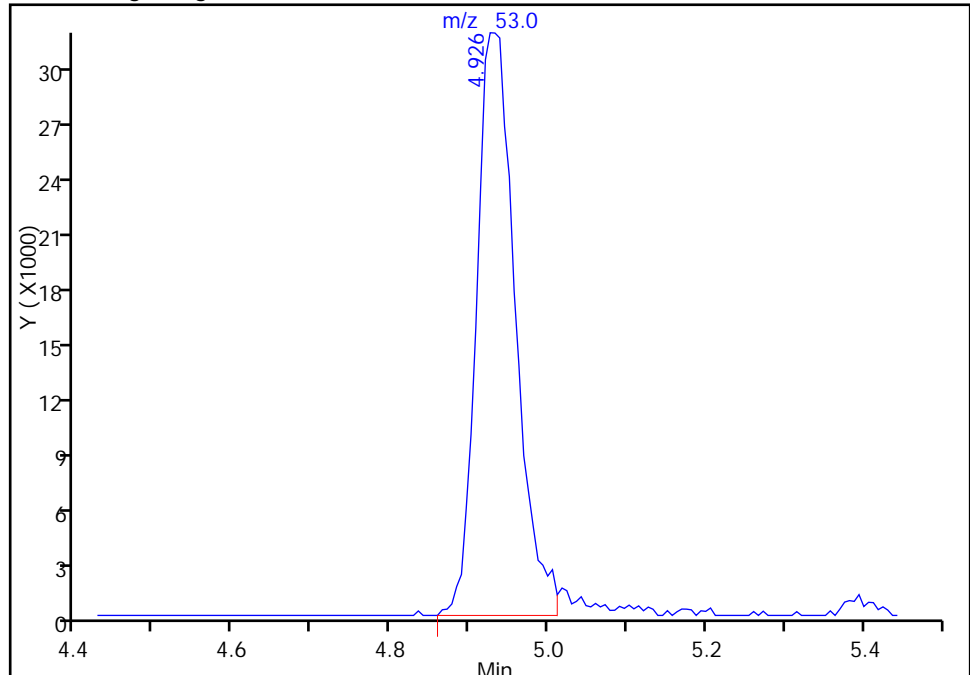
## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033107.D  
Injection Date: 31-Mar-2015 10:54:30 Instrument ID: CHHP3  
Lims ID: IC VSTD10  
Client ID:  
Operator ID: 10099 ALS Bottle#: 7 Worklist Smp#: 6  
Purge Vol: 5.000 mL Dil. Factor: 1.0000  
Method: MSVOA\_S\_CHHP3 Limit Group: VOA 8260C ICAL  
Column: DB-624 (0.18 mm) Detector: MS SCAN

## 32 Acrylonitrile, CAS: 107-13-1

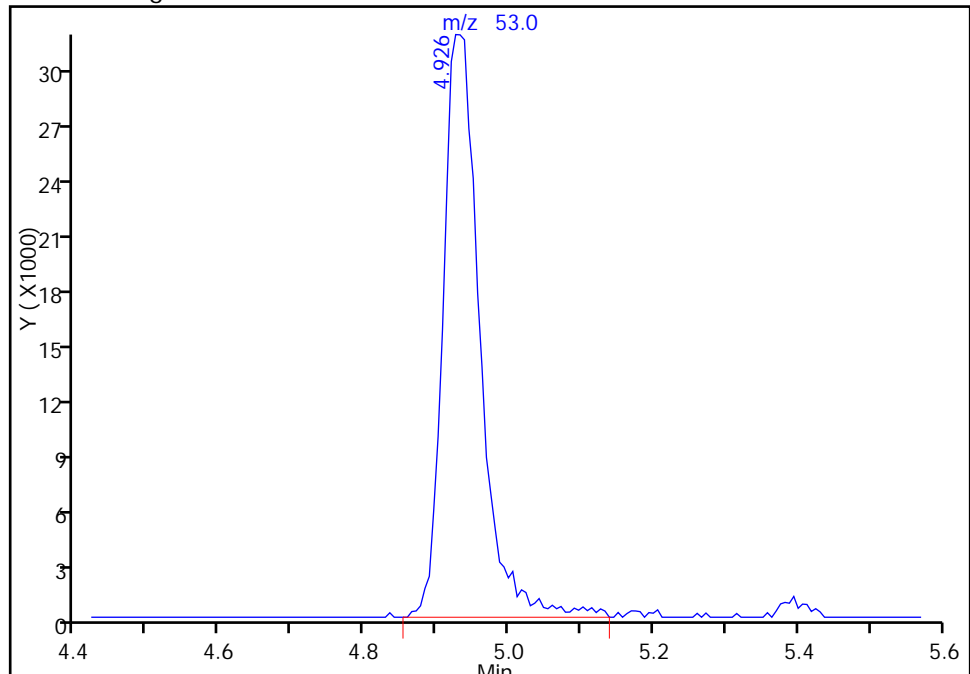
RT: 4.93  
Area: 109470  
Amount: 278.6795  
Amount Units: ng

## Processing Integration Results



RT: 4.93  
Area: 113840  
Amount: 526.4547  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 31-Mar-2015 11:16:18  
Audit Action: Manually Integrated  
Audit Reason: Poor chromatography

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033108.D  
 Lims ID: IC VSTD25  
 Client ID:  
 Sample Type: IC Calib Level: 3  
 Inject. Date: 31-Mar-2015 11:16:30 ALS Bottle#: 8 Worklist Smp#: 7  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: IC VSTD25  
 Misc. Info.: 180-0006243-007180-0006243-007  
 Operator ID: 10099 Instrument ID: CHHP3  
 Sublist: chrom-MSVOA\_S\_CHHP3\*sub4  
 Method: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\MSVOA\_S\_CHHP3.m  
 Limit Group: VOA 8260C ICAL  
 Last Update: 01-Apr-2015 04:54:12 Calib Date: 31-Mar-2015 14:29:30  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last Ical File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D  
 Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
 Process Host: XAWRK006

First Level Reviewer: gordonk

Date: 31-Mar-2015 11:38:50

| Compound                        | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q  | Response | Cal Amt ng | OnCol Amt ng | Flags |
|---------------------------------|-----|-----------|---------------|---------------|----|----------|------------|--------------|-------|
| * 1 TBA-d9 (IS)                 | 65  | 4.734     | 4.740         | -0.006        | 98 | 176525   | 5000.0     | 5000.0       |       |
| * 2 Fluorobenzene (IS)          | 96  | 7.618     | 7.618         | 0.000         | 97 | 711682   | 250.0      | 250.0        |       |
| * 3 Chlorobenzene-d5            | 119 | 10.696    | 10.696        | 0.000         | 89 | 158808   | 250.0      | 250.0        |       |
| * 4 1,4-Dichlorobenzene-d4      | 152 | 13.020    | 13.026        | -0.006        | 97 | 242318   | 250.0      | 250.0        |       |
| \$ 5 Dibromofluoromethane (Surr | 113 | 6.875     | 6.876         | -0.001        | 54 | 75628    | 125.0      | 124.6        |       |
| \$ 6 1,2-Dichloroethane-d4 (Sur | 65  | 7.241     | 7.247         | -0.007        | 96 | 86897    | 125.0      | 123.9        |       |
| \$ 7 Toluene-d8 (Surr)          | 98  | 9.254     | 9.260         | -0.006        | 84 | 351267   | 125.0      | 132.1        |       |
| \$ 8 4-Bromofluorobenzene (Surr | 95  | 11.858    | 11.858        | 0.000         | 85 | 134054   | 125.0      | 127.1        |       |
| 10 Dichlorodifluoromethane      | 85  | 1.771     | 1.766         | 0.005         | 65 | 95127    | 125.0      | 128.7        |       |
| 11 Chloromethane                | 50  | 1.948     | 1.954         | -0.006        | 99 | 169403   | 125.0      | 125.7        |       |
| 12 Vinyl chloride               | 62  | 2.112     | 2.112         | 0.000         | 98 | 144179   | 125.0      | 128.1        |       |
| 13 Butadiene                    | 39  | 2.143     | 2.143         | 0.000         | 91 | 147189   | 125.0      | 125.1        |       |
| 14 Bromomethane                 | 94  | 2.477     | 2.483         | -0.006        | 83 | 37644    | 125.0      | 123.9        |       |
| 15 Chloroethane                 | 64  | 2.617     | 2.611         | 0.006         | 92 | 45219    | 125.0      | 115.5        |       |
| 16 Dichlorofluoromethane        | 67  | 2.927     | 2.915         | 0.012         | 97 | 145667   | 125.0      | 125.7        |       |
| 17 Trichlorofluoromethane       | 101 | 2.982     | 2.952         | 0.030         | 85 | 115183   | 125.0      | 121.9        | M     |
| 19 Ethyl ether                  | 59  | 3.438     | 3.439         | -0.001        | 90 | 87872    | 125.0      | 129.1        |       |
| 20 Acrolein                     | 56  | 3.603     | 3.609         | -0.006        | 86 | 44149    | 750.0      | 736.0        | M     |
| 21 1,1-Dichloroethene           | 96  | 3.749     | 3.737         | 0.012         | 95 | 102545   | 125.0      | 123.7        |       |
| 22 1,1,2-Trichloro-1,2,2-trif   | 101 | 3.834     | 3.822         | 0.012         | 90 | 102444   | 125.0      | 126.3        | M     |
| 23 Acetone                      | 43  | 3.882     | 3.889         | -0.007        | 87 | 26550    | 125.0      | 121.9        |       |
| 24 Iodomethane                  | 142 | 3.998     | 3.956         | 0.042         | 95 | 138087   | 125.0      | 123.5        |       |
| 25 Carbon disulfide             | 76  | 4.077     | 4.059         | 0.018         | 97 | 312778   | 125.0      | 124.3        |       |
| 28 3-Chloro-1-propene           | 76  | 4.351     | 4.357         | -0.006        | 84 | 63714    | 125.0      | 128.8        |       |
| 29 Methyl acetate               | 43  | 4.442     | 4.436         | 0.006         | 99 | 294905   | 625.0      | 669.5        |       |
| 30 Methylene Chloride           | 84  | 4.552     | 4.546         | 0.006         | 92 | 111772   | 125.0      | 120.2        |       |
| 31 2-Methyl-2-propanol          | 59  | 4.850     | 4.856         | -0.006        | 89 | 67709    | 1250.0     | 1287.4       |       |
| 32 Acrylonitrile                | 53  | 4.923     | 4.935         | -0.012        | 96 | 291562   | 1250.0     | 1331.7       |       |
| 33 trans-1,2-Dichloroethene     | 96  | 4.965     | 4.959         | 0.006         | 89 | 104068   | 125.0      | 124.5        |       |
| 34 Methyl tert-butyl ether      | 73  | 5.014     | 5.014         | 0.000         | 92 | 210083   | 125.0      | 128.9        |       |

| Compound                       | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q  | Response | Cal Amt ng | OnCol Amt ng | Flags |
|--------------------------------|-----|-----------|---------------|---------------|----|----------|------------|--------------|-------|
| 35 Hexane                      | 57  | 5.391     | 5.391         | 0.000         | 91 | 225938   | 125.0      | 121.7        |       |
| 36 1,1-Dichloroethane          | 63  | 5.555     | 5.556         | -0.001        | 96 | 210185   | 125.0      | 128.3        |       |
| 37 Vinyl acetate               | 43  | 5.671     | 5.671         | 0.000         | 96 | 96397    | 125.0      | 140.1        |       |
| 41 2,2-Dichloropropane         | 77  | 6.298     | 6.298         | 0.000         | 57 | 85013    | 125.0      | 123.8        |       |
| 42 cis-1,2-Dichloroethene      | 96  | 6.298     | 6.298         | 0.000         | 85 | 114218   | 125.0      | 126.6        |       |
| 43 2-Butanone (MEK)            | 43  | 6.346     | 6.340         | 0.006         | 93 | 32745    | 125.0      | 126.2        |       |
| 47 Chlorobromomethane          | 128 | 6.577     | 6.578         | -0.001        | 71 | 41105    | 125.0      | 125.9        |       |
| 48 Tetrahydrofuran             | 42  | 6.656     | 6.645         | 0.011         | 98 | 45611    | 250.0      | 270.3        |       |
| 49 Chloroform                  | 83  | 6.693     | 6.693         | 0.000         | 92 | 165100   | 125.0      | 125.6        |       |
| 50 1,1,1-Trichloroethane       | 97  | 6.894     | 6.894         | 0.000         | 83 | 134313   | 125.0      | 126.5        |       |
| 51 Cyclohexane                 | 56  | 6.967     | 6.967         | 0.000         | 75 | 268299   | 125.0      | 127.7        |       |
| 52 1,1-Dichloropropene         | 75  | 7.088     | 7.083         | 0.005         | 94 | 135573   | 125.0      | 131.2        |       |
| 53 Carbon tetrachloride        | 117 | 7.088     | 7.089         | -0.001        | 71 | 108442   | 125.0      | 123.9        |       |
| 54 Isobutyl alcohol            | 41  | 7.271     | 7.265         | 0.006         | 89 | 52265    | 3125.0     | 3164.7       |       |
| 55 Benzene                     | 78  | 7.314     | 7.314         | 0.000         | 97 | 407952   | 125.0      | 128.9        |       |
| 56 1,2-Dichloroethane          | 62  | 7.326     | 7.326         | 0.000         | 65 | 112783   | 125.0      | 126.3        |       |
| 59 n-Heptane                   | 43  | 7.636     | 7.636         | 0.000         | 75 | 211313   | 125.0      | 125.7        |       |
| 60 Trichloroethene             | 130 | 8.013     | 8.013         | 0.000         | 93 | 99818    | 125.0      | 125.4        |       |
| 63 Methylcyclohexane           | 83  | 8.226     | 8.226         | 0.000         | 95 | 209507   | 125.0      | 127.7        |       |
| 64 1,2-Dichloropropane         | 63  | 8.238     | 8.238         | 0.000         | 83 | 108535   | 125.0      | 129.3        |       |
| 65 Dibromomethane              | 93  | 8.354     | 8.354         | 0.000         | 97 | 40376    | 125.0      | 125.6        |       |
| 67 1,4-Dioxane                 | 88  | 8.384     | 8.384         | 0.000         | 94 | 15291    | 2500.0     | 2903.9       |       |
| 68 Dichlorobromomethane        | 83  | 8.524     | 8.524         | 0.000         | 94 | 107477   | 125.0      | 123.6        |       |
| 71 cis-1,3-Dichloropropene     | 75  | 8.980     | 8.981         | -0.001        | 86 | 136492   | 125.0      | 126.3        |       |
| 72 4-Methyl-2-pentanone (MIBK) | 43  | 9.132     | 9.133         | -0.001        | 93 | 76919    | 125.0      | 131.1        |       |
| 73 Toluene                     | 91  | 9.327     | 9.327         | 0.000         | 93 | 428177   | 125.0      | 134.1        |       |
| 74 trans-1,3-Dichloropropene   | 75  | 9.534     | 9.528         | 0.006         | 96 | 103870   | 125.0      | 130.0        |       |
| 75 Ethyl methacrylate          | 69  | 9.625     | 9.625         | 0.000         | 78 | 91957    | 125.0      | 134.7        |       |
| 76 1,1,2-Trichloroethane       | 97  | 9.716     | 9.717         | -0.001        | 90 | 65204    | 125.0      | 132.1        |       |
| 78 1,3-Dichloropropane         | 76  | 9.881     | 9.881         | 0.000         | 95 | 115238   | 125.0      | 128.9        |       |
| 77 Tetrachloroethene           | 164 | 9.881     | 9.881         | 0.000         | 88 | 76973    | 125.0      | 128.1        |       |
| 79 2-Hexanone                  | 43  | 9.966     | 9.960         | 0.006         | 93 | 46999    | 125.0      | 125.5        |       |
| 81 Chlorodibromomethane        | 129 | 10.112    | 10.112        | 0.000         | 89 | 63634    | 125.0      | 124.9        |       |
| 82 Ethylene Dibromide          | 107 | 10.227    | 10.228        | -0.001        | 98 | 59698    | 125.0      | 126.1        |       |
| 83 Chlorobenzene               | 112 | 10.720    | 10.720        | 0.000         | 87 | 265860   | 125.0      | 129.7        |       |
| 85 1,1,1,2-Tetrachloroethane   | 131 | 10.799    | 10.800        | -0.001        | 88 | 79579    | 125.0      | 127.4        |       |
| 86 Ethylbenzene                | 106 | 10.830    | 10.836        | -0.006        | 98 | 157794   | 125.0      | 131.2        |       |
| 87 m-Xylene & p-Xylene         | 106 | 10.945    | 10.946        | -0.001        | 99 | 196762   | 125.0      | 130.8        |       |
| 88 o-Xylene                    | 106 | 11.341    | 11.341        | 0.000         | 88 | 189288   | 125.0      | 130.0        |       |
| 89 Styrene                     | 104 | 11.353    | 11.353        | 0.000         | 89 | 312007   | 125.0      | 130.1        |       |
| 90 Bromoform                   | 173 | 11.535    | 11.536        | -0.001        | 91 | 35857    | 125.0      | 118.8        |       |
| 91 Isopropylbenzene            | 105 | 11.712    | 11.712        | 0.000         | 96 | 504265   | 125.0      | 131.8        |       |
| 93 1,1,2,2-Tetrachloroethane   | 83  | 11.986    | 11.992        | -0.006        | 40 | 75005    | 125.0      | 127.6        |       |
| 94 Bromobenzene                | 156 | 12.016    | 12.016        | 0.000         | 96 | 105254   | 125.0      | 127.4        |       |
| 95 1,2,3-Trichloropropane      | 110 | 12.034    | 12.035        | 0.000         | 73 | 23892    | 125.0      | 142.0        |       |
| 96 trans-1,4-Dichloro-2-buten  | 53  | 12.046    | 12.041        | 0.005         | 50 | 24973    | 125.0      | 124.8        |       |
| 97 N-Propylbenzene             | 120 | 12.119    | 12.120        | -0.001        | 97 | 142165   | 125.0      | 130.7        |       |
| 98 2-Chlorotoluene             | 126 | 12.211    | 12.211        | 0.000         | 95 | 108846   | 125.0      | 125.2        |       |
| 99 1,3,5-Trimethylbenzene      | 105 | 12.290    | 12.290        | 0.000         | 88 | 420195   | 125.0      | 132.5        |       |
| 100 4-Chlorotoluene            | 126 | 12.320    | 12.320        | 0.000         | 98 | 113849   | 125.0      | 126.8        |       |
| 101 tert-Butylbenzene          | 119 | 12.624    | 12.625        | -0.001        | 36 | 368601   | 125.0      | 131.1        |       |
| 103 1,2,4-Trimethylbenzene     | 105 | 12.673    | 12.673        | 0.000         | 91 | 423724   | 125.0      | 129.9        |       |

| Compound                         | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q  | Response | Cal Amt ng | OnCol Amt ng | Flags |
|----------------------------------|-----|-----------|---------------|---------------|----|----------|------------|--------------|-------|
| 104 sec-Butylbenzene             | 105 | 12.843    | 12.850        | -0.007        | 94 | 535669   | 125.0      | 128.8        |       |
| 105 1,3-Dichlorobenzene          | 146 | 12.959    | 12.959        | 0.000         | 78 | 196109   | 125.0      | 125.3        |       |
| 106 4-Isopropyltoluene           | 119 | 12.989    | 12.990        | -0.001        | 83 | 441344   | 125.0      | 129.6        |       |
| 107 1,4-Dichlorobenzene          | 146 | 13.050    | 13.050        | 0.000         | 90 | 190526   | 125.0      | 125.7        |       |
| 110 n-Butylbenzene               | 91  | 13.403    | 13.397        | 0.006         | 95 | 425279   | 125.0      | 129.4        |       |
| 111 1,2-Dichlorobenzene          | 146 | 13.427    | 13.422        | 0.005         | 94 | 174861   | 125.0      | 125.3        |       |
| 112 1,2-Dibromo-3-Chloropropan   | 75  | 14.194    | 14.200        | -0.006        | 57 | 11427    | 125.0      | 130.1        |       |
| 114 1,2,4-Trichlorobenzene       | 180 | 15.052    | 15.046        | 0.006         | 93 | 124699   | 125.0      | 122.5        |       |
| 115 Hexachlorobutadiene          | 225 | 15.228    | 15.228        | 0.000         | 90 | 85255    | 125.0      | 122.6        |       |
| 116 Naphthalene                  | 128 | 15.307    | 15.307        | 0.000         | 97 | 205005   | 125.0      | 129.4        |       |
| 117 1,2,3-Trichlorobenzene       | 180 | 15.575    | 15.575        | 0.000         | 95 | 99389    | 125.0      | 121.8        |       |
| S 130 1,2-Dichloroethene, Total  | 96  |           |               |               | 0  |          | 250.0      | 251.1        |       |
| S 129 Xylenes, Total             | 106 |           |               |               | 0  |          | 250.0      | 260.8        |       |
| S 131 1,3-Dichloropropene, Total | 1   |           |               |               | 0  |          | 250.0      | 256.3        |       |

### QC Flag Legend

Review Flags

M - Manually Integrated

### Reagents:

|                     |                     |           |             |
|---------------------|---------------------|-----------|-------------|
| VOA8260SURR_00032   | Amount Added: 5.00  | Units: uL |             |
| VOA8260VOAPRI_00108 | Amount Added: 5.00  | Units: uL |             |
| VOAVAPRI_00005      | Amount Added: 5.00  | Units: uL |             |
| VOAACRPRI_00005     | Amount Added: 30.00 | Units: uL |             |
| VOA8260INT_00030    | Amount Added: 10.00 | Units: uL | Run Reagent |



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033108.D

Injection Date: 31-Mar-2015 11:16:30

Instrument ID: CHHP3

Operator ID: 10099

Lims ID: IC VSTD25

Worklist Smp#: 7

Client ID:

Purge Vol: 5.000 mL

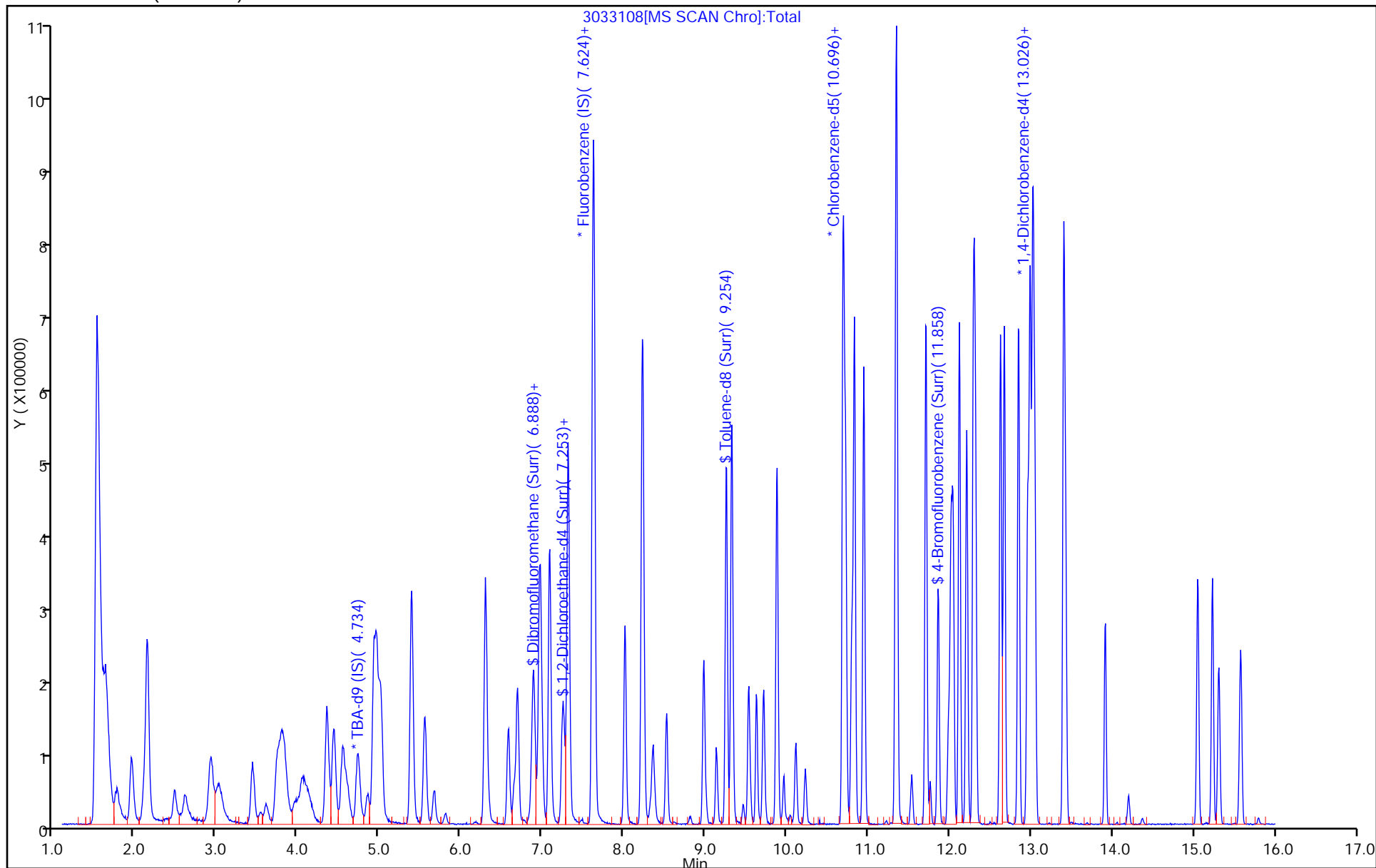
Dil. Factor: 1.0000

ALS Bottle#: 8

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)



## TestAmerica Pittsburgh

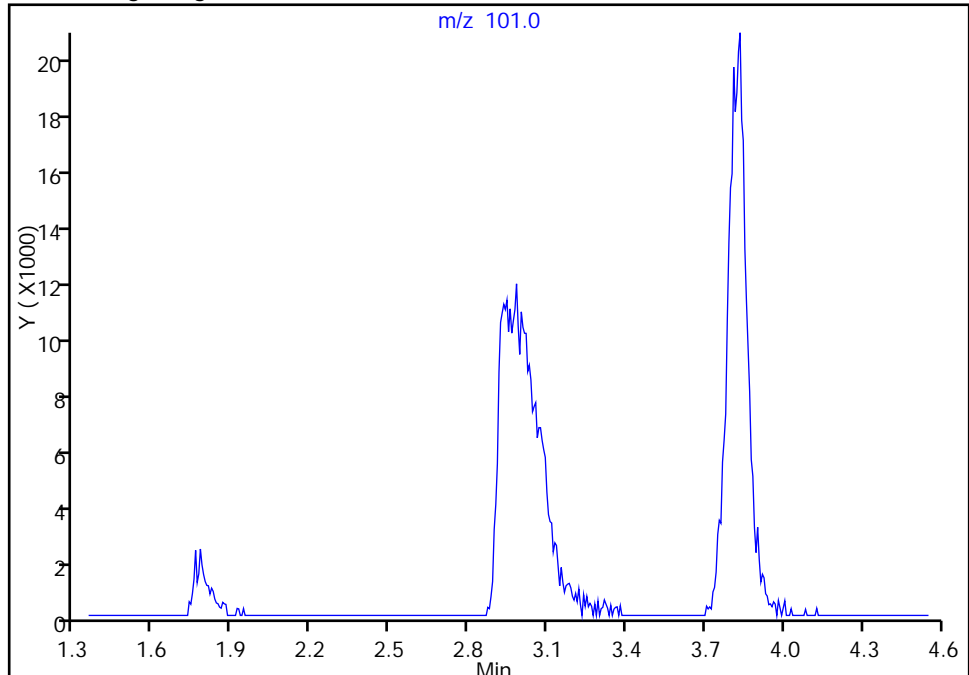
Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033108.D  
Injection Date: 31-Mar-2015 11:16:30 Instrument ID: CHHP3  
Lims ID: IC VSTD25  
Client ID:  
Operator ID: 10099 ALS Bottle#: 8  
Purge Vol: 5.000 mL Dil. Factor: 1.0000  
Method: MSVOA\_S\_CHHP3 Limit Group: VOA 8260C ICAL  
Column: DB-624 (0.18 mm) Detector: MS SCAN

Worklist Smp#: 7

**17 Trichlorofluoromethane, CAS: 75-69-4**

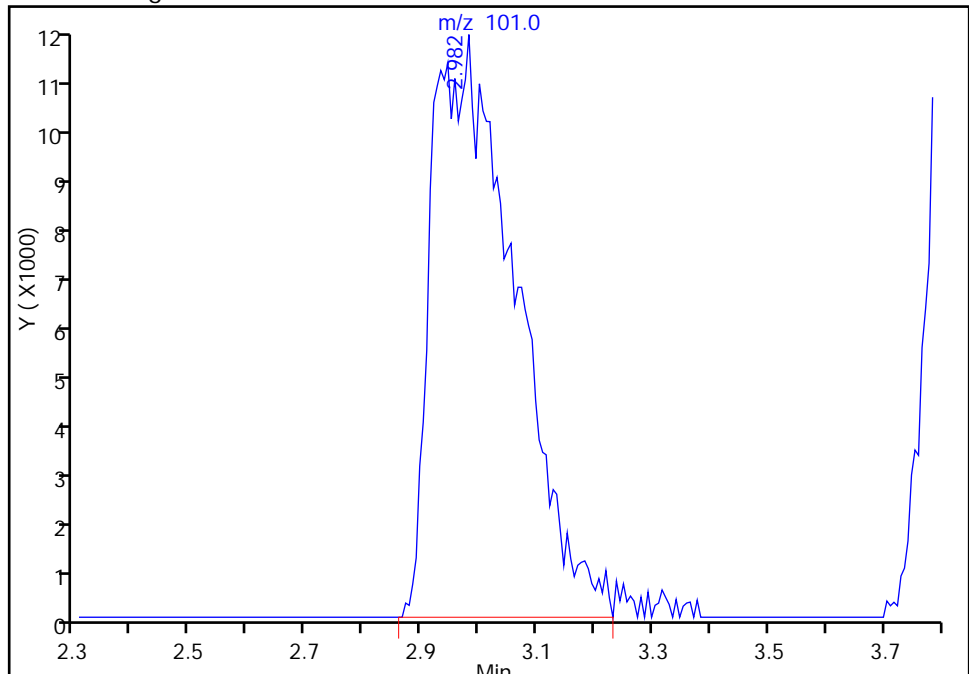
Not Detected  
Expected RT: 2.95

## Processing Integration Results



RT: 2.98  
Area: 115183  
Amount: 121.8618  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 31-Mar-2015 11:38:50  
Audit Action: Manually Integrated  
Audit Reason: Poor chromatography

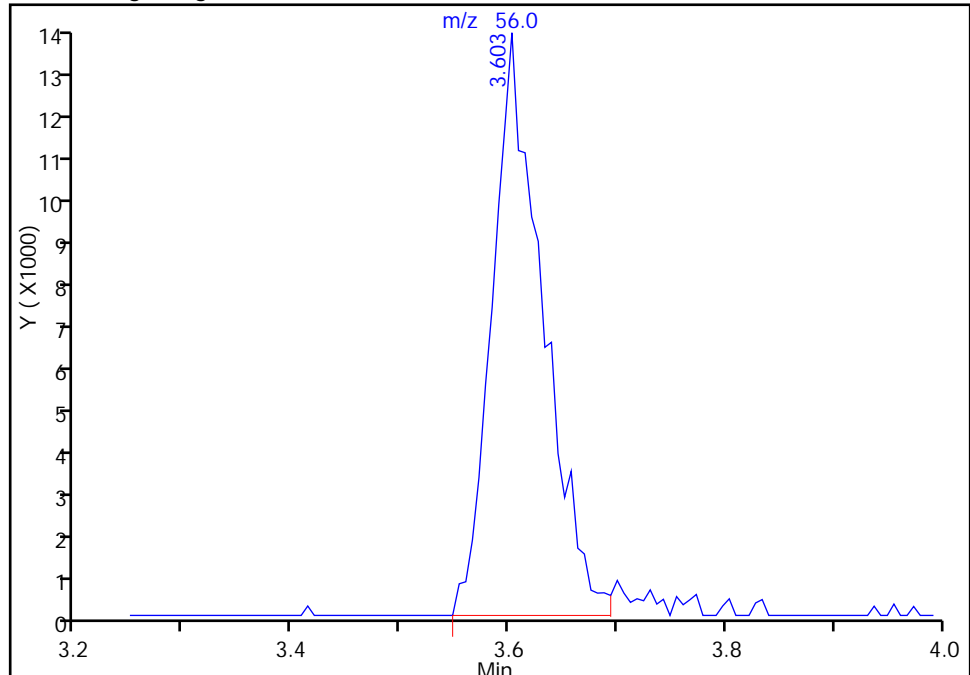
## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033108.D  
Injection Date: 31-Mar-2015 11:16:30 Instrument ID: CHHP3  
Lims ID: IC VSTD25  
Client ID:  
Operator ID: 10099 ALS Bottle#: 8 Worklist Smp#: 7  
Purge Vol: 5.000 mL Dil. Factor: 1.0000  
Method: MSVOA\_S\_CHHP3 Limit Group: VOA 8260C ICAL  
Column: DB-624 (0.18 mm) Detector: MS SCAN

## 20 Acrolein, CAS: 107-02-8

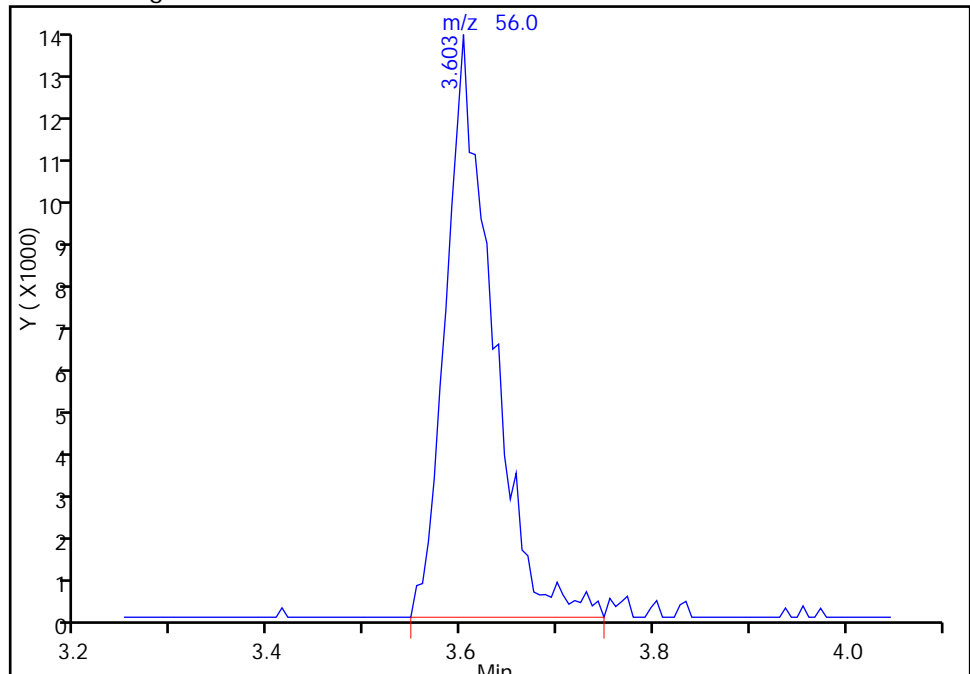
RT: 3.60  
Area: 42871  
Amount: 720.7919  
Amount Units: ng

## Processing Integration Results



RT: 3.60  
Area: 44149  
Amount: 736.0377  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 31-Mar-2015 11:38:50  
Audit Action: Manually Integrated  
Audit Reason: Poor chromatography

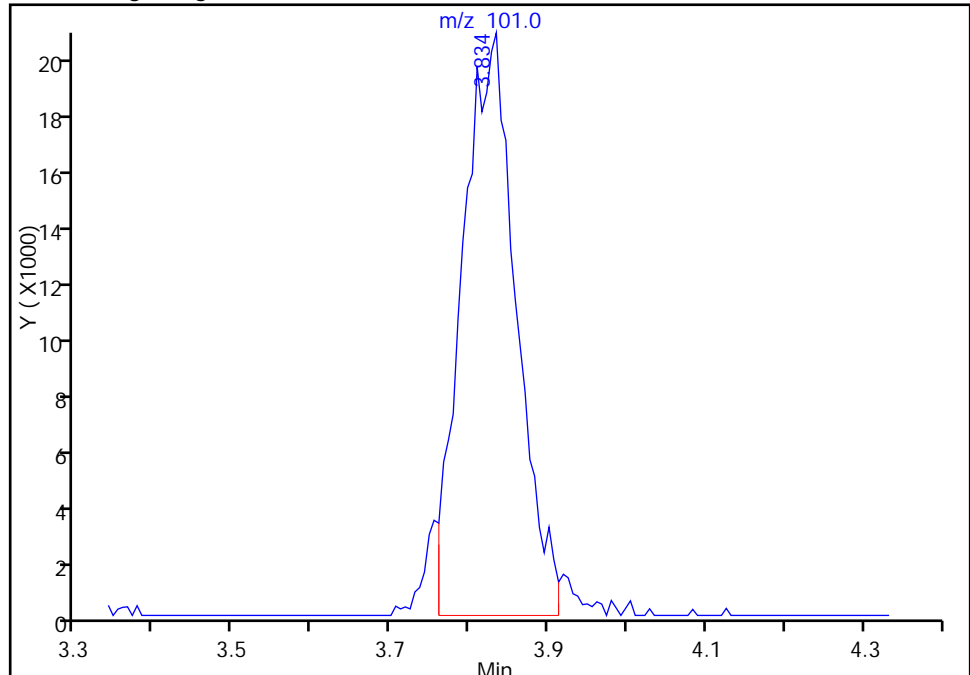
## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033108.D  
Injection Date: 31-Mar-2015 11:16:30 Instrument ID: CHHP3  
Lims ID: IC VSTD25  
Client ID:  
Operator ID: 10099 ALS Bottle#: 8 Worklist Smp#: 7  
Purge Vol: 5.000 mL Dil. Factor: 1.0000  
Method: MSVOA\_S\_CHHP3 Limit Group: VOA 8260C ICAL  
Column: DB-624 (0.18 mm) Detector: MS SCAN

**22 1,1,2-Trichloro-1,2,2-trifluoroethane, CAS: 76-13-1**

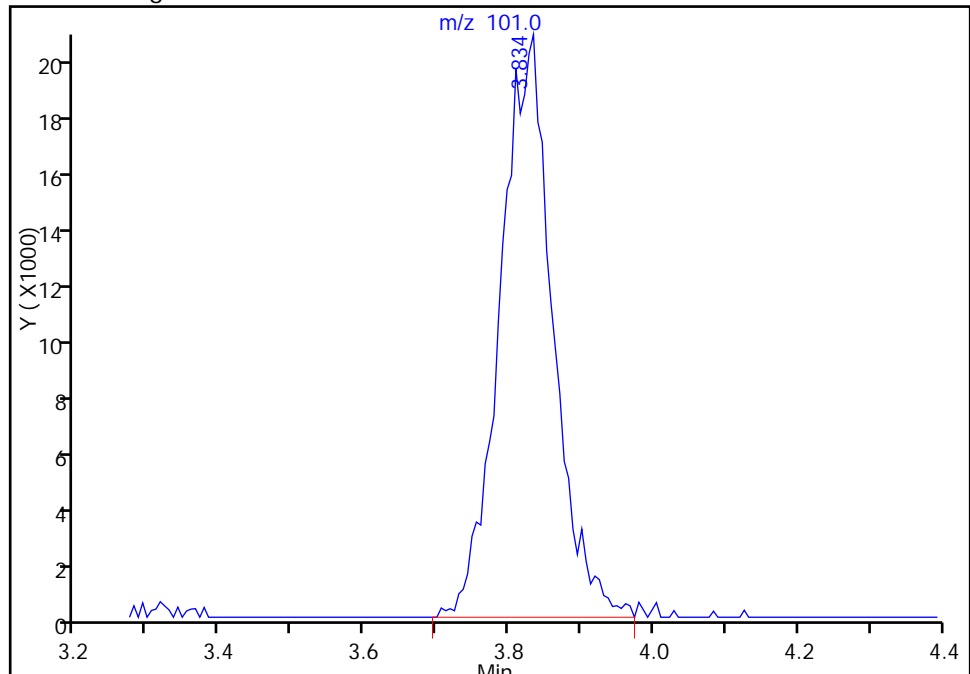
RT: 3.83  
Area: 96425  
Amount: 104.3524  
Amount Units: ng

## Processing Integration Results



RT: 3.83  
Area: 102444  
Amount: 126.2737  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 31-Mar-2015 11:38:50  
Audit Action: Manually Integrated  
Audit Reason: Poor chromatography

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033109.D  
 Lims ID: ICIS VSTD40  
 Client ID:  
 Sample Type: ICIS Calib Level: 4  
 Inject. Date: 31-Mar-2015 11:40:30 ALS Bottle#: 9 Worklist Smp#: 8  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: ICIS VSTD40  
 Misc. Info.: 180-0006243-008180-0006243-008  
 Operator ID: 10099 Instrument ID: CHHP3  
 Sublist: chrom-MSVOA\_S\_CHHP3\*sub4  
 Method: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\MSVOA\_S\_CHHP3.m  
 Limit Group: VOA 8260C ICAL  
 Last Update: 01-Apr-2015 04:54:13 Calib Date: 31-Mar-2015 14:29:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last Ical File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D  
 Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
 Process Host: XAWRK006

First Level Reviewer: gordonk

Date: 01-Apr-2015 03:50:09

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|---------------|-----------------|-------|
| * 1 TBA-d9 (IS)                 | 65  | 4.740        | 4.740            | 0.000            | 98  | 177398   | 5000.0        | 5000.0          |       |
| * 2 Fluorobenzene (IS)          | 96  | 7.618        | 7.618            | 0.000            | 98  | 705900   | 250.0         | 250.0           |       |
| * 3 Chlorobenzene-d5            | 119 | 10.696       | 10.696           | 0.000            | 90  | 161046   | 250.0         | 250.0           |       |
| * 4 1,4-Dichlorobenzene-d4      | 152 | 13.026       | 13.026           | 0.000            | 94  | 244527   | 250.0         | 250.0           |       |
| \$ 5 Dibromofluoromethane (Surr | 113 | 6.876        | 6.876            | 0.000            | 94  | 120469   | 200.0         | 200.2           |       |
| \$ 6 1,2-Dichloroethane-d4 (Sur | 65  | 7.247        | 7.247            | 0.000            | 92  | 138199   | 200.0         | 198.7           |       |
| \$ 7 Toluene-d8 (Surr)          | 98  | 9.260        | 9.260            | 0.000            | 93  | 544625   | 200.0         | 201.9           |       |
| \$ 8 4-Bromofluorobenzene (Surr | 95  | 11.858       | 11.858           | 0.000            | 87  | 213341   | 200.0         | 199.5           |       |
| 10 Dichlorodifluoromethane      | 85  | 1.766        | 1.766            | 0.000            | 99  | 142211   | 200.0         | 194.0           |       |
| 11 Chloromethane                | 50  | 1.954        | 1.954            | 0.000            | 99  | 258887   | 200.0         | 193.6           |       |
| 12 Vinyl chloride               | 62  | 2.112        | 2.112            | 0.000            | 98  | 218784   | 200.0         | 196.0           |       |
| 13 Butadiene                    | 39  | 2.143        | 2.143            | 0.000            | 89  | 224014   | 200.0         | 191.9           |       |
| 14 Bromomethane                 | 94  | 2.483        | 2.483            | 0.000            | 90  | 59835    | 200.0         | 198.6           |       |
| 15 Chloroethane                 | 64  | 2.611        | 2.611            | 0.000            | 99  | 70493    | 200.0         | 181.6           |       |
| 16 Dichlorofluoromethane        | 67  | 2.915        | 2.915            | 0.000            | 98  | 218774   | 200.0         | 190.4           |       |
| 17 Trichlorofluoromethane       | 101 | 2.952        | 2.952            | 0.000            | 88  | 183258   | 200.0         | 195.5           |       |
| 19 Ethyl ether                  | 59  | 3.439        | 3.439            | 0.000            | 96  | 136878   | 200.0         | 202.8           |       |
| 20 Acrolein                     | 56  | 3.609        | 3.609            | 0.000            | 99  | 51674    | 875.0         | 868.5           |       |
| 21 1,1-Dichloroethene           | 96  | 3.737        | 3.737            | 0.000            | 95  | 155905   | 200.0         | 189.6           |       |
| 22 1,1,2-Trichloro-1,2,2-trif   | 101 | 3.822        | 3.822            | 0.000            | 91  | 155390   | 200.0         | 193.1           |       |
| 23 Acetone                      | 43  | 3.889        | 3.889            | 0.000            | 100 | 39071    | 200.0         | 180.9           |       |
| 24 Iodomethane                  | 142 | 3.956        | 3.956            | 0.000            | 96  | 215282   | 200.0         | 194.1           |       |
| 25 Carbon disulfide             | 76  | 4.059        | 4.059            | 0.000            | 100 | 500265   | 200.0         | 200.5           |       |
| 28 3-Chloro-1-propene           | 76  | 4.357        | 4.357            | 0.000            | 94  | 94490    | 200.0         | 192.6           |       |
| 29 Methyl acetate               | 43  | 4.436        | 4.436            | 0.000            | 99  | 429848   | 1000.0        | 983.9           |       |
| 30 Methylene Chloride           | 84  | 4.546        | 4.546            | 0.000            | 96  | 162093   | 200.0         | 175.7           |       |
| 31 2-Methyl-2-propanol          | 59  | 4.856        | 4.856            | 0.000            | 98  | 92661    | 2000.0        | 1753.1          |       |
| 32 Acrylonitrile                | 53  | 4.935        | 4.935            | 0.000            | 97  | 427685   | 2000.0        | 1969.4          |       |
| 33 trans-1,2-Dichloroethene     | 96  | 4.959        | 4.959            | 0.000            | 94  | 163125   | 200.0         | 196.7           |       |
| 34 Methyl tert-butyl ether      | 73  | 5.014        | 5.014            | 0.000            | 98  | 324434   | 200.0         | 200.7           |       |

| Compound                       | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q   | Response | Cal Amt ng | OnCol Amt ng | Flags |
|--------------------------------|-----|-----------|---------------|---------------|-----|----------|------------|--------------|-------|
| 35 Hexane                      | 57  | 5.391     | 5.391         | 0.000         | 91  | 350780   | 200.0      | 190.5        |       |
| 36 1,1-Dichloroethane          | 63  | 5.556     | 5.556         | 0.000         | 96  | 323914   | 200.0      | 199.4        |       |
| 37 Vinyl acetate               | 43  | 5.671     | 5.671         | 0.000         | 97  | 144672   | 200.0      | 212.0        |       |
| 41 2,2-Dichloropropane         | 77  | 6.298     | 6.298         | 0.000         | 86  | 139530   | 200.0      | 204.8        |       |
| 42 cis-1,2-Dichloroethene      | 96  | 6.298     | 6.298         | 0.000         | 86  | 176067   | 200.0      | 196.8        |       |
| 43 2-Butanone (MEK)            | 43  | 6.340     | 6.340         | 0.000         | 100 | 50272    | 200.0      | 195.3        |       |
| 47 Chlorobromomethane          | 128 | 6.578     | 6.578         | 0.000         | 90  | 61958    | 200.0      | 191.3        |       |
| 48 Tetrahydrofuran             | 42  | 6.645     | 6.645         | 0.000         | 92  | 66112    | 400.0      | 395.1        |       |
| 49 Chloroform                  | 83  | 6.693     | 6.693         | 0.000         | 96  | 254137   | 200.0      | 194.9        |       |
| 50 1,1,1-Trichloroethane       | 97  | 6.894     | 6.894         | 0.000         | 98  | 214794   | 200.0      | 203.9        |       |
| 51 Cyclohexane                 | 56  | 6.967     | 6.967         | 0.000         | 92  | 411384   | 200.0      | 197.4        |       |
| 52 1,1-Dichloropropene         | 75  | 7.083     | 7.083         | 0.000         | 92  | 203192   | 200.0      | 198.3        |       |
| 53 Carbon tetrachloride        | 117 | 7.089     | 7.089         | 0.000         | 95  | 174092   | 200.0      | 200.6        |       |
| 54 Isobutyl alcohol            | 41  | 7.265     | 7.265         | 0.000         | 95  | 74551    | 5000.0     | 4551.1       |       |
| 55 Benzene                     | 78  | 7.314     | 7.314         | 0.000         | 98  | 634502   | 200.0      | 202.2        |       |
| 56 1,2-Dichloroethane          | 62  | 7.326     | 7.326         | 0.000         | 96  | 173321   | 200.0      | 195.6        |       |
| 59 n-Heptane                   | 43  | 7.636     | 7.636         | 0.000         | 94  | 350553   | 200.0      | 210.3        |       |
| 60 Trichloroethene             | 130 | 8.013     | 8.013         | 0.000         | 97  | 157469   | 200.0      | 199.4        |       |
| 63 Methylcyclohexane           | 83  | 8.226     | 8.226         | 0.000         | 96  | 325023   | 200.0      | 199.7        |       |
| 64 1,2-Dichloropropane         | 63  | 8.238     | 8.238         | 0.000         | 97  | 169561   | 200.0      | 203.7        |       |
| 65 Dibromomethane              | 93  | 8.354     | 8.354         | 0.000         | 95  | 62268    | 200.0      | 195.3        |       |
| 67 1,4-Dioxane                 | 88  | 8.384     | 8.384         | 0.000         | 96  | 19607    | 4000.0     | 3754.0       |       |
| 68 Dichlorobromomethane        | 83  | 8.524     | 8.524         | 0.000         | 98  | 170556   | 200.0      | 197.8        |       |
| 71 cis-1,3-Dichloropropene     | 75  | 8.981     | 8.981         | 0.000         | 93  | 218417   | 200.0      | 203.7        |       |
| 72 4-Methyl-2-pentanone (MIBK) | 43  | 9.133     | 9.133         | 0.000         | 96  | 113280   | 200.0      | 190.4        |       |
| 73 Toluene                     | 91  | 9.327     | 9.327         | 0.000         | 98  | 651151   | 200.0      | 201.1        |       |
| 74 trans-1,3-Dichloropropene   | 75  | 9.528     | 9.528         | 0.000         | 95  | 161215   | 200.0      | 199.0        |       |
| 75 Ethyl methacrylate          | 69  | 9.625     | 9.625         | 0.000         | 92  | 138189   | 200.0      | 199.6        |       |
| 76 1,1,2-Trichloroethane       | 97  | 9.717     | 9.717         | 0.000         | 92  | 97533    | 200.0      | 194.8        |       |
| 78 1,3-Dichloropropane         | 76  | 9.881     | 9.881         | 0.000         | 96  | 181276   | 200.0      | 199.9        |       |
| 77 Tetrachloroethene           | 164 | 9.881     | 9.881         | 0.000         | 95  | 118466   | 200.0      | 194.4        |       |
| 79 2-Hexanone                  | 43  | 9.960     | 9.960         | 0.000         | 97  | 68812    | 200.0      | 181.3        |       |
| 81 Chlorodibromomethane        | 129 | 10.112    | 10.112        | 0.000         | 91  | 100647   | 200.0      | 194.8        |       |
| 82 Ethylene Dibromide          | 107 | 10.228    | 10.228        | 0.000         | 98  | 91871    | 200.0      | 191.4        |       |
| 83 Chlorobenzene               | 112 | 10.720    | 10.720        | 0.000         | 93  | 406870   | 200.0      | 195.8        |       |
| 85 1,1,1,2-Tetrachloroethane   | 131 | 10.800    | 10.800        | 0.000         | 96  | 123135   | 200.0      | 194.3        |       |
| 86 Ethylbenzene                | 106 | 10.836    | 10.836        | 0.000         | 98  | 241257   | 200.0      | 197.8        |       |
| 87 m-Xylene & p-Xylene         | 106 | 10.946    | 10.946        | 0.000         | 100 | 301690   | 200.0      | 197.7        |       |
| 88 o-Xylene                    | 106 | 11.341    | 11.341        | 0.000         | 96  | 293535   | 200.0      | 198.8        |       |
| 89 Styrene                     | 104 | 11.353    | 11.353        | 0.000         | 94  | 476921   | 200.0      | 196.1        |       |
| 90 Bromoform                   | 173 | 11.536    | 11.536        | 0.000         | 97  | 56127    | 200.0      | 183.3        |       |
| 91 Isopropylbenzene            | 105 | 11.712    | 11.712        | 0.000         | 95  | 778960   | 200.0      | 200.7        |       |
| 93 1,1,2,2-Tetrachloroethane   | 83  | 11.992    | 11.992        | 0.000         | 94  | 110002   | 200.0      | 184.5        |       |
| 94 Bromobenzene                | 156 | 12.016    | 12.016        | 0.000         | 97  | 158694   | 200.0      | 190.4        |       |
| 95 1,2,3-Trichloropropane      | 110 | 12.035    | 12.035        | 0.000         | 85  | 33671    | 200.0      | 206.9        |       |
| 96 trans-1,4-Dichloro-2-buten  | 53  | 12.041    | 12.041        | 0.000         | 73  | 37846    | 200.0      | 187.4        |       |
| 97 N-Propylbenzene             | 120 | 12.120    | 12.120        | 0.000         | 99  | 217747   | 200.0      | 198.4        |       |
| 98 2-Chlorotoluene             | 126 | 12.211    | 12.211        | 0.000         | 96  | 169058   | 200.0      | 192.6        |       |
| 99 1,3,5-Trimethylbenzene      | 105 | 12.290    | 12.290        | 0.000         | 94  | 633275   | 200.0      | 197.9        |       |
| 100 4-Chlorotoluene            | 126 | 12.320    | 12.320        | 0.000         | 98  | 170685   | 200.0      | 188.4        |       |
| 101 tert-Butylbenzene          | 119 | 12.625    | 12.625        | 0.000         | 92  | 549471   | 200.0      | 193.7        |       |
| 103 1,2,4-Trimethylbenzene     | 105 | 12.673    | 12.673        | 0.000         | 94  | 642945   | 200.0      | 195.3        |       |

| Compound                         | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q  | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|----------------------------------|-----|--------------|------------------|------------------|----|----------|---------------|-----------------|-------|
| 104 sec-Butylbenzene             | 105 | 12.850       | 12.850           | 0.000            | 94 | 834441   | 200.0         | 198.8           |       |
| 105 1,3-Dichlorobenzene          | 146 | 12.959       | 12.959           | 0.000            | 97 | 298461   | 200.0         | 189.0           |       |
| 106 4-Isopropyltoluene           | 119 | 12.990       | 12.990           | 0.000            | 97 | 677414   | 200.0         | 197.1           |       |
| 107 1,4-Dichlorobenzene          | 146 | 13.050       | 13.050           | 0.000            | 93 | 289115   | 200.0         | 189.0           |       |
| 110 n-Butylbenzene               | 91  | 13.397       | 13.397           | 0.000            | 98 | 669300   | 200.0         | 201.8           |       |
| 111 1,2-Dichlorobenzene          | 146 | 13.422       | 13.422           | 0.000            | 95 | 259430   | 200.0         | 184.2           |       |
| 112 1,2-Dibromo-3-Chloropropan   | 75  | 14.200       | 14.200           | 0.000            | 79 | 16040    | 200.0         | 181.0           |       |
| 114 1,2,4-Trichlorobenzene       | 180 | 15.046       | 15.046           | 0.000            | 95 | 190192   | 200.0         | 185.1           |       |
| 115 Hexachlorobutadiene          | 225 | 15.228       | 15.228           | 0.000            | 92 | 135748   | 200.0         | 193.4           |       |
| 116 Naphthalene                  | 128 | 15.307       | 15.307           | 0.000            | 97 | 302266   | 200.0         | 197.7           |       |
| 117 1,2,3-Trichlorobenzene       | 180 | 15.575       | 15.575           | 0.000            | 94 | 146665   | 200.0         | 178.1           |       |
| S 130 1,2-Dichloroethene, Total  | 96  |              |                  |                  | 0  |          | 400.0         | 393.5           |       |
| S 129 Xylenes, Total             | 106 |              |                  |                  | 0  |          | 400.0         | 396.5           |       |
| S 131 1,3-Dichloropropene, Total | 1   |              |                  |                  | 0  |          | 400.0         | 402.7           |       |

**Reagents:**

|                     |                     |           |             |
|---------------------|---------------------|-----------|-------------|
| VOA8260SURR_00032   | Amount Added: 8.00  | Units: uL |             |
| VOA8260VOAPRI_00108 | Amount Added: 8.00  | Units: uL |             |
| VOAVAPRI_00005      | Amount Added: 8.00  | Units: uL |             |
| VOAACRPRI_00005     | Amount Added: 35.00 | Units: uL |             |
| VOA8260INT_00030    | Amount Added: 10.00 | Units: uL | Run Reagent |

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033109.D

Injection Date: 31-Mar-2015 11:40:30

Instrument ID: CHHP3

Operator ID: 10099

Lims ID: ICIS VSTD40

Worklist Smp#: 8

Client ID:

Purge Vol: 5.000 mL

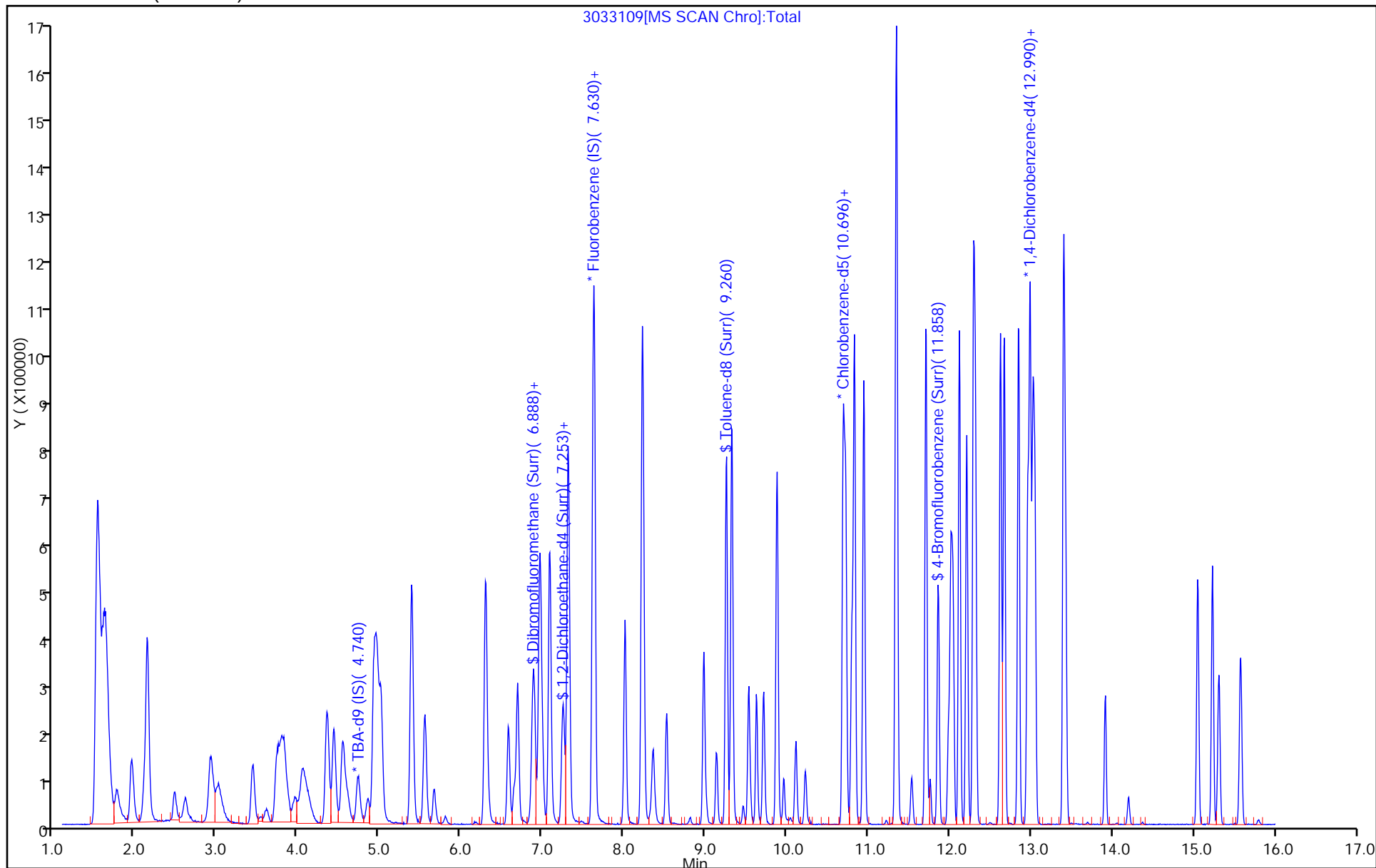
Dil. Factor: 1.0000

ALS Bottle#: 9

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)





TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033110.D  
 Lims ID: IC VSTD50  
 Client ID:  
 Sample Type: IC Calib Level: 5  
 Inject. Date: 31-Mar-2015 12:02:30 ALS Bottle#: 10 Worklist Smp#: 9  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: IC VSTD50  
 Misc. Info.: 180-0006243-009180-0006243-009  
 Operator ID: 10099 Instrument ID: CHHP3  
 Sublist: chrom-MSVOA\_S\_CHHP3\*sub4  
 Method: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\MSVOA\_S\_CHHP3.m  
 Limit Group: VOA 8260C ICAL  
 Last Update: 01-Apr-2015 04:54:14 Calib Date: 31-Mar-2015 14:29:30  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last Ical File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D  
 Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
 Process Host: XAWRK006

First Level Reviewer: gordonk

Date: 01-Apr-2015 03:53:39

| Compound                        | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q  | Response | Cal Amt ng | OnCol Amt ng | Flags |
|---------------------------------|-----|-----------|---------------|---------------|----|----------|------------|--------------|-------|
| * 1 TBA-d9 (IS)                 | 65  | 4.731     | 4.740         | -0.009        | 98 | 172397   | 5000.0     | 5000.0       |       |
| * 2 Fluorobenzene (IS)          | 96  | 7.620     | 7.618         | 0.002         | 95 | 699397   | 250.0      | 250.0        |       |
| * 3 Chlorobenzene-d5            | 119 | 10.692    | 10.696        | -0.004        | 87 | 156031   | 250.0      | 250.0        |       |
| * 4 1,4-Dichlorobenzene-d4      | 152 | 13.022    | 13.026        | -0.004        | 96 | 245206   | 250.0      | 250.0        |       |
| \$ 5 Dibromofluoromethane (Surr | 113 | 6.872     | 6.876         | -0.004        | 56 | 154337   | 250.0      | 258.8        |       |
| \$ 6 1,2-Dichloroethane-d4 (Sur | 65  | 7.243     | 7.247         | -0.004        | 92 | 168523   | 250.0      | 244.6        |       |
| \$ 7 Toluene-d8 (Surr)          | 98  | 9.257     | 9.260         | -0.003        | 83 | 684565   | 250.0      | 262.0        |       |
| \$ 8 4-Bromofluorobenzene (Surr | 95  | 11.861    | 11.858        | 0.002         | 85 | 263035   | 250.0      | 253.9        |       |
| 10 Dichlorodifluoromethane      | 85  | 1.786     | 1.766         | 0.020         | 61 | 189105   | 250.0      | 260.3        |       |
| 11 Chloromethane                | 50  | 1.963     | 1.954         | 0.009         | 97 | 346190   | 250.0      | 261.4        |       |
| 12 Vinyl chloride               | 62  | 2.127     | 2.112         | 0.015         | 98 | 290317   | 250.0      | 262.4        |       |
| 13 Butadiene                    | 39  | 2.151     | 2.143         | 0.008         | 89 | 305649   | 250.0      | 264.3        |       |
| 14 Bromomethane                 | 94  | 2.486     | 2.483         | 0.003         | 84 | 74564    | 250.0      | 249.8        |       |
| 15 Chloroethane                 | 64  | 2.614     | 2.611         | 0.003         | 97 | 91678    | 250.0      | 238.4        |       |
| 16 Dichlorofluoromethane        | 67  | 2.924     | 2.915         | 0.009         | 92 | 299240   | 250.0      | 262.8        |       |
| 17 Trichlorofluoromethane       | 101 | 2.948     | 2.952         | -0.004        | 15 | 251077   | 250.0      | 270.3        | M     |
| 19 Ethyl ether                  | 59  | 3.441     | 3.439         | 0.002         | 94 | 171011   | 250.0      | 255.7        |       |
| 20 Acrolein                     | 56  | 3.605     | 3.609         | -0.004        | 94 | 58490    | 1000.0     | 992.3        | M     |
| 21 1,1-Dichloroethene           | 96  | 3.769     | 3.737         | 0.032         | 96 | 211133   | 250.0      | 259.1        |       |
| 22 1,1,2-Trichloro-1,2,2-trif   | 101 | 3.830     | 3.822         | 0.008         | 93 | 210849   | 250.0      | 264.5        |       |
| 23 Acetone                      | 43  | 3.885     | 3.889         | -0.004        | 90 | 49303    | 250.0      | 230.4        |       |
| 24 Iodomethane                  | 142 | 4.019     | 3.956         | 0.063         | 97 | 285575   | 250.0      | 259.8        |       |
| 25 Carbon disulfide             | 76  | 4.074     | 4.059         | 0.015         | 99 | 649756   | 250.0      | 262.8        |       |
| 28 3-Chloro-1-propene           | 76  | 4.354     | 4.357         | -0.003        | 88 | 123256   | 250.0      | 253.5        |       |
| 29 Methyl acetate               | 43  | 4.439     | 4.436         | 0.003         | 98 | 549035   | 1250.0     | 1268.4       |       |
| 30 Methylene Chloride           | 84  | 4.560     | 4.546         | 0.014         | 93 | 215151   | 250.0      | 235.4        |       |
| 31 2-Methyl-2-propanol          | 59  | 4.852     | 4.856         | -0.004        | 90 | 116489   | 2500.0     | 2267.9       |       |
| 32 Acrylonitrile                | 53  | 4.931     | 4.935         | -0.004        | 97 | 559683   | 2500.0     | 2601.2       |       |
| 33 trans-1,2-Dichloroethene     | 96  | 4.968     | 4.959         | 0.009         | 96 | 216553   | 250.0      | 263.6        |       |
| 34 Methyl tert-butyl ether      | 73  | 5.017     | 5.014         | 0.003         | 92 | 414613   | 250.0      | 258.8        |       |

| Compound                       | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q   | Response | Cal Amt ng | OnCol Amt ng | Flags |
|--------------------------------|-----|-----------|---------------|---------------|-----|----------|------------|--------------|-------|
| 35 Hexane                      | 57  | 5.394     | 5.391         | 0.003         | 91  | 438933   | 250.0      | 240.6        |       |
| 36 1,1-Dichloroethane          | 63  | 5.552     | 5.556         | -0.004        | 96  | 422134   | 250.0      | 262.2        |       |
| 37 Vinyl acetate               | 43  | 5.668     | 5.671         | -0.003        | 97  | 174318   | 250.0      | 257.8        |       |
| 41 2,2-Dichloropropane         | 77  | 6.300     | 6.298         | 0.002         | 53  | 176600   | 250.0      | 261.6        |       |
| 42 cis-1,2-Dichloroethene      | 96  | 6.300     | 6.298         | 0.002         | 87  | 227166   | 250.0      | 256.2        |       |
| 43 2-Butanone (MEK)            | 43  | 6.343     | 6.340         | 0.003         | 100 | 61217    | 250.0      | 240.0        |       |
| 47 Chlorobromomethane          | 128 | 6.580     | 6.578         | 0.002         | 87  | 82492    | 250.0      | 257.1        |       |
| 48 Tetrahydrofuran             | 42  | 6.653     | 6.645         | 0.008         | 91  | 82682    | 500.0      | 498.7        |       |
| 49 Chloroform                  | 83  | 6.696     | 6.693         | 0.003         | 80  | 329700   | 250.0      | 255.2        |       |
| 50 1,1,1-Trichloroethane       | 97  | 6.902     | 6.894         | 0.008         | 91  | 270809   | 250.0      | 259.5        |       |
| 51 Cyclohexane                 | 56  | 6.969     | 6.967         | 0.002         | 92  | 535263   | 250.0      | 259.2        |       |
| 52 1,1-Dichloropropene         | 75  | 7.085     | 7.083         | 0.002         | 92  | 255790   | 250.0      | 252.0        |       |
| 53 Carbon tetrachloride        | 117 | 7.091     | 7.089         | 0.002         | 77  | 226311   | 250.0      | 263.1        |       |
| 54 Isobutyl alcohol            | 41  | 7.261     | 7.265         | -0.004        | 91  | 102231   | 6250.0     | 6299.0       |       |
| 55 Benzene                     | 78  | 7.310     | 7.314         | -0.004        | 97  | 797311   | 250.0      | 256.4        |       |
| 56 1,2-Dichloroethane          | 62  | 7.322     | 7.326         | -0.004        | 58  | 219969   | 250.0      | 250.6        |       |
| 59 n-Heptane                   | 43  | 7.639     | 7.636         | 0.003         | 95  | 434410   | 250.0      | 263.0        |       |
| 60 Trichloroethene             | 130 | 8.016     | 8.013         | 0.003         | 95  | 197570   | 250.0      | 252.5        |       |
| 63 Methylcyclohexane           | 83  | 8.223     | 8.226         | -0.003        | 96  | 422919   | 250.0      | 262.3        |       |
| 64 1,2-Dichloropropane         | 63  | 8.241     | 8.238         | 0.003         | 84  | 209347   | 250.0      | 253.9        |       |
| 65 Dibromomethane              | 93  | 8.356     | 8.354         | 0.002         | 95  | 79205    | 250.0      | 250.7        |       |
| 67 1,4-Dioxane                 | 88  | 8.381     | 8.384         | -0.003        | 79  | 24858    | 5000.0     | 4803.7       |       |
| 68 Dichlorobromomethane        | 83  | 8.527     | 8.524         | 0.003         | 95  | 218842   | 250.0      | 256.1        |       |
| 71 cis-1,3-Dichloropropene     | 75  | 8.977     | 8.981         | -0.004        | 86  | 277692   | 250.0      | 261.4        |       |
| 72 4-Methyl-2-pentanone (MIBK) | 43  | 9.135     | 9.133         | 0.002         | 96  | 144714   | 250.0      | 251.0        |       |
| 73 Toluene                     | 91  | 9.324     | 9.327         | -0.003        | 91  | 817018   | 250.0      | 260.4        |       |
| 74 trans-1,3-Dichloropropene   | 75  | 9.531     | 9.528         | 0.003         | 84  | 210969   | 250.0      | 268.8        |       |
| 75 Ethyl methacrylate          | 69  | 9.628     | 9.625         | 0.003         | 92  | 174934   | 250.0      | 260.8        |       |
| 76 1,1,2-Trichloroethane       | 97  | 9.713     | 9.717         | -0.004        | 89  | 122290   | 250.0      | 252.1        |       |
| 78 1,3-Dichloropropane         | 76  | 9.883     | 9.881         | 0.002         | 88  | 224507   | 250.0      | 255.5        |       |
| 77 Tetrachloroethene           | 164 | 9.877     | 9.881         | -0.004        | 95  | 153300   | 250.0      | 259.7        |       |
| 79 2-Hexanone                  | 43  | 9.962     | 9.960         | 0.002         | 94  | 90850    | 250.0      | 247.0        |       |
| 81 Chlorodibromomethane        | 129 | 10.108    | 10.112        | -0.004        | 89  | 125832   | 250.0      | 251.4        |       |
| 82 Ethylene Dibromide          | 107 | 10.230    | 10.228        | 0.002         | 97  | 120851   | 250.0      | 259.8        |       |
| 83 Chlorobenzene               | 112 | 10.723    | 10.720        | 0.003         | 89  | 520200   | 250.0      | 258.4        |       |
| 85 1,1,1,2-Tetrachloroethane   | 131 | 10.802    | 10.800        | 0.002         | 93  | 159914   | 250.0      | 260.5        |       |
| 86 Ethylbenzene                | 106 | 10.832    | 10.836        | -0.004        | 98  | 306118   | 250.0      | 259.0        |       |
| 87 m-Xylene & p-Xylene         | 106 | 10.948    | 10.946        | 0.002         | 99  | 384277   | 250.0      | 259.9        |       |
| 88 o-Xylene                    | 106 | 11.337    | 11.341        | -0.004        | 90  | 375946   | 250.0      | 262.8        |       |
| 89 Styrene                     | 104 | 11.349    | 11.353        | -0.004        | 87  | 612946   | 250.0      | 260.2        |       |
| 90 Bromoform                   | 173 | 11.532    | 11.536        | -0.004        | 95  | 72747    | 250.0      | 245.2        |       |
| 91 Isopropylbenzene            | 105 | 11.708    | 11.712        | -0.004        | 96  | 982391   | 250.0      | 261.3        |       |
| 93 1,1,2,2-Tetrachloroethane   | 83  | 11.982    | 11.992        | -0.010        | 94  | 141326   | 250.0      | 244.6        |       |
| 94 Bromobenzene                | 156 | 12.019    | 12.016        | 0.003         | 95  | 205213   | 250.0      | 245.5        |       |
| 95 1,2,3-Trichloropropane      | 110 | 12.037    | 12.035        | 0.003         | 78  | 44173    | 250.0      | 277.4        |       |
| 96 trans-1,4-Dichloro-2-buten  | 53  | 12.043    | 12.041        | 0.002         | 67  | 50892    | 250.0      | 251.3        |       |
| 97 N-Propylbenzene             | 120 | 12.122    | 12.120        | 0.002         | 75  | 279681   | 250.0      | 254.1        |       |
| 98 2-Chlorotoluene             | 126 | 12.213    | 12.211        | 0.002         | 95  | 215385   | 250.0      | 244.7        |       |
| 99 1,3,5-Trimethylbenzene      | 105 | 12.292    | 12.290        | 0.002         | 89  | 824936   | 250.0      | 257.0        |       |
| 100 4-Chlorotoluene            | 126 | 12.317    | 12.320        | -0.003        | 98  | 223206   | 250.0      | 245.7        |       |
| 101 tert-Butylbenzene          | 119 | 12.627    | 12.625        | 0.002         | 91  | 736060   | 250.0      | 258.8        |       |
| 103 1,2,4-Trimethylbenzene     | 105 | 12.670    | 12.673        | -0.003        | 92  | 835231   | 250.0      | 253.0        |       |

| Compound                         | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q  | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|----------------------------------|-----|--------------|------------------|------------------|----|----------|---------------|-----------------|-------|
| 104 sec-Butylbenzene             | 105 | 12.846       | 12.850           | -0.004           | 94 | 1103179  | 250.0         | 262.0           |       |
| 105 1,3-Dichlorobenzene          | 146 | 12.962       | 12.959           | 0.003            | 83 | 397518   | 250.0         | 251.0           |       |
| 106 4-Isopropyltoluene           | 119 | 12.992       | 12.990           | 0.002            | 94 | 891634   | 250.0         | 258.7           |       |
| 107 1,4-Dichlorobenzene          | 146 | 13.047       | 13.050           | -0.003           | 90 | 380970   | 250.0         | 248.4           |       |
| 110 n-Butylbenzene               | 91  | 13.400       | 13.397           | 0.003            | 94 | 888807   | 250.0         | 267.2           |       |
| 111 1,2-Dichlorobenzene          | 146 | 13.424       | 13.422           | 0.002            | 93 | 345478   | 250.0         | 244.6           |       |
| 112 1,2-Dibromo-3-Chloropropan   | 75  | 14.197       | 14.200           | -0.003           | 69 | 20603    | 250.0         | 231.8           |       |
| 114 1,2,4-Trichlorobenzene       | 180 | 15.048       | 15.046           | 0.002            | 94 | 262686   | 250.0         | 255.0           |       |
| 115 Hexachlorobutadiene          | 225 | 15.225       | 15.228           | -0.003           | 91 | 181335   | 250.0         | 257.7           |       |
| 116 Naphthalene                  | 128 | 15.304       | 15.307           | -0.003           | 97 | 403766   | 250.0         | 269.7           |       |
| 117 1,2,3-Trichlorobenzene       | 180 | 15.578       | 15.575           | 0.003            | 96 | 201620   | 250.0         | 244.1           |       |
| S 130 1,2-Dichloroethene, Total  | 96  |              |                  |                  | 0  |          | 500.0         | 519.8           |       |
| S 129 Xylenes, Total             | 106 |              |                  |                  | 0  |          | 500.0         | 522.8           |       |
| S 131 1,3-Dichloropropene, Total | 1   |              |                  |                  | 0  |          | 500.0         | 530.2           |       |

**QC Flag Legend**

Review Flags

M - Manually Integrated

**Reagents:**

|                     |                     |           |             |
|---------------------|---------------------|-----------|-------------|
| VOA8260SURR_00032   | Amount Added: 10.00 | Units: uL |             |
| VOAACRPRI_00005     | Amount Added: 40.00 | Units: uL |             |
| VOA8260VOAPRI_00108 | Amount Added: 10.00 | Units: uL |             |
| VOAVAPRI_00005      | Amount Added: 10.00 | Units: uL |             |
| VOA8260INT_00030    | Amount Added: 10.00 | Units: uL | Run Reagent |

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033110.D

Injection Date: 31-Mar-2015 12:02:30

Instrument ID: CHHP3

Operator ID: 10099

Lims ID: IC VSTD50

Worklist Smp#: 9

Client ID:

Purge Vol: 5.000 mL

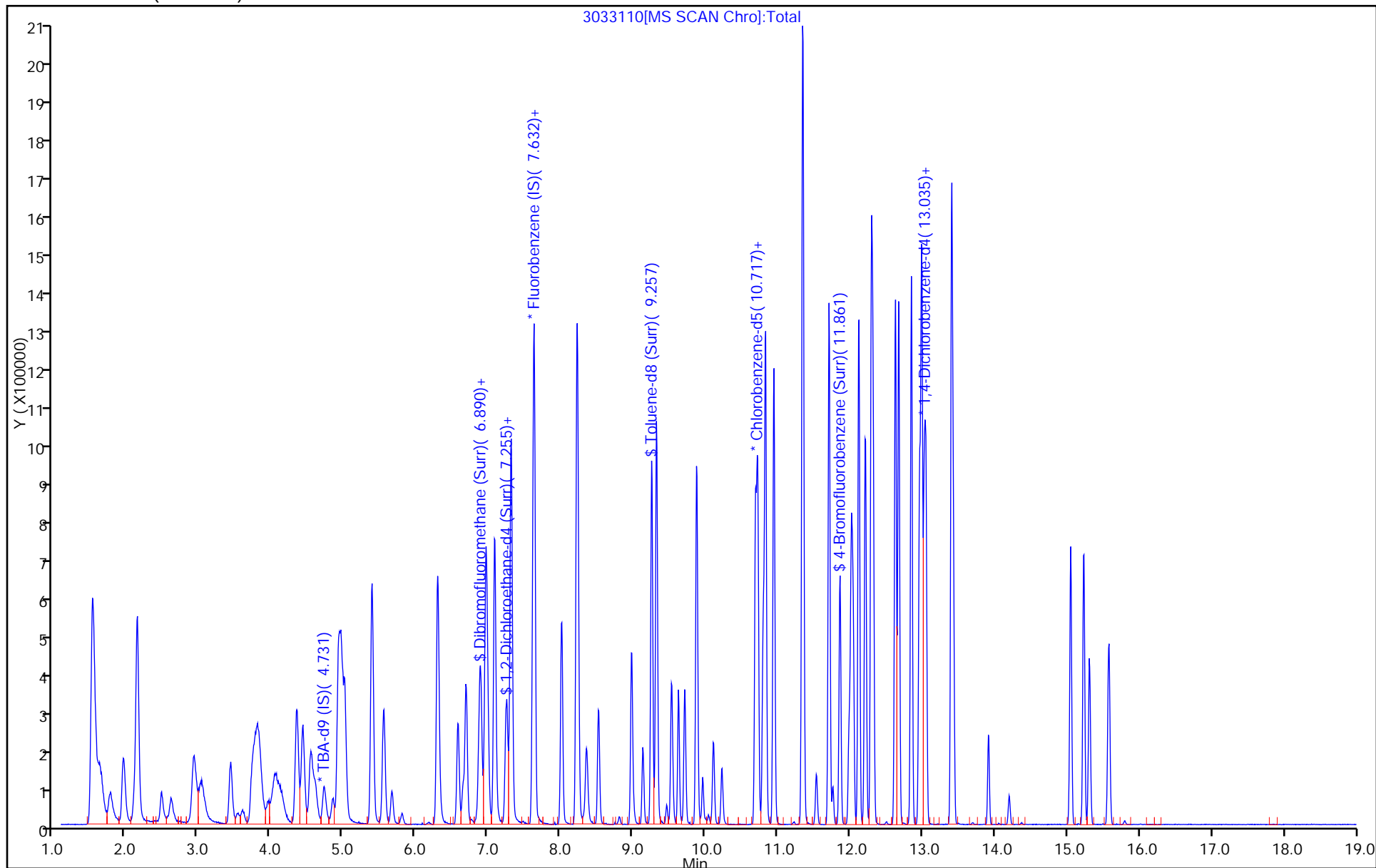
Dil. Factor: 1.0000

ALS Bottle#: 10

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)



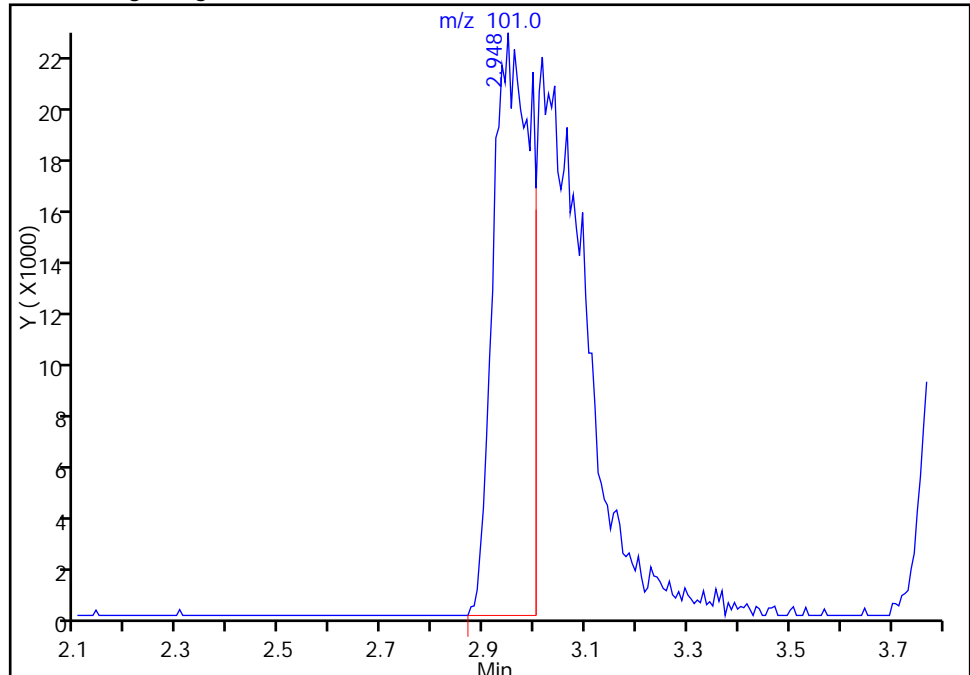
## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033110.D  
Injection Date: 31-Mar-2015 12:02:30 Instrument ID: CHHP3  
Lims ID: IC VSTD50  
Client ID:  
Operator ID: 10099 ALS Bottle#: 10 Worklist Smp#: 9  
Purge Vol: 5.000 mL Dil. Factor: 1.0000  
Method: MSVOA\_S\_CHHP3 Limit Group: VOA 8260C ICAL  
Column: DB-624 (0.18 mm) Detector: MS SCAN

**17 Trichlorofluoromethane, CAS: 75-69-4**

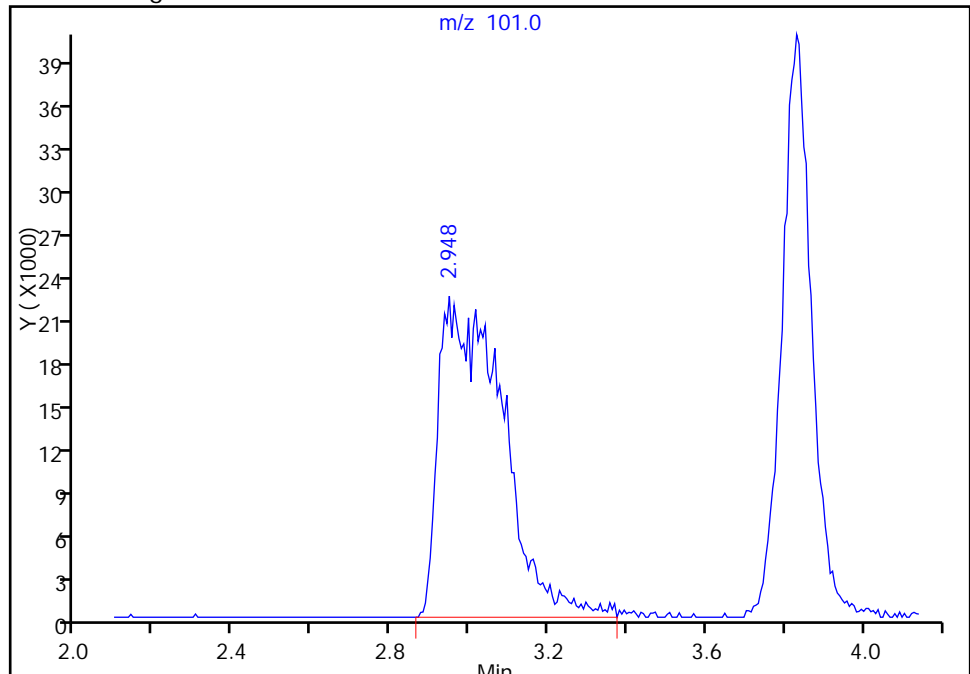
RT: 2.95  
Area: 113708  
Amount: 127.7274  
Amount Units: ng

## Processing Integration Results



RT: 2.95  
Area: 251077  
Amount: 270.3015  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 01-Apr-2015 03:53:39  
Audit Action: Manually Integrated  
Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033110.D

Injection Date: 31-Mar-2015 12:02:30

Instrument ID: CHHP3

Lims ID: IC VSTD50

Client ID:

Operator ID: 10099

ALS Bottle#:

10

Worklist Smp#: 9

Purge Vol: 5.000 mL

Dil. Factor:

1.0000

Method: MSVOA\_S\_CHHP3

Limit Group:

VOA 8260C ICAL

Column: DB-624 (0.18 mm)

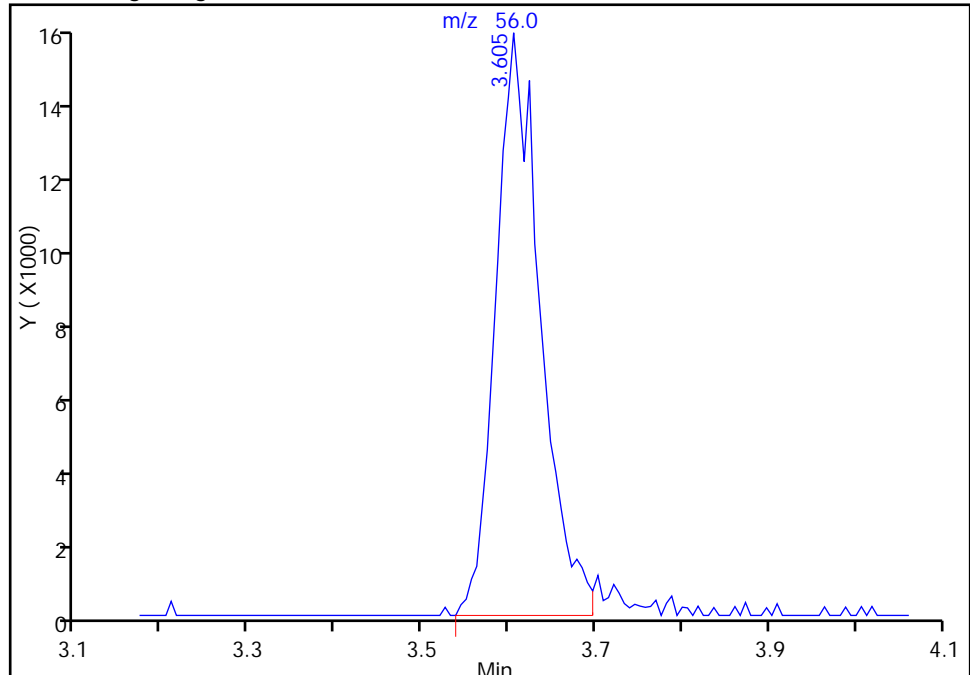
Detector

MS SCAN

## 20 Acrolein, CAS: 107-02-8

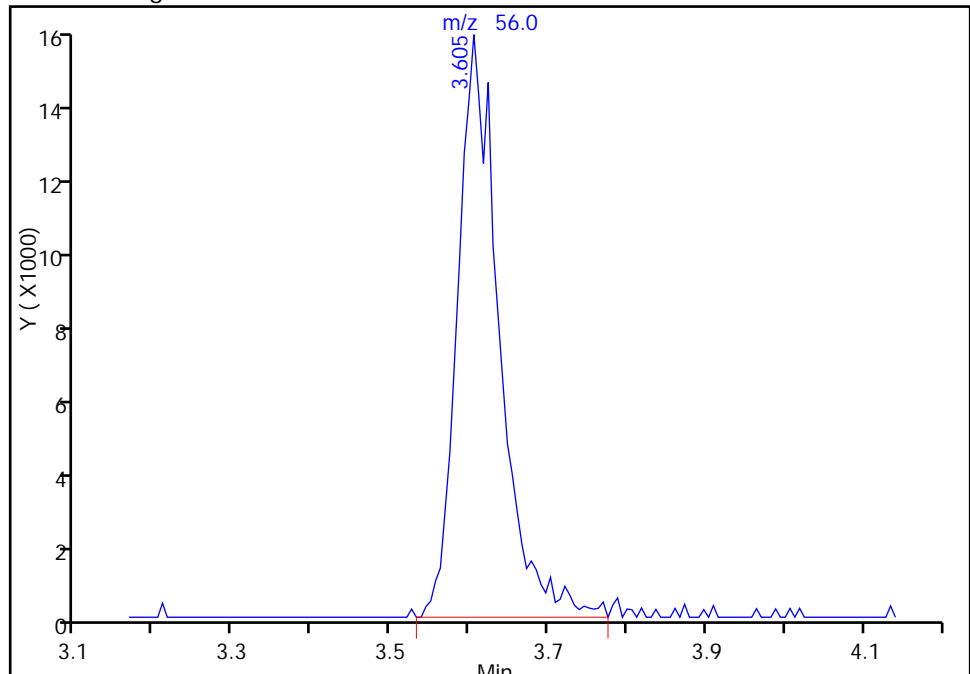
RT: 3.61  
Area: 56526  
Amount: 991.3476  
Amount Units: ng

## Processing Integration Results



RT: 3.61  
Area: 58490  
Amount: 992.2544  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 01-Apr-2015 03:53:39

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033111.D  
 Lims ID: IC VSTD125  
 Client ID:  
 Sample Type: IC Calib Level: 6  
 Inject. Date: 31-Mar-2015 12:29:30 ALS Bottle#: 11 Worklist Smp#: 10  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: IC VSTD125  
 Misc. Info.: 180-0006243-010180-0006243-010  
 Operator ID: 10099 Instrument ID: CHHP3  
 Sublist: chrom-MSVOA\_S\_CHHP3\*sub4  
 Method: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\MSVOA\_S\_CHHP3.m  
 Limit Group: VOA 8260C ICAL  
 Last Update: 01-Apr-2015 04:54:15 Calib Date: 31-Mar-2015 14:29:30  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last Ical File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D  
 Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
 Process Host: XAWRK006

First Level Reviewer: gordonk

Date: 01-Apr-2015 03:55:35

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q  | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|---------------------------------|-----|--------------|------------------|------------------|----|----------|---------------|-----------------|-------|
| * 1 TBA-d9 (IS)                 | 65  | 4.743        | 4.740            | 0.003            | 99 | 156961   | 5000.0        | 5000.0          |       |
| * 2 Fluorobenzene (IS)          | 96  | 7.621        | 7.618            | 0.003            | 92 | 660691   | 250.0         | 250.0           |       |
| * 3 Chlorobenzene-d5            | 119 | 10.693       | 10.696           | -0.003           | 90 | 152592   | 250.0         | 250.0           |       |
| * 4 1,4-Dichlorobenzene-d4      | 152 | 13.023       | 13.026           | -0.003           | 95 | 246329   | 250.0         | 250.0           |       |
| \$ 5 Dibromofluoromethane (Surr | 113 | 6.872        | 6.876            | -0.004           | 55 | 356431   | 625.0         | 632.7           |       |
| \$ 6 1,2-Dichloroethane-d4 (Sur | 65  | 7.244        | 7.247            | -0.003           | 94 | 402254   | 625.0         | 618.0           |       |
| \$ 7 Toluene-d8 (Surr)          | 98  | 9.257        | 9.260            | -0.003           | 84 | 1516560  | 625.0         | 593.4           |       |
| \$ 8 4-Bromofluorobenzene (Surr | 95  | 11.861       | 11.858           | 0.003            | 86 | 628417   | 625.0         | 620.3           |       |
| 10 Dichlorodifluoromethane      | 85  | 1.775        | 1.766            | 0.009            | 75 | 483988   | 625.0         | 705.3           |       |
| 11 Chloromethane                | 50  | 1.963        | 1.954            | 0.009            | 98 | 847803   | 625.0         | 677.5           |       |
| 12 Vinyl chloride               | 62  | 2.133        | 2.112            | 0.021            | 98 | 697213   | 625.0         | 667.2           |       |
| 13 Butadiene                    | 39  | 2.152        | 2.143            | 0.009            | 89 | 723812   | 625.0         | 662.5           |       |
| 14 Bromomethane                 | 94  | 2.486        | 2.483            | 0.003            | 90 | 186498   | 625.0         | 661.4           |       |
| 15 Chloroethane                 | 64  | 2.614        | 2.611            | 0.003            | 90 | 225460   | 625.0         | 620.5           |       |
| 16 Dichlorofluoromethane        | 67  | 2.930        | 2.915            | 0.015            | 97 | 716482   | 625.0         | 666.1           |       |
| 17 Trichlorofluoromethane       | 101 | 3.022        | 2.952            | 0.070            | 97 | 595978   | 625.0         | 679.2           |       |
| 19 Ethyl ether                  | 59  | 3.441        | 3.439            | 0.002            | 95 | 417245   | 625.0         | 660.5           |       |
| 20 Acrolein                     | 56  | 3.618        | 3.609            | 0.009            | 85 | 61228    | 1125.0        | 1099.6          |       |
| 21 1,1-Dichloroethene           | 96  | 3.758        | 3.737            | 0.021            | 96 | 520336   | 625.0         | 676.0           |       |
| 22 1,1,2-Trichloro-1,2,2-trif   | 101 | 3.819        | 3.822            | -0.003           | 93 | 504798   | 625.0         | 670.2           |       |
| 23 Acetone                      | 43  | 3.892        | 3.889            | 0.003            | 95 | 122221   | 625.0         | 604.6           |       |
| 24 Iodomethane                  | 142 | 4.013        | 3.956            | 0.057            | 96 | 686332   | 625.0         | 661.1           |       |
| 25 Carbon disulfide             | 76  | 4.068        | 4.059            | 0.009            | 99 | 1585417  | 625.0         | 678.9           |       |
| 28 3-Chloro-1-propene           | 76  | 4.354        | 4.357            | -0.003           | 88 | 311577   | 625.0         | 678.4           |       |
| 29 Methyl acetate               | 43  | 4.439        | 4.436            | 0.003            | 99 | 1285020  | 3125.0        | 3142.6          |       |
| 30 Methylene Chloride           | 84  | 4.555        | 4.546            | 0.009            | 90 | 504617   | 625.0         | 584.4           |       |
| 31 2-Methyl-2-propanol          | 59  | 4.865        | 4.856            | 0.009            | 78 | 285440   | 6250.0        | 6103.6          |       |
| 32 Acrylonitrile                | 53  | 4.932        | 4.935            | -0.003           | 99 | 1317881  | 6250.0        | 6483.9          |       |
| 33 trans-1,2-Dichloroethene     | 96  | 4.974        | 4.959            | 0.015            | 93 | 511391   | 625.0         | 659.0           |       |
| 34 Methyl tert-butyl ether      | 73  | 5.011        | 5.014            | -0.003           | 92 | 985720   | 625.0         | 651.3           |       |

| Compound                       | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q  | Response | Cal Amt ng | OnCol Amt ng | Flags |
|--------------------------------|-----|-----------|---------------|---------------|----|----------|------------|--------------|-------|
| 35 Hexane                      | 57  | 5.394     | 5.391         | 0.003         | 88 | 1033621  | 625.0      | 599.9        |       |
| 36 1,1-Dichloroethane          | 63  | 5.558     | 5.556         | 0.002         | 96 | 998998   | 625.0      | 656.9        |       |
| 37 Vinyl acetate               | 43  | 5.674     | 5.671         | 0.003         | 96 | 397461   | 625.0      | 622.3        |       |
| 41 2,2-Dichloropropane         | 77  | 6.301     | 6.298         | 0.003         | 54 | 426553   | 625.0      | 669.0        |       |
| 42 cis-1,2-Dichloroethene      | 96  | 6.301     | 6.298         | 0.003         | 84 | 538974   | 625.0      | 643.5        |       |
| 43 2-Butanone (MEK)            | 43  | 6.343     | 6.340         | 0.003         | 96 | 158279   | 625.0      | 656.9        |       |
| 47 Chlorobromomethane          | 128 | 6.580     | 6.578         | 0.002         | 74 | 206161   | 625.0      | 680.1        |       |
| 48 Tetrahydrofuran             | 42  | 6.653     | 6.645         | 0.008         | 91 | 199258   | 1250.0     | 1272.1       |       |
| 49 Chloroform                  | 83  | 6.696     | 6.693         | 0.003         | 92 | 788754   | 625.0      | 646.2        |       |
| 50 1,1,1-Trichloroethane       | 97  | 6.897     | 6.894         | 0.003         | 53 | 643679   | 625.0      | 653.0        |       |
| 51 Cyclohexane                 | 56  | 6.976     | 6.967         | 0.009         | 73 | 1279137  | 625.0      | 655.7        |       |
| 52 1,1-Dichloropropene         | 75  | 7.085     | 7.083         | 0.002         | 91 | 625450   | 625.0      | 652.2        |       |
| 53 Carbon tetrachloride        | 117 | 7.092     | 7.089         | 0.003         | 81 | 548910   | 625.0      | 675.6        |       |
| 54 Isobutyl alcohol            | 41  | 7.262     | 7.265         | -0.003        | 95 | 233810   | 15625      | 15250        |       |
| 55 Benzene                     | 78  | 7.317     | 7.314         | 0.003         | 97 | 1829583  | 625.0      | 622.9        |       |
| 56 1,2-Dichloroethane          | 62  | 7.329     | 7.326         | 0.003         | 64 | 519764   | 625.0      | 626.8        |       |
| 59 n-Heptane                   | 43  | 7.639     | 7.636         | 0.003         | 93 | 1020841  | 625.0      | 654.3        |       |
| 60 Trichloroethene             | 130 | 8.016     | 8.013         | 0.003         | 96 | 494700   | 625.0      | 669.3        |       |
| 63 Methylcyclohexane           | 83  | 8.229     | 8.226         | 0.003         | 94 | 1014306  | 625.0      | 665.9        |       |
| 64 1,2-Dichloropropane         | 63  | 8.241     | 8.238         | 0.003         | 85 | 501148   | 625.0      | 643.3        |       |
| 65 Dibromomethane              | 93  | 8.357     | 8.354         | 0.003         | 94 | 195925   | 625.0      | 656.5        |       |
| 67 1,4-Dioxane                 | 88  | 8.387     | 8.384         | 0.003         | 97 | 58547    | 12500      | 11977        |       |
| 68 Dichlorobromomethane        | 83  | 8.527     | 8.524         | 0.003         | 92 | 543021   | 625.0      | 672.8        |       |
| 71 cis-1,3-Dichloropropene     | 75  | 8.977     | 8.981         | -0.004        | 86 | 671103   | 625.0      | 668.8        |       |
| 72 4-Methyl-2-pentanone (MIBK) | 43  | 9.136     | 9.133         | 0.003         | 82 | 348415   | 625.0      | 617.9        |       |
| 73 Toluene                     | 91  | 9.324     | 9.327         | -0.003        | 91 | 1853955  | 625.0      | 604.2        |       |
| 74 trans-1,3-Dichloropropene   | 75  | 9.531     | 9.528         | 0.003         | 95 | 495977   | 625.0      | 646.2        |       |
| 75 Ethyl methacrylate          | 69  | 9.628     | 9.625         | 0.003         | 93 | 408650   | 625.0      | 623.0        |       |
| 76 1,1,2-Trichloroethane       | 97  | 9.713     | 9.717         | -0.004        | 93 | 292031   | 625.0      | 615.6        |       |
| 78 1,3-Dichloropropane         | 76  | 9.884     | 9.881         | 0.003         | 95 | 517668   | 625.0      | 602.4        |       |
| 77 Tetrachloroethene           | 164 | 9.878     | 9.881         | -0.003        | 94 | 378304   | 625.0      | 655.3        |       |
| 79 2-Hexanone                  | 43  | 9.963     | 9.960         | 0.003         | 83 | 210401   | 625.0      | 584.9        |       |
| 81 Chlorodibromomethane        | 129 | 10.109    | 10.112        | -0.003        | 88 | 326378   | 625.0      | 666.7        |       |
| 82 Ethylene Dibromide          | 107 | 10.231    | 10.228        | 0.003         | 97 | 293214   | 625.0      | 644.7        |       |
| 83 Chlorobenzene               | 112 | 10.723    | 10.720        | 0.003         | 90 | 1239785  | 625.0      | 629.7        |       |
| 85 1,1,1,2-Tetrachloroethane   | 131 | 10.802    | 10.800        | 0.002         | 92 | 393074   | 625.0      | 654.7        |       |
| 86 Ethylbenzene                | 106 | 10.833    | 10.836        | -0.003        | 98 | 732335   | 625.0      | 633.6        |       |
| 87 m-Xylene & p-Xylene         | 106 | 10.948    | 10.946        | 0.002         | 98 | 907234   | 625.0      | 627.5        |       |
| 88 o-Xylene                    | 106 | 11.344    | 11.341        | 0.003         | 85 | 868226   | 625.0      | 620.7        |       |
| 89 Styrene                     | 104 | 11.350    | 11.353        | -0.003        | 85 | 1408920  | 625.0      | 611.5        |       |
| 90 Bromoform                   | 173 | 11.532    | 11.536        | -0.004        | 95 | 199318   | 625.0      | 687.0        |       |
| 91 Isopropylbenzene            | 105 | 11.709    | 11.712        | -0.003        | 96 | 2275648  | 625.0      | 618.9        |       |
| 93 1,1,2,2-Tetrachloroethane   | 83  | 11.983    | 11.992        | -0.009        | 95 | 344391   | 625.0      | 609.6        |       |
| 94 Bromobenzene                | 156 | 12.019    | 12.016        | 0.003         | 79 | 509336   | 625.0      | 606.6        |       |
| 95 1,2,3-Trichloropropane      | 110 | 12.031    | 12.035        | -0.003        | 46 | 97975    | 625.0      | 638.8        |       |
| 96 trans-1,4-Dichloro-2-buten  | 53  | 12.043    | 12.041        | 0.002         | 69 | 118218   | 625.0      | 581.1        |       |
| 97 N-Propylbenzene             | 120 | 12.123    | 12.120        | 0.003         | 92 | 672883   | 625.0      | 608.6        |       |
| 98 2-Chlorotoluene             | 126 | 12.214    | 12.211        | 0.003         | 96 | 542851   | 625.0      | 614.0        |       |
| 99 1,3,5-Trimethylbenzene      | 105 | 12.293    | 12.290        | 0.003         | 89 | 1876216  | 625.0      | 582.0        |       |
| 100 4-Chlorotoluene            | 126 | 12.317    | 12.320        | -0.003        | 98 | 551068   | 625.0      | 603.7        |       |
| 101 tert-Butylbenzene          | 119 | 12.627    | 12.625        | 0.002         | 67 | 1742967  | 625.0      | 609.9        |       |
| 103 1,2,4-Trimethylbenzene     | 105 | 12.676    | 12.673        | 0.003         | 90 | 1961293  | 625.0      | 591.4        |       |



| Compound                         | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q  | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|----------------------------------|-----|--------------|------------------|------------------|----|----------|---------------|-----------------|-------|
| 104 sec-Butylbenzene             | 105 | 12.846       | 12.850           | -0.004           | 95 | 2515864  | 625.0         | 594.9           |       |
| 105 1,3-Dichlorobenzene          | 146 | 12.962       | 12.959           | 0.003            | 88 | 980805   | 625.0         | 616.4           |       |
| 106 4-Isopropyltoluene           | 119 | 12.986       | 12.990           | -0.004           | 87 | 2078293  | 625.0         | 600.2           |       |
| 107 1,4-Dichlorobenzene          | 146 | 13.047       | 13.050           | -0.003           | 91 | 945177   | 625.0         | 613.4           |       |
| 110 n-Butylbenzene               | 91  | 13.400       | 13.397           | 0.003            | 93 | 2025519  | 625.0         | 606.2           |       |
| 111 1,2-Dichlorobenzene          | 146 | 13.424       | 13.422           | 0.002            | 94 | 868763   | 625.0         | 612.4           |       |
| 112 1,2-Dibromo-3-Chloropropan   | 75  | 14.197       | 14.200           | -0.003           | 75 | 55388    | 625.0         | 620.3           |       |
| 114 1,2,4-Trichlorobenzene       | 180 | 15.049       | 15.046           | 0.003            | 95 | 635617   | 625.0         | 614.2           |       |
| 115 Hexachlorobutadiene          | 225 | 15.231       | 15.228           | 0.003            | 87 | 461979   | 625.0         | 653.5           |       |
| 116 Naphthalene                  | 128 | 15.310       | 15.307           | 0.003            | 97 | 968618   | 625.0         | 670.1           |       |
| 117 1,2,3-Trichlorobenzene       | 180 | 15.578       | 15.575           | 0.003            | 95 | 496796   | 625.0         | 598.8           |       |
| S 130 1,2-Dichloroethene, Total  | 96  |              |                  |                  | 0  |          | 1250.0        | 1302.5          |       |
| S 129 Xylenes, Total             | 106 |              |                  |                  | 0  |          | 1250.0        | 1248.2          |       |
| S 131 1,3-Dichloropropene, Total | 1   |              |                  |                  | 0  |          | 1250.0        | 1315.0          |       |

**Reagents:**

|                     |                     |           |             |
|---------------------|---------------------|-----------|-------------|
| VOA8260SURR_00032   | Amount Added: 25.00 | Units: uL |             |
| VOA8260VOAPRI_00108 | Amount Added: 25.00 | Units: uL |             |
| VOAVAPRI_00005      | Amount Added: 25.00 | Units: uL |             |
| VOAACRPRI_00005     | Amount Added: 45.00 | Units: uL |             |
| VOA8260INT_00030    | Amount Added: 10.00 | Units: uL | Run Reagent |

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033111.D

Injection Date: 31-Mar-2015 12:29:30

Instrument ID: CHHP3

Operator ID: 10099

Lims ID: IC VSTD125

Worklist Smp#: 10

Client ID:

Purge Vol: 5.000 mL

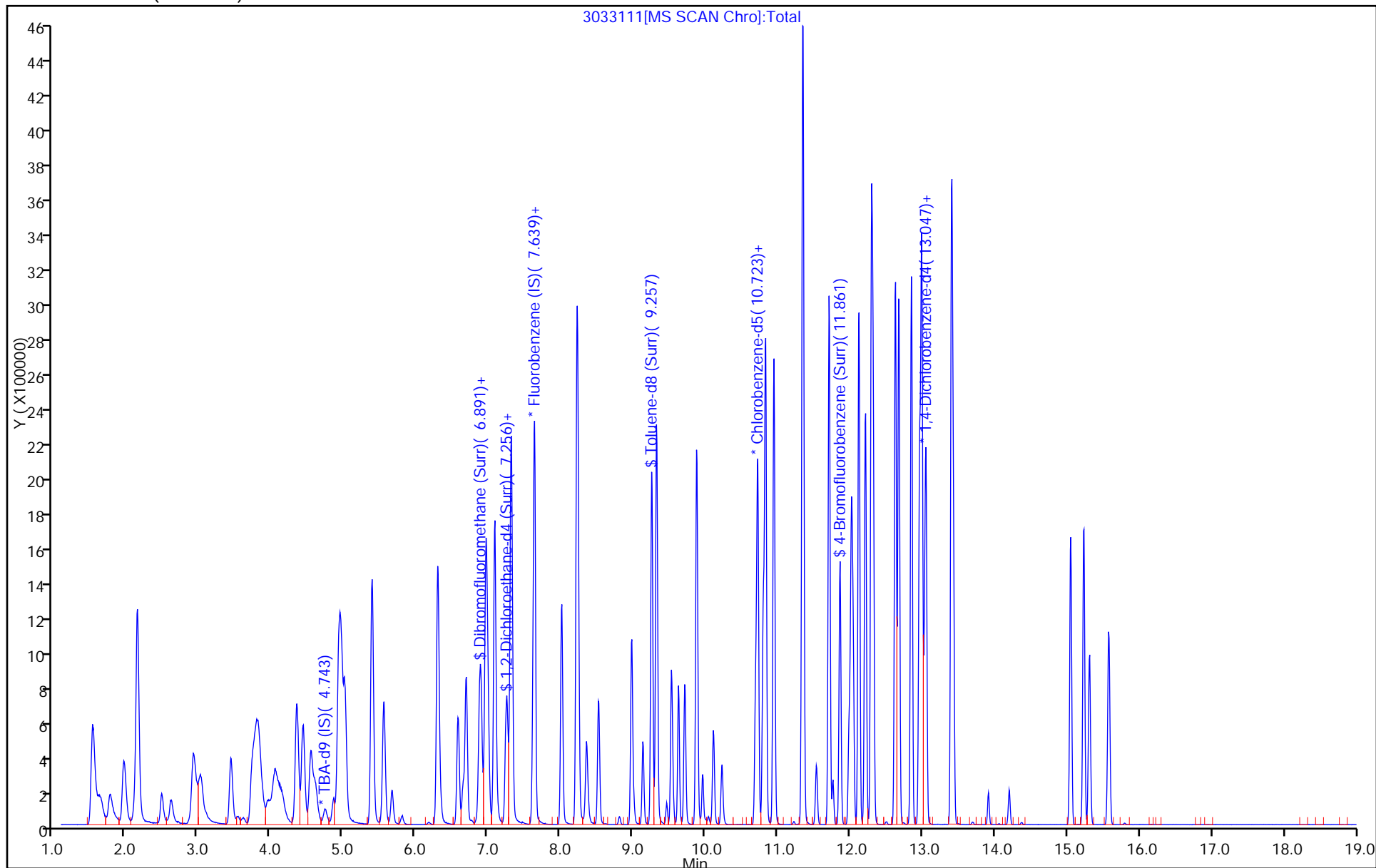
Dil. Factor: 1.0000

ALS Bottle#: 11

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033112.D  
 Lims ID: IC VSTD250  
 Client ID:  
 Sample Type: IC Calib Level: 7  
 Inject. Date: 31-Mar-2015 12:55:30 ALS Bottle#: 12 Worklist Smp#: 11  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: IC VSTD250  
 Misc. Info.: 180-0006243-011180-0006243-011  
 Operator ID: 10099 Instrument ID: CHHP3  
 Sublist: chrom-MSVOA\_S\_CHHP3\*sub4  
 Method: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\MSVOA\_S\_CHHP3.m  
 Limit Group: VOA 8260C ICAL  
 Last Update: 01-Apr-2015 04:54:16 Calib Date: 31-Mar-2015 14:29:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last Ical File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D  
 Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
 Process Host: XAWRK006

First Level Reviewer: gordonk

Date: 01-Apr-2015 03:59:28

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|---------------|-----------------|-------|
| * 1 TBA-d9 (IS)                 | 65  | 4.762        | 4.740            | 0.022            | 98  | 172341   | 5000.0        | 5000.0          |       |
| * 2 Fluorobenzene (IS)          | 96  | 7.621        | 7.618            | 0.003            | 98  | 707776   | 250.0         | 250.0           |       |
| * 3 Chlorobenzene-d5            | 119 | 10.693       | 10.696           | -0.003           | 88  | 170919   | 250.0         | 250.0           |       |
| * 4 1,4-Dichlorobenzene-d4      | 152 | 13.023       | 13.026           | -0.003           | 94  | 270135   | 250.0         | 250.0           |       |
| \$ 5 Dibromofluoromethane (Surr | 113 | 6.873        | 6.876            | -0.003           | 95  | 718186   | 1250.0        | 1190.1          |       |
| \$ 6 1,2-Dichloroethane-d4 (Sur | 65  | 7.244        | 7.247            | -0.003           | 95  | 805111   | 1250.0        | 1154.6          |       |
| \$ 7 Toluene-d8 (Surr)          | 98  | 9.258        | 9.260            | -0.002           | 93  | 2920875  | 1250.0        | 1020.4          |       |
| \$ 8 4-Bromofluorobenzene (Surr | 95  | 11.861       | 11.858           | 0.003            | 89  | 1255926  | 1250.0        | 1106.7          |       |
| 10 Dichlorodifluoromethane      | 85  | 1.775        | 1.766            | 0.009            | 99  | 922504   | 1250.0        | 1254.9          |       |
| 11 Chloromethane                | 50  | 1.976        | 1.954            | 0.022            | 99  | 1610960  | 1250.0        | 1201.8          |       |
| 12 Vinyl chloride               | 62  | 2.140        | 2.112            | 0.028            | 98  | 1331647  | 1250.0        | 1189.6          |       |
| 13 Butadiene                    | 39  | 2.152        | 2.143            | 0.009            | 88  | 1320680  | 1250.0        | 1128.4          |       |
| 14 Bromomethane                 | 94  | 2.481        | 2.483            | -0.002           | 90  | 366911   | 1250.0        | 1214.6          |       |
| 15 Chloroethane                 | 64  | 2.615        | 2.611            | 0.004            | 99  | 425325   | 1250.0        | 1092.7          |       |
| 16 Dichlorofluoromethane        | 67  | 2.913        | 2.915            | -0.002           | 98  | 1262931  | 1250.0        | 1096.1          |       |
| 17 Trichlorofluoromethane       | 101 | 2.992        | 2.952            | 0.040            | 98  | 1085089  | 1250.0        | 1154.3          |       |
| 19 Ethyl ether                  | 59  | 3.442        | 3.439            | 0.003            | 96  | 807069   | 1250.0        | 1192.6          |       |
| 20 Acrolein                     | 56  | 3.606        | 3.609            | -0.003           | 99  | 68077    | 1250.0        | 1141.2          | M     |
| 21 1,1-Dichloroethene           | 96  | 3.758        | 3.737            | 0.021            | 96  | 1002816  | 1250.0        | 1216.2          |       |
| 22 1,1,2-Trichloro-1,2,2-trif   | 101 | 3.807        | 3.822            | -0.015           | 93  | 955663   | 1250.0        | 1184.5          |       |
| 23 Acetone                      | 43  | 3.892        | 3.889            | 0.003            | 100 | 231777   | 1250.0        | 1070.3          |       |
| 24 Iodomethane                  | 142 | 4.002        | 3.956            | 0.046            | 99  | 1364610  | 1250.0        | 1226.9          | M     |
| 25 Carbon disulfide             | 76  | 4.105        | 4.059            | 0.046            | 100 | 3029307  | 1250.0        | 1210.9          |       |
| 28 3-Chloro-1-propene           | 76  | 4.348        | 4.357            | -0.009           | 93  | 599407   | 1250.0        | 1218.3          |       |
| 29 Methyl acetate               | 43  | 4.440        | 4.436            | 0.004            | 99  | 2464057  | 6250.0        | 5625.2          |       |
| 30 Methylene Chloride           | 84  | 4.537        | 4.546            | -0.009           | 97  | 960589   | 1250.0        | 1038.5          |       |
| 31 2-Methyl-2-propanol          | 59  | 4.878        | 4.856            | 0.022            | 98  | 623197   | 12500         | 12137           |       |
| 32 Acrylonitrile                | 53  | 4.939        | 4.935            | 0.003            | 97  | 2394483  | 12500         | 10997           |       |
| 33 trans-1,2-Dichloroethene     | 96  | 4.963        | 4.959            | 0.004            | 95  | 957290   | 1250.0        | 1151.5          |       |
| 34 Methyl tert-butyl ether      | 73  | 5.018        | 5.014            | 0.004            | 97  | 1872288  | 1250.0        | 1154.9          |       |

| Compound                       | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q   | Response | Cal Amt ng | OnCol Amt ng | Flags |
|--------------------------------|-----|-----------|---------------|---------------|-----|----------|------------|--------------|-------|
| 35 Hexane                      | 57  | 5.383     | 5.391         | -0.008        | 92  | 1995579  | 1250.0     | 1081.1       |       |
| 36 1,1-Dichloroethane          | 63  | 5.553     | 5.556         | -0.003        | 96  | 1893666  | 1250.0     | 1162.4       |       |
| 37 Vinyl acetate               | 43  | 5.669     | 5.671         | -0.002        | 97  | 742325   | 1250.0     | 1084.9       |       |
| 41 2,2-Dichloropropane         | 77  | 6.301     | 6.298         | 0.003         | 75  | 766542   | 1250.0     | 1122.2       |       |
| 42 cis-1,2-Dichloroethene      | 96  | 6.301     | 6.298         | 0.003         | 85  | 1031912  | 1250.0     | 1150.1       |       |
| 43 2-Butanone (MEK)            | 43  | 6.344     | 6.340         | 0.004         | 98  | 291989   | 1250.0     | 1131.2       |       |
| 47 Chlorobromomethane          | 128 | 6.575     | 6.578         | -0.003        | 91  | 406580   | 1250.0     | 1252.1       |       |
| 48 Tetrahydrofuran             | 42  | 6.654     | 6.645         | 0.009         | 93  | 380704   | 2500.0     | 2268.9       |       |
| 49 Chloroform                  | 83  | 6.691     | 6.693         | -0.002        | 96  | 1472985  | 1250.0     | 1126.5       |       |
| 50 1,1,1-Trichloroethane       | 97  | 6.897     | 6.894         | 0.003         | 98  | 1227759  | 1250.0     | 1162.6       |       |
| 51 Cyclohexane                 | 56  | 6.970     | 6.967         | 0.003         | 93  | 2358332  | 1250.0     | 1128.5       |       |
| 52 1,1-Dichloropropene         | 75  | 7.086     | 7.083         | 0.003         | 92  | 1169880  | 1250.0     | 1138.8       |       |
| 53 Carbon tetrachloride        | 117 | 7.092     | 7.089         | 0.003         | 89  | 1082633  | 1250.0     | 1243.9       |       |
| 54 Isobutyl alcohol            | 41  | 7.268     | 7.265         | 0.003         | 94  | 462909   | 31250      | 28184        |       |
| 55 Benzene                     | 78  | 7.311     | 7.314         | -0.003        | 97  | 3341669  | 1250.0     | 1062.1       |       |
| 56 1,2-Dichloroethane          | 62  | 7.329     | 7.326         | 0.003         | 97  | 997065   | 1250.0     | 1122.4       |       |
| 59 n-Heptane                   | 43  | 7.640     | 7.636         | 0.004         | 94  | 1958233  | 1250.0     | 1171.7       |       |
| 60 Trichloroethene             | 130 | 8.011     | 8.013         | -0.002        | 98  | 974209   | 1250.0     | 1230.4       |       |
| 63 Methylcyclohexane           | 83  | 8.224     | 8.226         | -0.002        | 95  | 1831012  | 1250.0     | 1122.1       |       |
| 64 1,2-Dichloropropane         | 63  | 8.242     | 8.238         | 0.004         | 98  | 959281   | 1250.0     | 1149.5       |       |
| 65 Dibromomethane              | 93  | 8.357     | 8.354         | 0.003         | 94  | 395569   | 1250.0     | 1237.3       |       |
| 67 1,4-Dioxane                 | 88  | 8.382     | 8.384         | -0.002        | 95  | 120299   | 25000      | 22972        |       |
| 68 Dichlorobromomethane        | 83  | 8.522     | 8.524         | -0.002        | 98  | 1066837  | 1250.0     | 1233.8       |       |
| 71 cis-1,3-Dichloropropene     | 75  | 8.978     | 8.981         | -0.003        | 94  | 1357458  | 1250.0     | 1262.7       |       |
| 72 4-Methyl-2-pentanone (MIBK) | 43  | 9.136     | 9.133         | 0.003         | 96  | 692602   | 1250.0     | 1096.6       |       |
| 73 Toluene                     | 91  | 9.325     | 9.327         | -0.002        | 99  | 3437767  | 1250.0     | 1000.2       |       |
| 74 trans-1,3-Dichloropropene   | 75  | 9.532     | 9.528         | 0.004         | 95  | 1041938  | 1250.0     | 1212.0       |       |
| 75 Ethyl methacrylate          | 69  | 9.629     | 9.625         | 0.004         | 94  | 830608   | 1250.0     | 1130.6       |       |
| 76 1,1,2-Trichloroethane       | 97  | 9.714     | 9.717         | -0.003        | 93  | 600643   | 1250.0     | 1130.4       |       |
| 78 1,3-Dichloropropane         | 76  | 9.884     | 9.881         | 0.003         | 96  | 1005809  | 1250.0     | 1045.0       |       |
| 77 Tetrachloroethene           | 164 | 9.878     | 9.881         | -0.003        | 96  | 744597   | 1250.0     | 1151.6       |       |
| 79 2-Hexanone                  | 43  | 9.963     | 9.960         | 0.003         | 95  | 467067   | 1250.0     | 1159.3       |       |
| 81 Chlorodibromomethane        | 129 | 10.116    | 10.112        | 0.004         | 91  | 676715   | 1250.0     | 1234.1       |       |
| 82 Ethylene Dibromide          | 107 | 10.231    | 10.228        | 0.003         | 100 | 581387   | 1250.0     | 1141.2       |       |
| 83 Chlorobenzene               | 112 | 10.724    | 10.720        | 0.004         | 91  | 2368993  | 1250.0     | 1074.2       |       |
| 85 1,1,1,2-Tetrachloroethane   | 131 | 10.803    | 10.800        | 0.003         | 96  | 804504   | 1250.0     | 1196.3       |       |
| 86 Ethylbenzene                | 106 | 10.833    | 10.836        | -0.003        | 97  | 1392906  | 1250.0     | 1075.9       |       |
| 87 m-Xylene & p-Xylene         | 106 | 10.949    | 10.946        | 0.003         | 97  | 1762606  | 1250.0     | 1088.4       |       |
| 88 o-Xylene                    | 106 | 11.344    | 11.341        | 0.003         | 95  | 1669795  | 1250.0     | 1065.7       |       |
| 89 Styrene                     | 104 | 11.357    | 11.353        | 0.004         | 94  | 2573993  | 1250.0     | 997.4        |       |
| 90 Bromoform                   | 173 | 11.533    | 11.536        | -0.003        | 98  | 424543   | 1250.0     | 1306.4       |       |
| 91 Isopropylbenzene            | 105 | 11.709    | 11.712        | -0.003        | 97  | 3977998  | 1250.0     | 965.9        |       |
| 93 1,1,2,2-Tetrachloroethane   | 83  | 11.989    | 11.992        | -0.003        | 94  | 667334   | 1250.0     | 1054.5       |       |
| 94 Bromobenzene                | 156 | 12.020    | 12.016        | 0.004         | 97  | 993799   | 1250.0     | 1079.3       |       |
| 95 1,2,3-Trichloropropane      | 110 | 12.038    | 12.035        | 0.004         | 87  | 198125   | 1250.0     | 1196.2       |       |
| 96 trans-1,4-Dichloro-2-buten  | 53  | 12.044    | 12.041        | 0.003         | 83  | 234017   | 1250.0     | 1049.0       |       |
| 97 N-Propylbenzene             | 120 | 12.123    | 12.120        | 0.003         | 96  | 1322928  | 1250.0     | 1091.1       |       |
| 98 2-Chlorotoluene             | 126 | 12.214    | 12.211        | 0.003         | 97  | 1069854  | 1250.0     | 1103.5       |       |
| 99 1,3,5-Trimethylbenzene      | 105 | 12.293    | 12.290        | 0.003         | 98  | 3324666  | 1250.0     | 940.3        |       |
| 100 4-Chlorotoluene            | 126 | 12.318    | 12.320        | -0.002        | 97  | 1048832  | 1250.0     | 1047.8       |       |
| 101 tert-Butylbenzene          | 119 | 12.628    | 12.625        | 0.003         | 93  | 3136171  | 1250.0     | 1000.7       |       |
| 103 1,2,4-Trimethylbenzene     | 105 | 12.671    | 12.673        | -0.002        | 95  | 3456111  | 1250.0     | 950.3        |       |

| Compound                         | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q  | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|----------------------------------|-----|--------------|------------------|------------------|----|----------|---------------|-----------------|-------|
| 104 sec-Butylbenzene             | 105 | 12.853       | 12.850           | 0.003            | 95 | 4297528  | 1250.0        | 926.6           |       |
| 105 1,3-Dichlorobenzene          | 146 | 12.963       | 12.959           | 0.004            | 97 | 1863682  | 1250.0        | 1068.1          |       |
| 106 4-Isopropyltoluene           | 119 | 12.993       | 12.990           | 0.003            | 94 | 3591772  | 1250.0        | 945.9           |       |
| 107 1,4-Dichlorobenzene          | 146 | 13.054       | 13.050           | 0.004            | 93 | 1838627  | 1250.0        | 1088.0          |       |
| 110 n-Butylbenzene               | 91  | 13.401       | 13.397           | 0.004            | 95 | 3432816  | 1250.0        | 936.9           |       |
| 111 1,2-Dichlorobenzene          | 146 | 13.431       | 13.422           | 0.009            | 95 | 1613612  | 1250.0        | 1037.2          |       |
| 112 1,2-Dibromo-3-Chloropropan   | 75  | 14.198       | 14.200           | -0.002           | 86 | 1111165  | 1250.0        | 1135.2          |       |
| 114 1,2,4-Trichlorobenzene       | 180 | 15.049       | 15.046           | 0.003            | 95 | 1256112  | 1250.0        | 1106.8          |       |
| 115 Hexachlorobutadiene          | 225 | 15.226       | 15.228           | -0.002           | 94 | 879410   | 1250.0        | 1134.4          |       |
| 116 Naphthalene                  | 128 | 15.305       | 15.307           | -0.002           | 97 | 1865675  | 1250.0        | 1191.3          |       |
| 117 1,2,3-Trichlorobenzene       | 180 | 15.572       | 15.575           | -0.003           | 96 | 978944   | 1250.0        | 1076.0          |       |
| S 130 1,2-Dichloroethene, Total  | 96  |              |                  |                  | 0  |          | 2500.0        | 2301.6          |       |
| S 129 Xylenes, Total             | 106 |              |                  |                  | 0  |          | 2500.0        | 2154.1          |       |
| S 131 1,3-Dichloropropene, Total | 1   |              |                  |                  | 0  |          | 2500.0        | 2474.7          |       |

**QC Flag Legend**

Review Flags

M - Manually Integrated

**Reagents:**

|                     |                     |           |             |
|---------------------|---------------------|-----------|-------------|
| VOA8260SURR_00032   | Amount Added: 50.00 | Units: uL |             |
| VOA8260VOAPRI_00108 | Amount Added: 50.00 | Units: uL |             |
| VOAVAPRI_00005      | Amount Added: 50.00 | Units: uL |             |
| VOAACRPRI_00005     | Amount Added: 50.00 | Units: uL |             |
| VOA8260INT_00030    | Amount Added: 10.00 | Units: uL | Run Reagent |

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033112.D

Injection Date: 31-Mar-2015 12:55:30

Instrument ID: CHHP3

Operator ID: 10099

Lims ID: IC VSTD250

Worklist Smp#: 11

Client ID:

Purge Vol: 5.000 mL

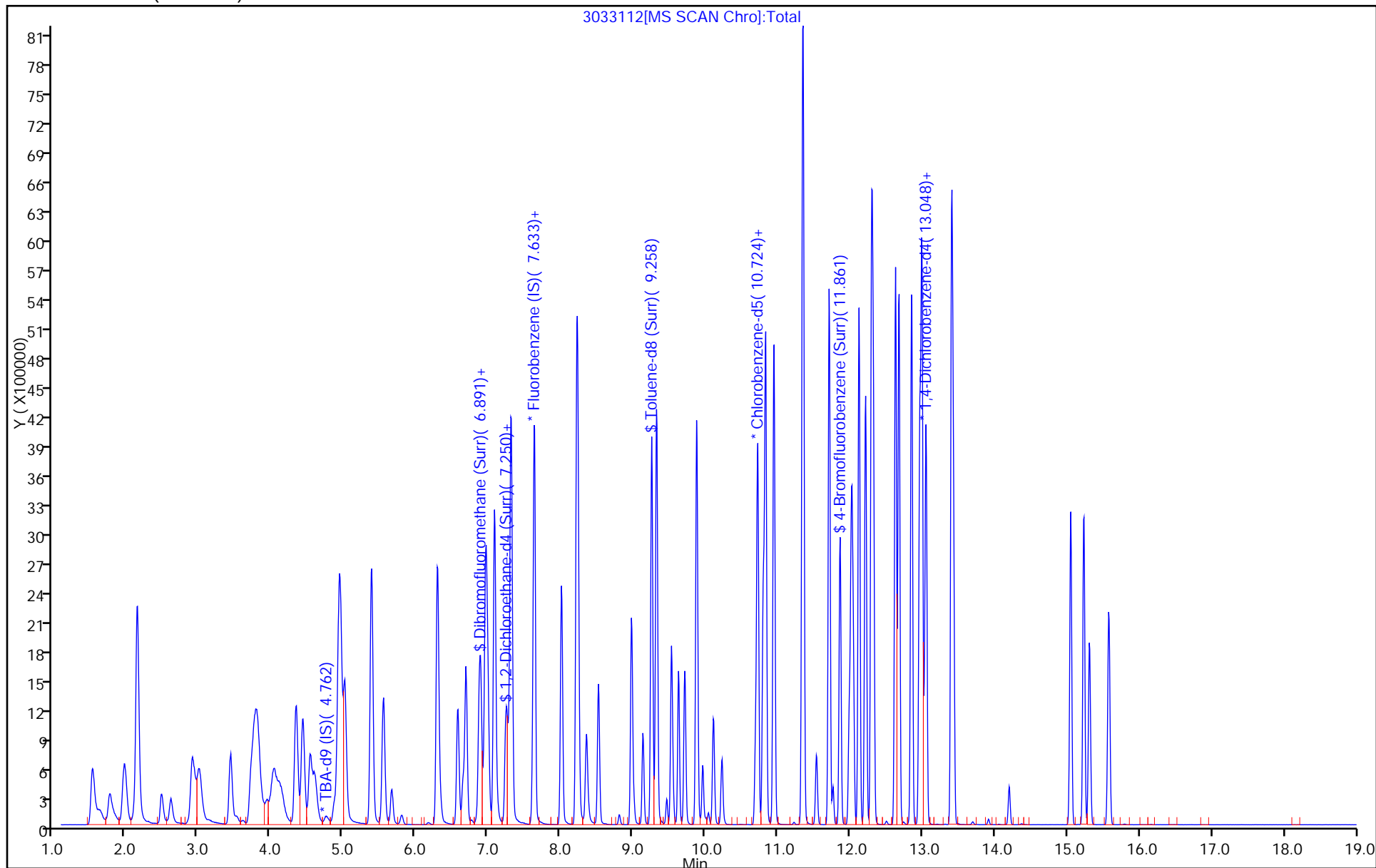
Dil. Factor: 1.0000

ALS Bottle#: 12

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)



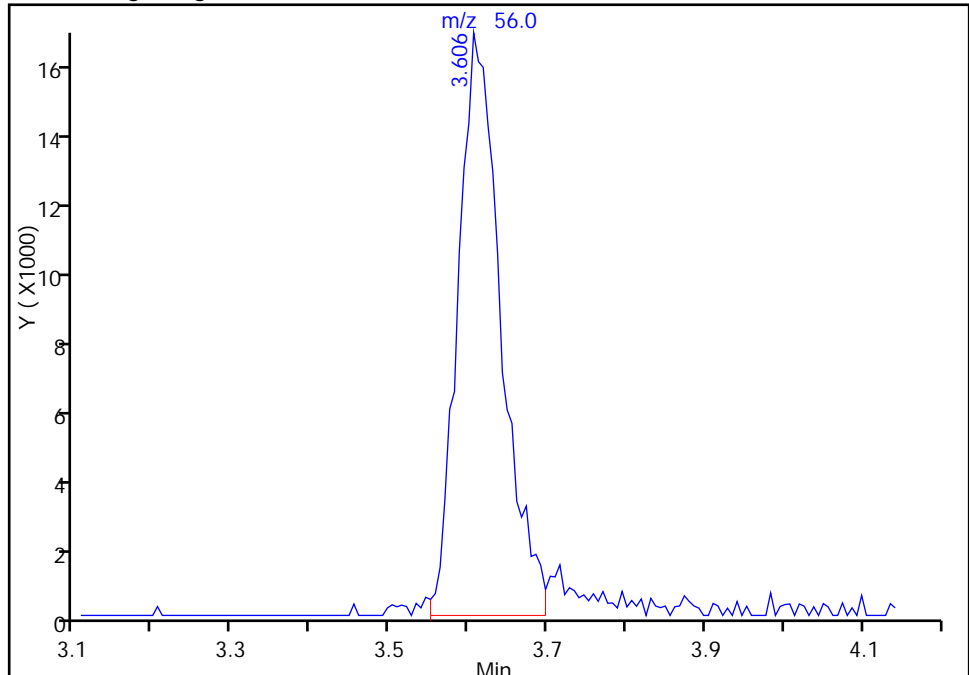
## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033112.D  
Injection Date: 31-Mar-2015 12:55:30 Instrument ID: CHHP3  
Lims ID: IC VSTD250  
Client ID:  
Operator ID: 10099 ALS Bottle#: 12 Worklist Smp#: 11  
Purge Vol: 5.000 mL Dil. Factor: 1.0000  
Method: MSVOA\_S\_CHHP3 Limit Group: VOA 8260C ICAL  
Column: DB-624 (0.18 mm) Detector: MS SCAN

## 20 Acrolein, CAS: 107-02-8

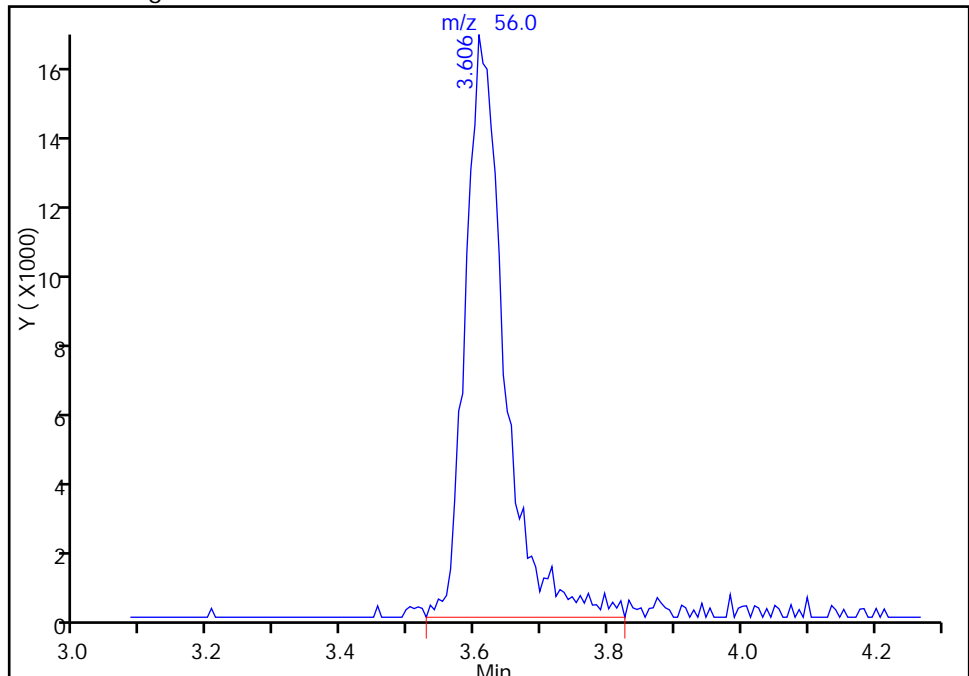
RT: 3.61  
Area: 63313  
Amount: 1090.9692  
Amount Units: ng

## Processing Integration Results



RT: 3.61  
Area: 68077  
Amount: 1141.2210  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 01-Apr-2015 03:59:28  
Audit Action: Manually Integrated  
Audit Reason: Poor chromatography

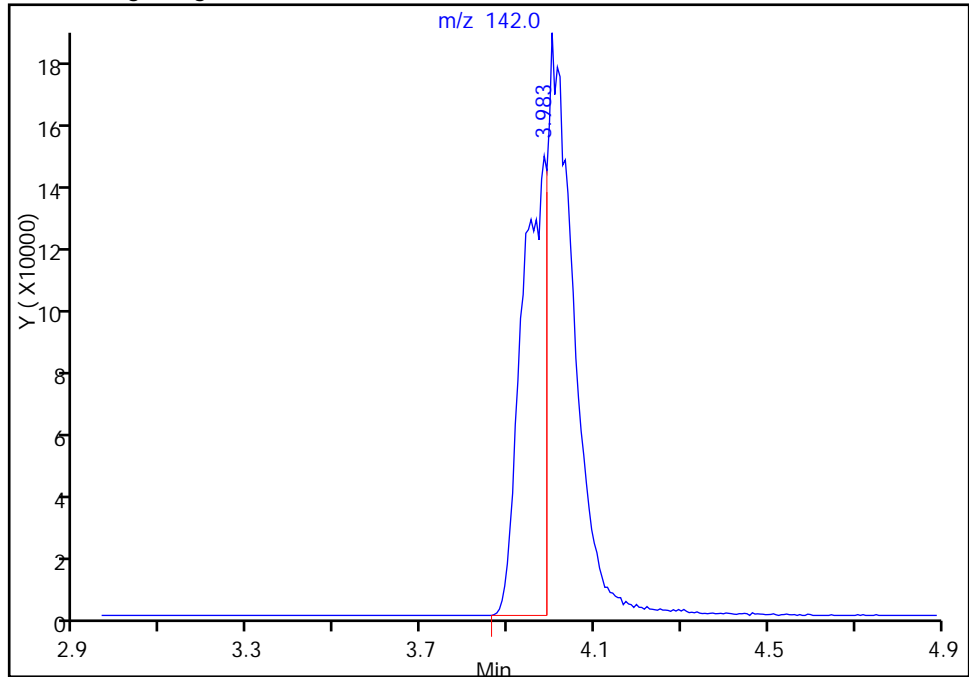
## TestAmerica Pittsburgh

|                 |  |                |                |
|-----------------|--|----------------|----------------|
| Data File:      | \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033112.D |                |                |
| Injection Date: | 31-Mar-2015 12:55:30                                 | Instrument ID: | CHHP3          |
| Lims ID:        | IC VSTD250   |                |                |
| Client ID:      |  |                |                |
| Operator ID:    | 10099  | ALS Bottle#:   | 12             |
| Purge Vol:      | 5.000 mL   | Dil. Factor:   | 1.0000         |
| Method:         | MSVOA_S_CHHP3  | Limit Group:   | VOA 8260C ICAL |
| Column:         | DB-624 (0.18 mm)                                     | Detector:      | MS SCAN        |
|                 |  | Worklist Smp#: | 11             |

## 24 Iodomethane, CAS: 74-88-4

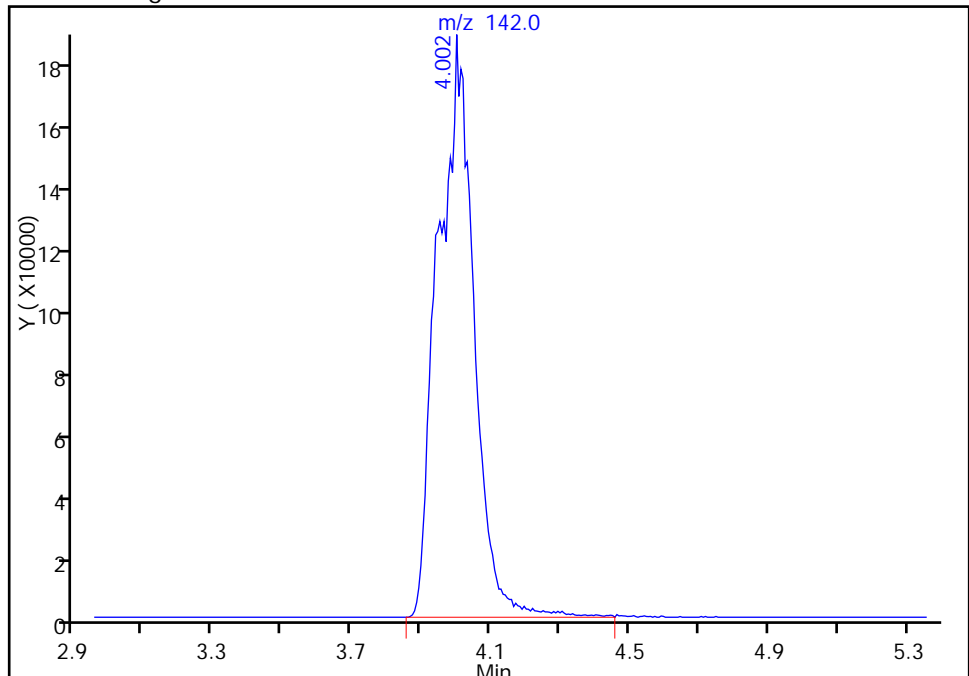
RT: 3.98  
Area: 597095  
Amount: 774.7841  
Amount Units: ng

## Processing Integration Results



RT: 4.00  
Area: 1364610  
Amount: 1226.9184  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 01-Apr-2015 03:59:28

Audit Action: Manually Integrated

Audit Reason: Poor chromatography



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D  
 Lims ID: IC VSTD5  
 Client ID:  
 Sample Type: IC Calib Level: 1  
 Inject. Date: 31-Mar-2015 14:29:30 ALS Bottle#: 16 Worklist Smp#: 21  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: IC VSTD5  
 Misc. Info.: 180-0006243-021180-0006243-021  
 Operator ID: 10099 Instrument ID: CHHP3  
 Sublist: chrom-MSVOA\_S\_CHHP3\*sub4  
 Method: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\MSVOA\_S\_CHHP3.m  
 Limit Group: VOA 8260C ICAL  
 Last Update: 01-Apr-2015 04:54:17 Calib Date: 31-Mar-2015 14:29:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last Ical File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D  
 Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
 Process Host: XAWRK006

First Level Reviewer: gordonk

Date: 01-Apr-2015 04:30:05

| Compound                        | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|---------------------------------|-----|--------------|------------------|------------------|-----|----------|---------------|-----------------|-------|
| * 1 TBA-d9 (IS)                 | 65  | 4.689        | 4.740            | -0.051           | 98  | 171374   | 5000.0        | 5000.0          |       |
| * 2 Fluorobenzene (IS)          | 96  | 7.609        | 7.618            | -0.009           | 98  | 699462   | 250.0         | 250.0           |       |
| * 3 Chlorobenzene-d5            | 119 | 10.681       | 10.696           | -0.015           | 89  | 159234   | 250.0         | 250.0           |       |
| * 4 1,4-Dichlorobenzene-d4      | 152 | 13.011       | 13.026           | -0.015           | 98  | 233830   | 250.0         | 250.0           |       |
| \$ 5 Dibromofluoromethane (Surr | 113 | 6.866        | 6.876            | -0.010           | 94  | 14910    | 25.0          | 25.0            |       |
| \$ 6 1,2-Dichloroethane-d4 (Sur | 65  | 7.238        | 7.247            | -0.009           | 81  | 18837    | 25.0          | 27.3            |       |
| \$ 7 Toluene-d8 (Surr)          | 98  | 9.245        | 9.260            | -0.015           | 93  | 69374    | 25.0          | 26.0            |       |
| \$ 8 4-Bromofluorobenzene (Surr | 95  | 11.849       | 11.858           | -0.009           | 86  | 27391    | 25.0          | 25.9            |       |
| 10 Dichlorodifluoromethane      | 85  | 1.775        | 1.766            | 0.009            | 30  | 15481    | 25.0          | 21.3            | M     |
| 11 Chloromethane                | 50  | 1.945        | 1.954            | -0.009           | 99  | 29228    | 25.0          | 22.1            |       |
| 12 Vinyl chloride               | 62  | 2.115        | 2.112            | 0.003            | 88  | 24806    | 25.0          | 22.4            |       |
| 13 Butadiene                    | 39  | 2.146        | 2.143            | 0.003            | 88  | 27413    | 25.0          | 23.7            |       |
| 14 Bromomethane                 | 94  | 2.486        | 2.483            | 0.003            | 93  | 7401     | 25.0          | 24.8            |       |
| 15 Chloroethane                 | 64  | 2.632        | 2.611            | 0.021            | 57  | 12478    | 25.0          | 32.4            |       |
| 16 Dichlorofluoromethane        | 67  | 2.930        | 2.915            | 0.015            | 98  | 27678    | 25.0          | 24.3            |       |
| 17 Trichlorofluoromethane       | 101 | 3.064        | 2.952            | 0.112            | 80  | 21074    | 25.0          | 22.7            | M     |
| 19 Ethyl ether                  | 59  | 3.435        | 3.439            | -0.004           | 95  | 15624    | 25.0          | 23.4            | M     |
| 20 Acrolein                     | 56  | 3.612        | 3.609            | 0.003            | 99  | 31751    | 500.0         | 538.6           | M     |
| 21 1,1-Dichloroethene           | 96  | 3.764        | 3.737            | 0.027            | 58  | 18689    | 25.0          | 22.9            | M     |
| 22 1,1,2-Trichloro-1,2,2-trif   | 101 | 3.831        | 3.822            | 0.009            | 90  | 17864    | 25.0          | 22.4            | M     |
| 23 Acetone                      | 43  | 3.861        | 3.889            | -0.028           | 69  | 7072     | 25.0          | 33.0            |       |
| 24 Iodomethane                  | 142 | 3.965        | 3.956            | 0.009            | 73  | 25760    | 25.0          | 23.4            | M     |
| 25 Carbon disulfide             | 76  | 4.062        | 4.059            | 0.003            | 100 | 55337    | 25.0          | 22.4            | M     |
| 28 3-Chloro-1-propene           | 76  | 4.360        | 4.357            | 0.003            | 94  | 10932    | 25.0          | 22.5            | M     |
| 29 Methyl acetate               | 43  | 4.421        | 4.436            | -0.015           | 99  | 50944    | 125.0         | 117.7           |       |
| 30 Methylene Chloride           | 84  | 4.549        | 4.546            | 0.003            | 97  | 28981    | 25.0          | 31.7            | M     |
| 31 2-Methyl-2-propanol          | 59  | 4.816        | 4.856            | -0.040           | 99  | 15856    | 250.0         | 310.5           |       |
| 32 Acrylonitrile                | 53  | 4.926        | 4.935            | -0.009           | 95  | 50533    | 250.0         | 234.8           | M     |
| 33 trans-1,2-Dichloroethene     | 96  | 4.956        | 4.959            | -0.003           | 91  | 19099    | 25.0          | 23.2            |       |
| 34 Methyl tert-butyl ether      | 73  | 5.011        | 5.014            | -0.003           | 96  | 37213    | 25.0          | 23.2            |       |

| Compound                       | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q  | Response | Cal Amt ng | OnCol Amt ng | Flags |
|--------------------------------|-----|-----------|---------------|---------------|----|----------|------------|--------------|-------|
| 35 Hexane                      | 57  | 5.394     | 5.391         | 0.003         | 91 | 52149    | 25.0       | 28.6         |       |
| 36 1,1-Dichloroethane          | 63  | 5.546     | 5.556         | -0.010        | 95 | 36908    | 25.0       | 22.9         |       |
| 37 Vinyl acetate               | 43  | 5.650     | 5.671         | -0.021        | 97 | 14846    | 25.0       | 22.0         |       |
| 41 2,2-Dichloropropane         | 77  | 6.295     | 6.298         | -0.003        | 55 | 14831    | 25.0       | 22.0         |       |
| 42 cis-1,2-Dichloroethene      | 96  | 6.301     | 6.298         | 0.003         | 84 | 21865    | 25.0       | 24.7         |       |
| 43 2-Butanone (MEK)            | 43  | 6.331     | 6.340         | -0.009        | 89 | 6628     | 25.0       | 26.0         |       |
| 47 Chlorobromomethane          | 128 | 6.562     | 6.578         | -0.016        | 83 | 6953     | 25.0       | 21.7         |       |
| 48 Tetrahydrofuran             | 42  | 6.635     | 6.645         | -0.010        | 82 | 8648     | 50.0       | 52.2         |       |
| 49 Chloroform                  | 83  | 6.690     | 6.693         | -0.003        | 96 | 32670    | 25.0       | 25.3         |       |
| 50 1,1,1-Trichloroethane       | 97  | 6.897     | 6.894         | 0.003         | 96 | 23257    | 25.0       | 22.3         |       |
| 51 Cyclohexane                 | 56  | 6.952     | 6.967         | -0.015        | 91 | 47611    | 25.0       | 23.1         |       |
| 52 1,1-Dichloropropene         | 75  | 7.085     | 7.083         | 0.002         | 93 | 23237    | 25.0       | 22.9         |       |
| 53 Carbon tetrachloride        | 117 | 7.085     | 7.089         | -0.004        | 76 | 18722    | 25.0       | 21.8         | M     |
| 54 Isobutyl alcohol            | 41  | 7.238     | 7.265         | -0.027        | 95 | 11748    | 625.0      | 723.8        |       |
| 55 Benzene                     | 78  | 7.311     | 7.314         | -0.003        | 97 | 76970    | 25.0       | 24.8         |       |
| 56 1,2-Dichloroethane          | 62  | 7.317     | 7.326         | -0.009        | 55 | 22647    | 25.0       | 25.8         |       |
| 59 n-Heptane                   | 43  | 7.633     | 7.636         | -0.003        | 94 | 35786    | 25.0       | 21.7         |       |
| 60 Trichloroethene             | 130 | 8.004     | 8.013         | -0.009        | 95 | 17837    | 25.0       | 22.8         |       |
| 63 Methylcyclohexane           | 83  | 8.217     | 8.226         | -0.009        | 94 | 36168    | 25.0       | 22.4         |       |
| 64 1,2-Dichloropropane         | 63  | 8.229     | 8.238         | -0.009        | 91 | 19323    | 25.0       | 23.4         |       |
| 65 Dibromomethane              | 93  | 8.351     | 8.354         | -0.003        | 97 | 7924     | 25.0       | 25.1         |       |
| 67 1,4-Dioxane                 | 88  | 8.375     | 8.384         | -0.009        | 66 | 2821     | 500.0      | 545.1        |       |
| 68 Dichlorobromomethane        | 83  | 8.515     | 8.524         | -0.009        | 97 | 20164    | 25.0       | 23.6         |       |
| 71 cis-1,3-Dichloropropene     | 75  | 8.971     | 8.981         | -0.010        | 92 | 23647    | 25.0       | 22.3         |       |
| 72 4-Methyl-2-pentanone (MIBK) | 43  | 9.123     | 9.133         | -0.010        | 97 | 17507    | 25.0       | 29.8         |       |
| 73 Toluene                     | 91  | 9.318     | 9.327         | -0.009        | 99 | 79029    | 25.0       | 24.7         |       |
| 74 trans-1,3-Dichloropropene   | 75  | 9.525     | 9.528         | -0.003        | 97 | 19398    | 25.0       | 24.2         |       |
| 75 Ethyl methacrylate          | 69  | 9.616     | 9.625         | -0.009        | 93 | 17011    | 25.0       | 24.9         |       |
| 76 1,1,2-Trichloroethane       | 97  | 9.701     | 9.717         | -0.016        | 93 | 12647    | 25.0       | 25.5         |       |
| 78 1,3-Dichloropropane         | 76  | 9.872     | 9.881         | -0.009        | 95 | 25374    | 25.0       | 28.3         |       |
| 77 Tetrachloroethene           | 164 | 9.878     | 9.881         | -0.003        | 82 | 14335    | 25.0       | 23.8         |       |
| 79 2-Hexanone                  | 43  | 9.957     | 9.960         | -0.003        | 97 | 11714    | 25.0       | 31.2         |       |
| 81 Chlorodibromomethane        | 129 | 10.103    | 10.112        | -0.009        | 91 | 12906    | 25.0       | 25.3         |       |
| 82 Ethylene Dibromide          | 107 | 10.212    | 10.228        | -0.016        | 98 | 12350    | 25.0       | 26.0         |       |
| 83 Chlorobenzene               | 112 | 10.711    | 10.720        | -0.009        | 94 | 53743    | 25.0       | 26.2         |       |
| 85 1,1,1,2-Tetrachloroethane   | 131 | 10.784    | 10.800        | -0.016        | 94 | 15818    | 25.0       | 25.2         |       |
| 86 Ethylbenzene                | 106 | 10.821    | 10.836        | -0.015        | 98 | 30759    | 25.0       | 25.5         |       |
| 87 m-Xylene & p-Xylene         | 106 | 10.942    | 10.946        | -0.004        | 99 | 37560    | 25.0       | 24.9         |       |
| 88 o-Xylene                    | 106 | 11.326    | 11.341        | -0.015        | 98 | 36731    | 25.0       | 25.2         |       |
| 89 Styrene                     | 104 | 11.344    | 11.353        | -0.009        | 94 | 67552    | 25.0       | 28.1         |       |
| 90 Bromoform                   | 173 | 11.514    | 11.536        | -0.022        | 94 | 8298     | 25.0       | 27.4         |       |
| 91 Isopropylbenzene            | 105 | 11.697    | 11.712        | -0.015        | 96 | 101182   | 25.0       | 26.4         |       |
| 93 1,1,2,2-Tetrachloroethane   | 83  | 11.977    | 11.992        | -0.015        | 92 | 18792    | 25.0       | 31.9         |       |
| 94 Bromobenzene                | 156 | 12.007    | 12.016        | -0.009        | 97 | 23481    | 25.0       | 29.5         |       |
| 95 1,2,3-Trichloropropane      | 110 | 12.019    | 12.035        | -0.015        | 54 | 6351     | 25.0       | 23.3         |       |
| 96 trans-1,4-Dichloro-2-buten  | 53  | 12.031    | 12.041        | -0.010        | 46 | 5945     | 25.0       | 30.8         |       |
| 97 N-Propylbenzene             | 120 | 12.110    | 12.120        | -0.010        | 99 | 27579    | 25.0       | 26.3         |       |
| 98 2-Chlorotoluene             | 126 | 12.202    | 12.211        | -0.009        | 95 | 23875    | 25.0       | 28.4         |       |
| 99 1,3,5-Trimethylbenzene      | 105 | 12.281    | 12.290        | -0.009        | 94 | 87513    | 25.0       | 28.6         |       |
| 100 4-Chlorotoluene            | 126 | 12.311    | 12.320        | -0.009        | 98 | 26040    | 25.0       | 30.1         |       |
| 101 tert-Butylbenzene          | 119 | 12.615    | 12.625        | -0.010        | 93 | 75174    | 25.0       | 27.7         |       |
| 103 1,2,4-Trimethylbenzene     | 105 | 12.658    | 12.673        | -0.015        | 95 | 92761    | 25.0       | 29.5         |       |

| Compound                         | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q  | Response | Cal Amt ng | OnCol Amt ng | Flags |
|----------------------------------|-----|-----------|---------------|---------------|----|----------|------------|--------------|-------|
| 104 sec-Butylbenzene             | 105 | 12.834    | 12.850        | -0.016        | 95 | 114624   | 25.0       | 28.6         |       |
| 105 1,3-Dichlorobenzene          | 146 | 12.950    | 12.959        | -0.009        | 96 | 45131    | 25.0       | 29.9         |       |
| 106 4-Isopropyltoluene           | 119 | 12.974    | 12.990        | -0.016        | 97 | 94047    | 25.0       | 28.6         |       |
| 107 1,4-Dichlorobenzene          | 146 | 13.035    | 13.050        | -0.015        | 92 | 44193    | 25.0       | 30.2         |       |
| 110 n-Butylbenzene               | 91  | 13.388    | 13.397        | -0.009        | 98 | 87103    | 25.0       | 27.5         |       |
| 111 1,2-Dichlorobenzene          | 146 | 13.412    | 13.422        | -0.010        | 93 | 41951    | 25.0       | 31.2         |       |
| 112 1,2-Dibromo-3-Chloropropan   | 75  | 14.179    | 14.200        | -0.021        | 77 | 2488     | 25.0       | 29.4         |       |
| 114 1,2,4-Trichlorobenzene       | 180 | 15.037    | 15.046        | -0.009        | 93 | 29782    | 25.0       | 30.3         |       |
| 115 Hexachlorobutadiene          | 225 | 15.219    | 15.228        | -0.009        | 95 | 17434    | 25.0       | 26.0         |       |
| 116 Naphthalene                  | 128 | 15.298    | 15.307        | -0.009        | 97 | 60969    | 25.0       | 26.8         |       |
| 117 1,2,3-Trichlorobenzene       | 180 | 15.560    | 15.575        | -0.015        | 95 | 26781    | 25.0       | 34.0         |       |
| S 130 1,2-Dichloroethene, Total  | 96  |           |               |               | 0  |          | 50.0       | 47.9         |       |
| S 129 Xylenes, Total             | 106 |           |               |               | 0  |          | 50.0       | 50.1         |       |
| S 131 1,3-Dichloropropene, Total | 1   |           |               |               | 0  |          | 50.0       | 46.5         |       |

### QC Flag Legend

Review Flags

M - Manually Integrated

### Reagents:

|                     |                     |           |             |
|---------------------|---------------------|-----------|-------------|
| VOA8260SURR_00032   | Amount Added: 1.00  | Units: uL |             |
| VOA8260VOAPRI_00108 | Amount Added: 1.00  | Units: uL |             |
| VOAVAPRI_00005      | Amount Added: 1.00  | Units: uL |             |
| VOAACRPRI_00005     | Amount Added: 20.00 | Units: uL |             |
| VOA8260INT_00030    | Amount Added: 10.00 | Units: uL | Run Reagent |

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D

Injection Date: 31-Mar-2015 14:29:30

Instrument ID: CHHP3

Operator ID: 10099

Lims ID: IC VSTD5

Worklist Smp#: 21

Client ID:

Purge Vol: 5.000 mL

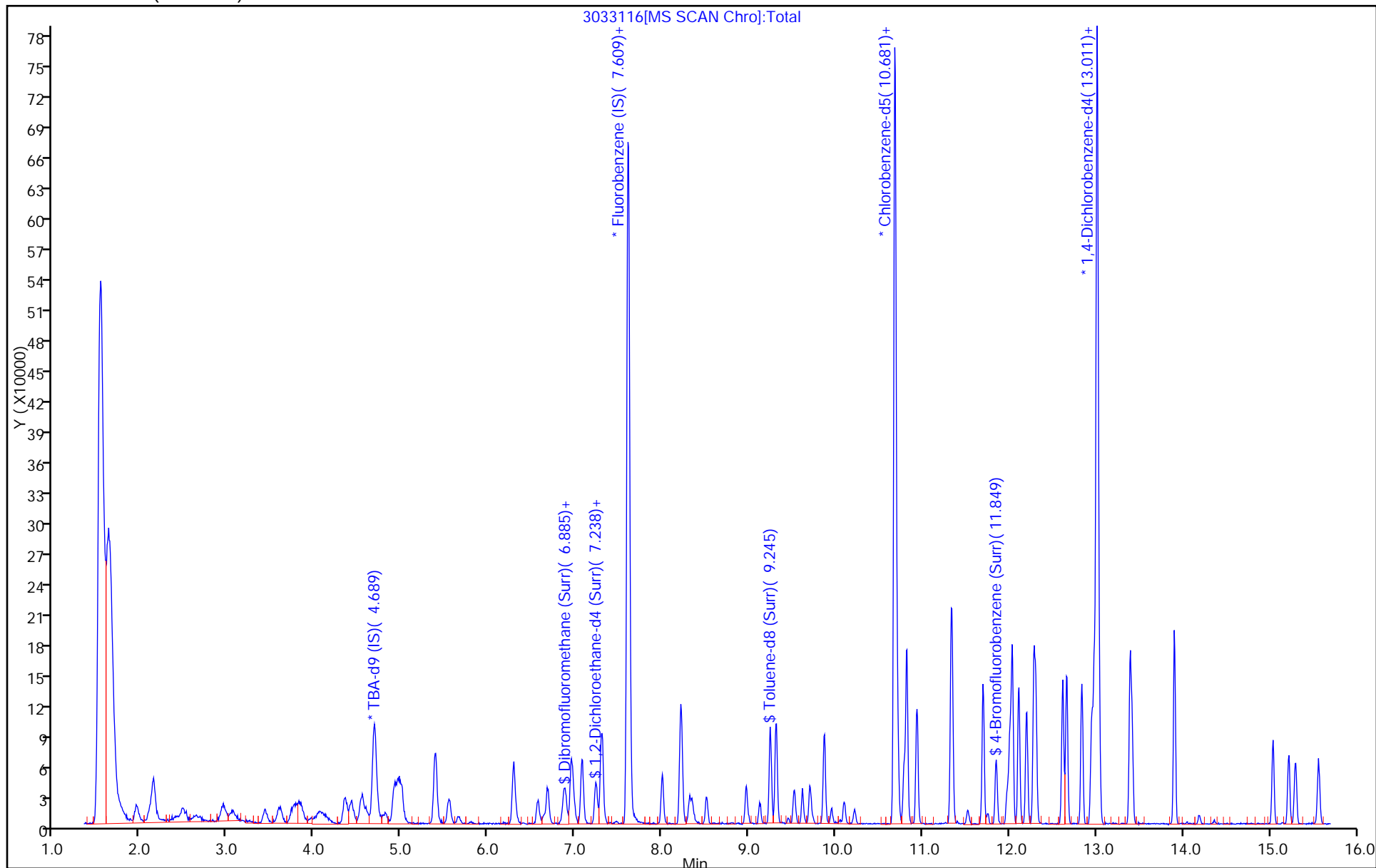
Dil. Factor: 1.0000

ALS Bottle#: 16

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)



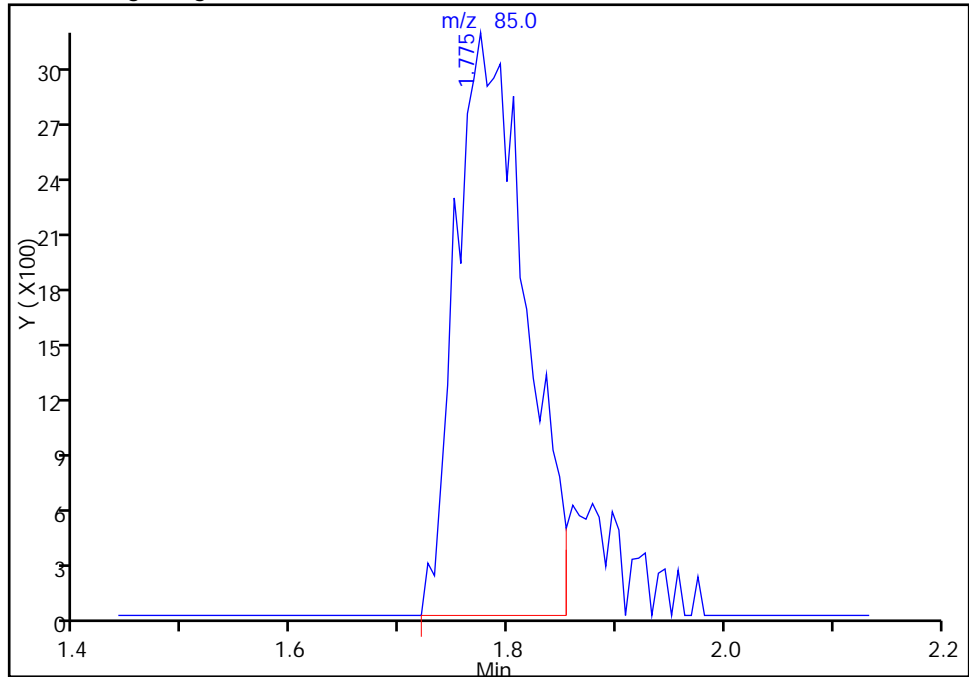
## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D  
Injection Date: 31-Mar-2015 14:29:30 Instrument ID: CHHP3  
Lims ID: IC VSTD5  
Client ID:  
Operator ID: 10099 ALS Bottle#: 16 Worklist Smp#: 21  
Purge Vol: 5.000 mL Dil. Factor: 1.0000  
Method: MSVOA\_S\_CHHP3 Limit Group: VOA 8260C ICAL  
Column: DB-624 (0.18 mm) Detector: MS SCAN

## 10 Dichlorodifluoromethane, CAS: 75-71-8

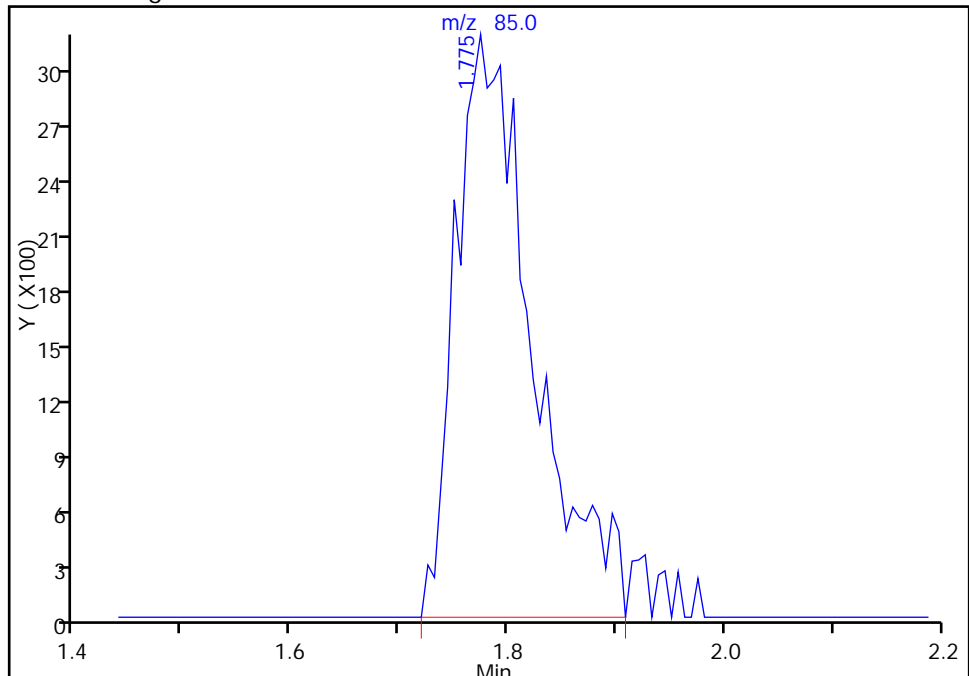
RT: 1.77  
Area: 13999  
Amount: 19.497255  
Amount Units: ng

## Processing Integration Results



RT: 1.77  
Area: 15481  
Amount: 21.309982  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 01-Apr-2015 04:30:05  
Audit Action: Manually Integrated  
Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D

Injection Date: 31-Mar-2015 14:29:30

Instrument ID: CHHP3

Lims ID: IC VSTD5

Client ID:

Operator ID: 10099

ALS Bottle#:

16

Worklist Smp#: 21

Purge Vol: 5.000 mL

Dil. Factor: 1.0000

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

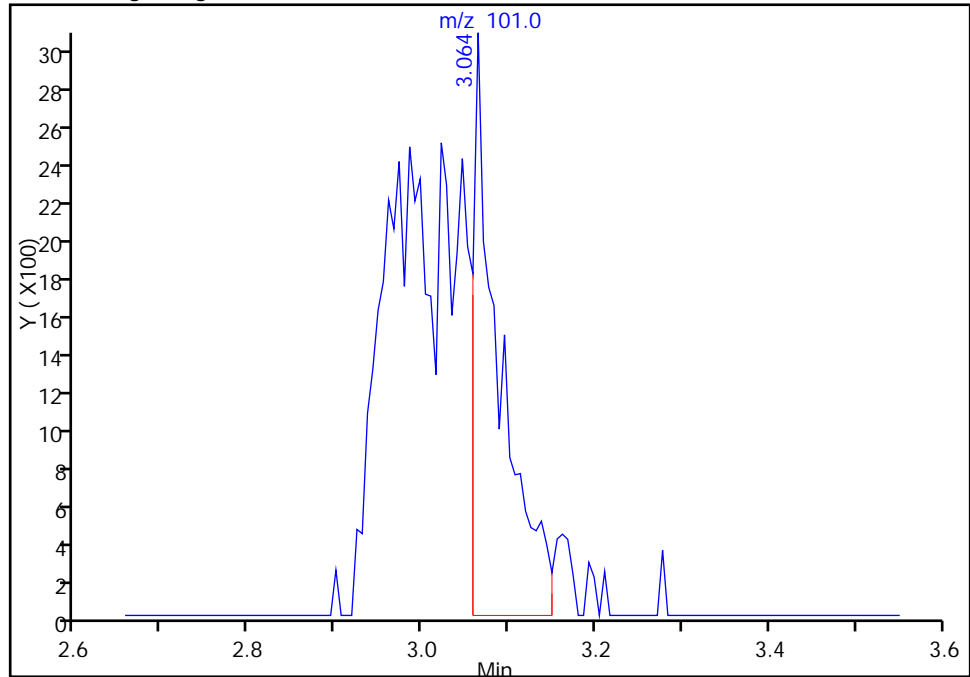
Column: DB-624 (0.18 mm)

Detector: MS SCAN

## 17 Trichlorofluoromethane, CAS: 75-69-4

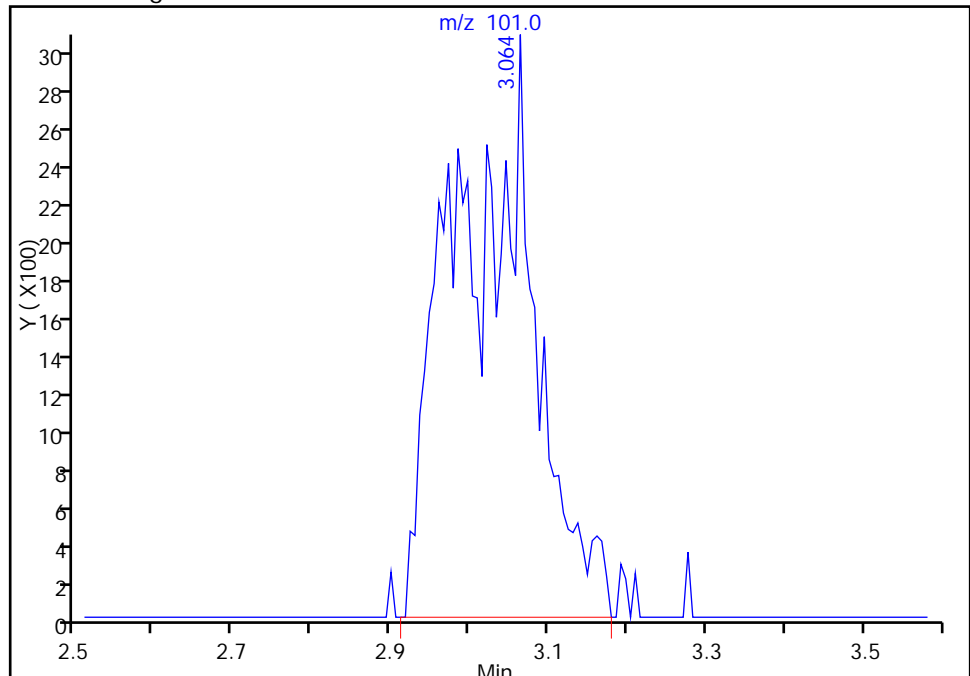
RT: 3.06  
Area: 6356  
Amount: 7.523132  
Amount Units: ng

## Processing Integration Results



RT: 3.06  
Area: 21074  
Amount: 22.685492  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 01-Apr-2015 04:30:05

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D

Injection Date: 31-Mar-2015 14:29:30

Instrument ID: CHHP3

Lims ID: IC VSTD5

Client ID:

Operator ID: 10099

ALS Bottle#:

16

Worklist Smp#: 21

Purge Vol: 5.000 mL

Dil. Factor:

1.0000

Method: MSVOA\_S\_CHHP3

Limit Group:

VOA 8260C ICAL

Column: DB-624 (0.18 mm)

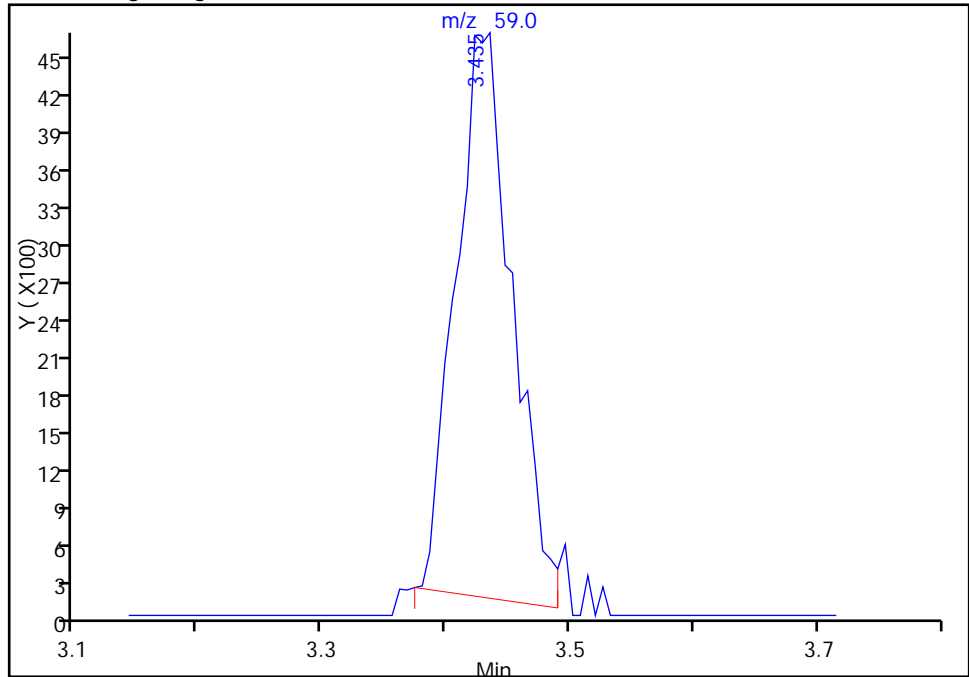
Detector

MS SCAN

## 19 Ethyl ether, CAS: 60-29-7

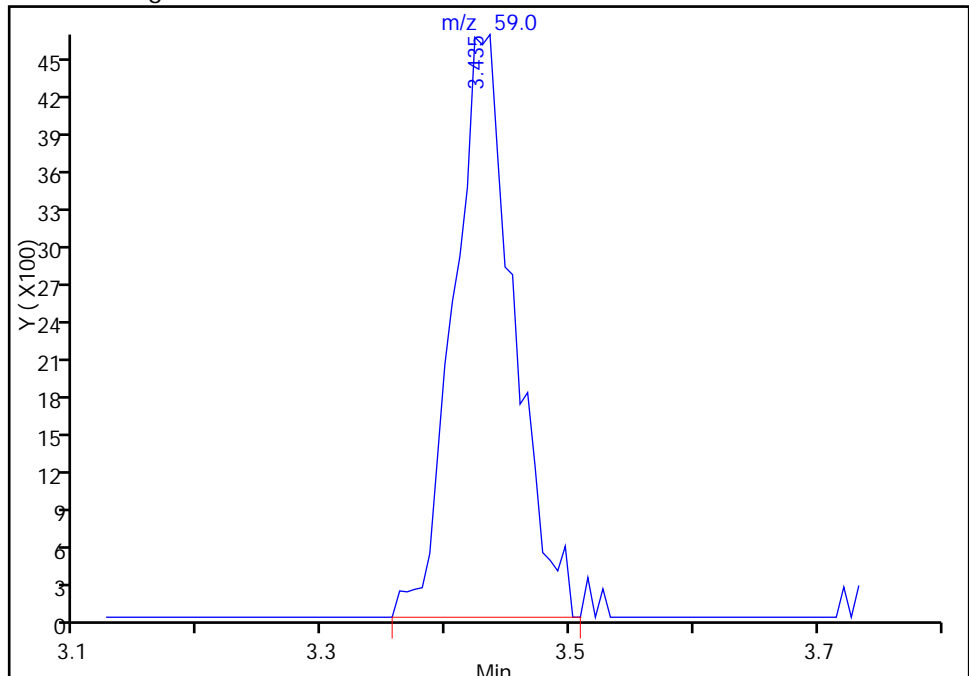
RT: 3.44  
Area: 14248  
Amount: 21.558175  
Amount Units: ng

## Processing Integration Results



RT: 3.44  
Area: 15624  
Amount: 23.362214  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 01-Apr-2015 04:30:05

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D

Injection Date: 31-Mar-2015 14:29:30

Instrument ID: CHHP3

Lims ID: IC VSTD5

Client ID:

Operator ID: 10099

ALS Bottle#:

16

Worklist Smp#: 21

Purge Vol: 5.000 mL

Dil. Factor:

1.0000

Method: MSVOA\_S\_CHHP3

Limit Group:

VOA 8260C ICAL

Column: DB-624 (0.18 mm)

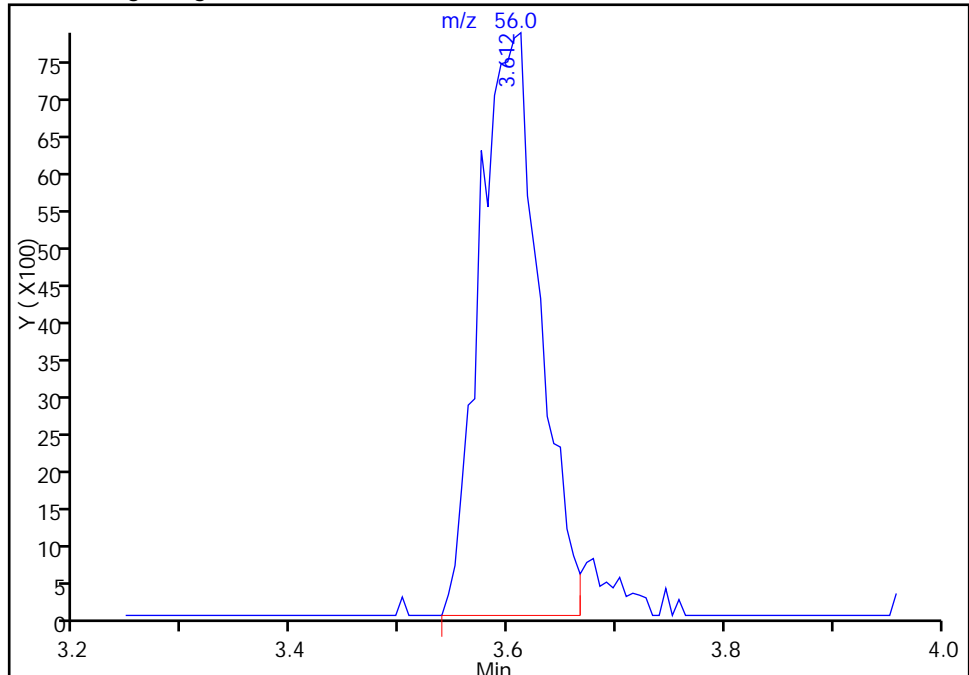
Detector

MS SCAN

## 20 Acrolein, CAS: 107-02-8

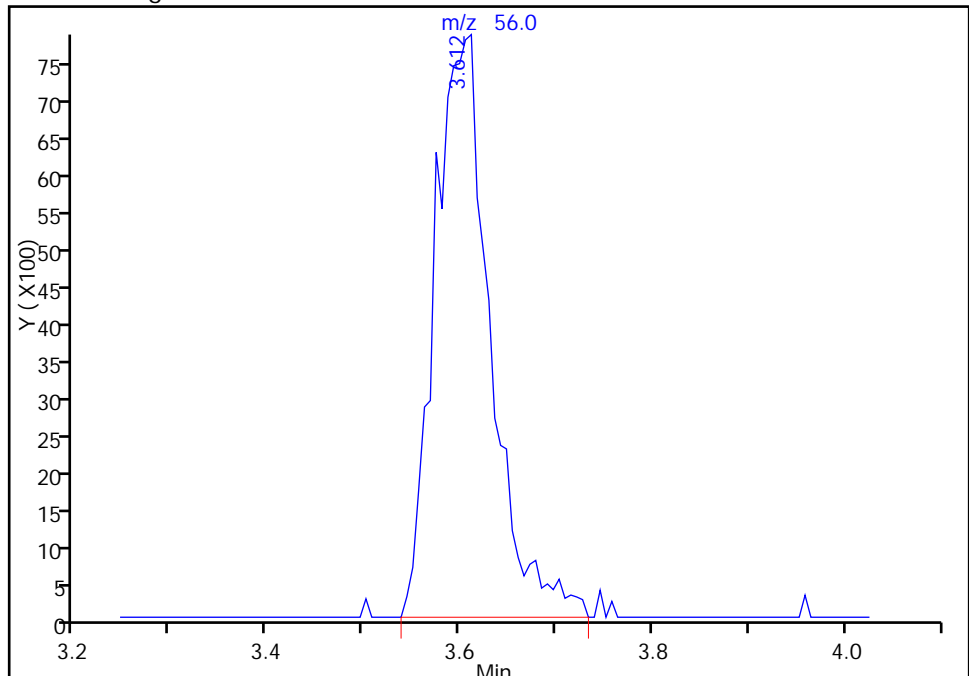
RT: 3.61  
Area: 30189  
Amount: 516.0004  
Amount Units: ng

## Processing Integration Results



RT: 3.61  
Area: 31751  
Amount: 538.5902  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 01-Apr-2015 04:30:05

Audit Action: Manually Integrated

Audit Reason: Poor chromatography



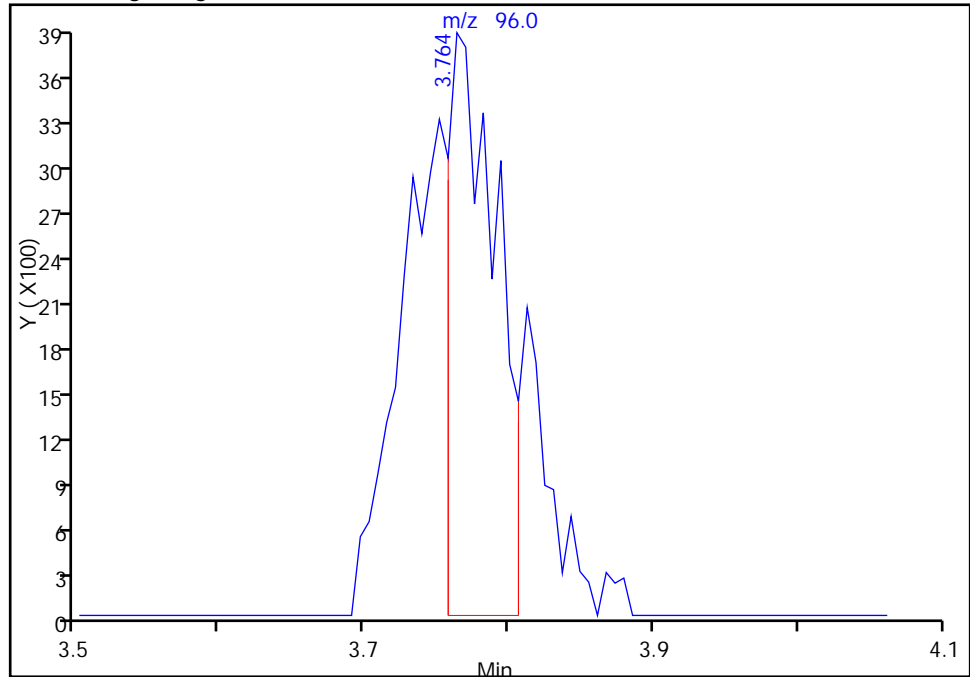
## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D  
Injection Date: 31-Mar-2015 14:29:30 Instrument ID: CHHP3  
Lims ID: IC VSTD5  
Client ID:  
Operator ID: 10099 ALS Bottle#: 16 Worklist Smp#: 21  
Purge Vol: 5.000 mL Dil. Factor: 1.0000  
Method: MSVOA\_S\_CHHP3 Limit Group: VOA 8260C ICAL  
Column: DB-624 (0.18 mm) Detector: MS SCAN

## 21 1,1-Dichloroethene, CAS: 75-35-4

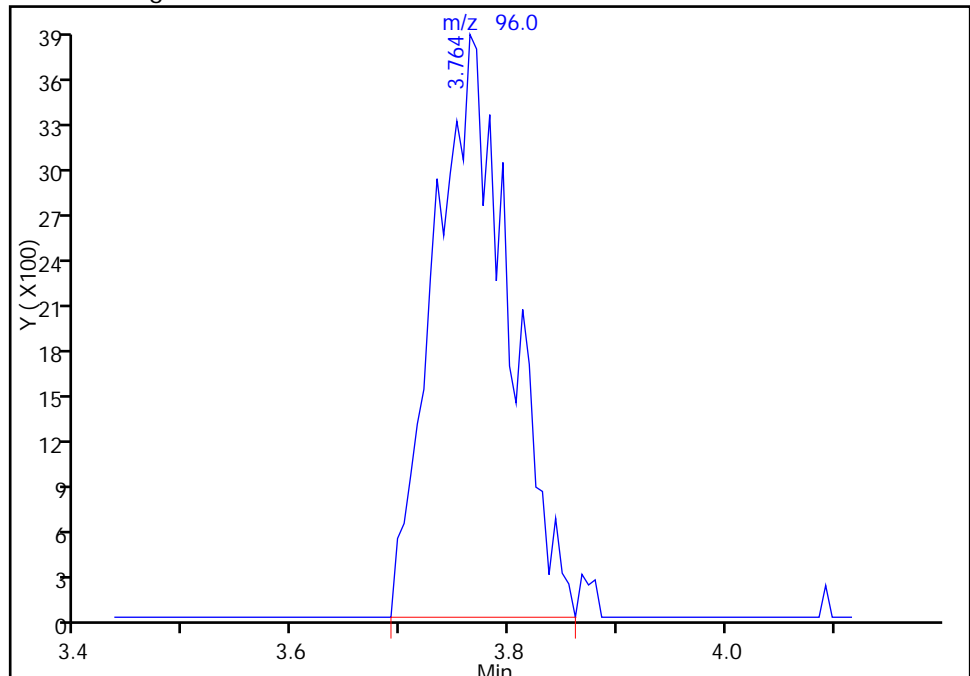
RT: 3.76  
Area: 9231  
Amount: 18.794155  
Amount Units: ng

## Processing Integration Results



RT: 3.76  
Area: 18689  
Amount: 22.934578  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 01-Apr-2015 04:30:05  
Audit Action: Manually Integrated  
Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D

Injection Date: 31-Mar-2015 14:29:30

Instrument ID: CHHP3

Lims ID: IC VSTD5

Client ID:

Operator ID: 10099

ALS Bottle#:

16

Worklist Smp#: 21

Purge Vol: 5.000 mL

Dil. Factor: 1.0000

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

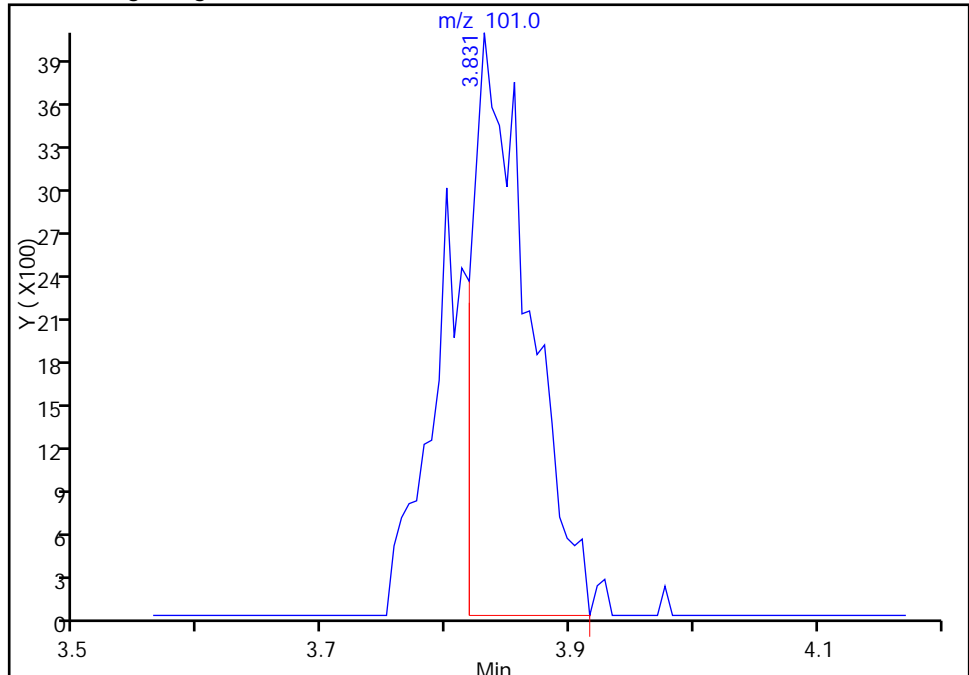
Column: DB-624 (0.18 mm)

Detector: MS SCAN

## 22 1,1,2-Trichloro-1,2,2-trifluoroethane, CAS: 76-13-1

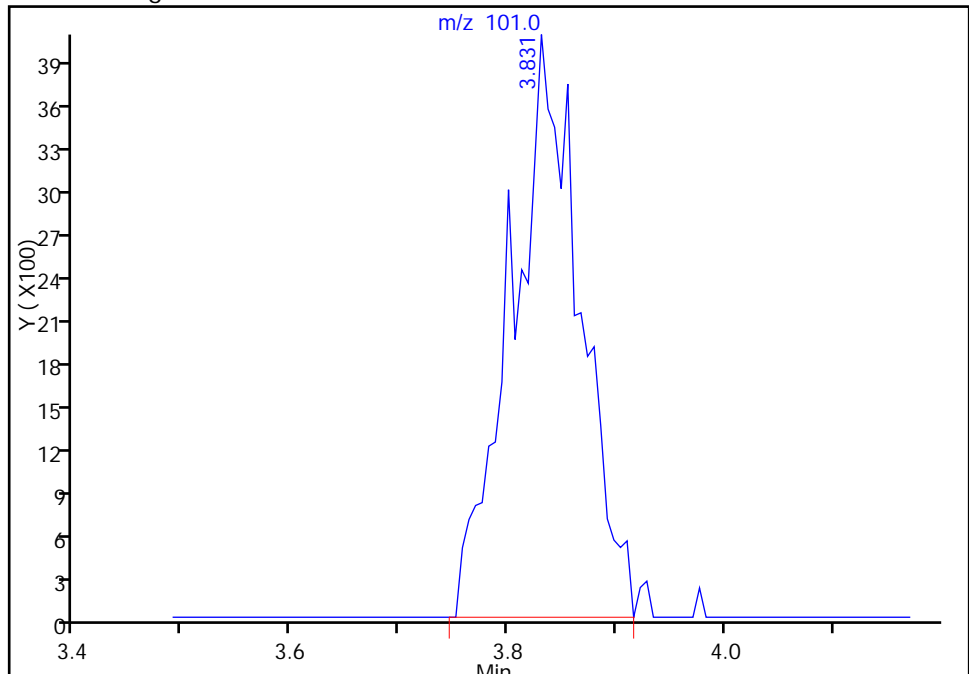
RT: 3.83  
Area: 12698  
Amount: 16.537400  
Amount Units: ng

## Processing Integration Results



RT: 3.83  
Area: 17864  
Amount: 22.404065  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 01-Apr-2015 04:30:05

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

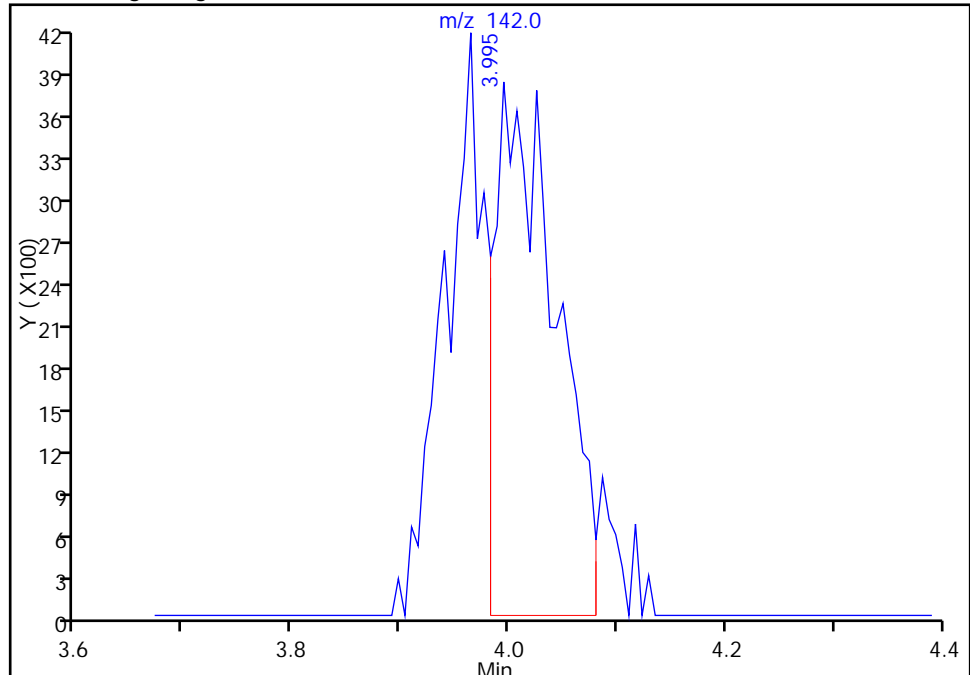
## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D  
Injection Date: 31-Mar-2015 14:29:30 Instrument ID: CHHP3  
Lims ID: IC VSTD5  
Client ID:  
Operator ID: 10099 ALS Bottle#: 16 Worklist Smp#: 21  
Purge Vol: 5.000 mL Dil. Factor: 1.0000  
Method: MSVOA\_S\_CHHP3 Limit Group: VOA 8260C ICAL  
Column: DB-624 (0.18 mm) Detector: MS SCAN

## 24 Iodomethane, CAS: 74-88-4

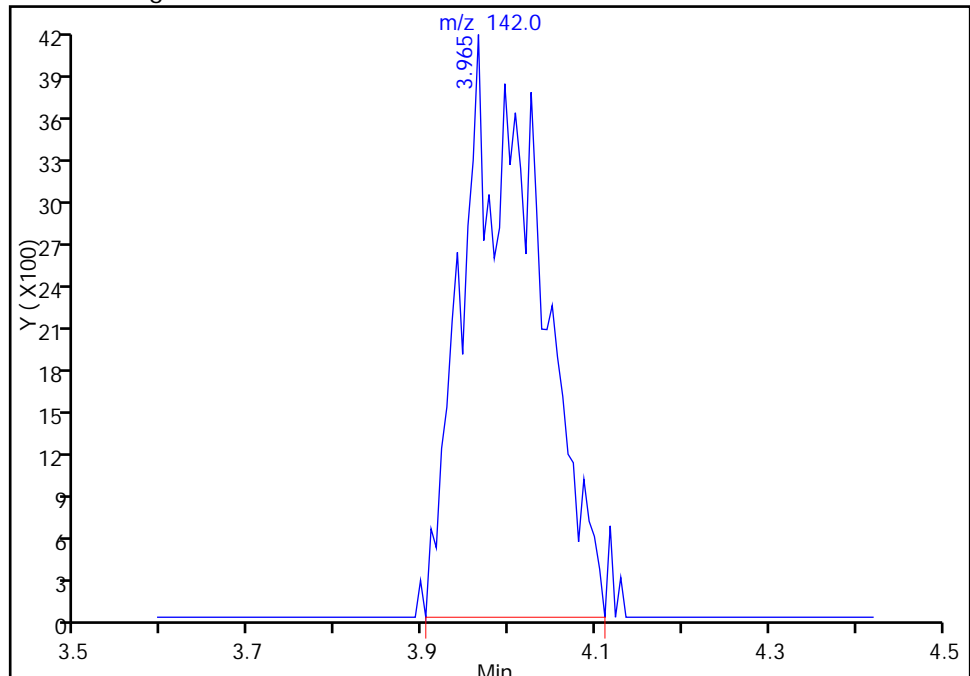
RT: 4.00  
Area: 15106  
Amount: 14.549053  
Amount Units: ng

## Processing Integration Results



RT: 3.96  
Area: 25760  
Amount: 23.436065  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 01-Apr-2015 04:30:05  
Audit Action: Manually Integrated  
Audit Reason: Poor chromatography

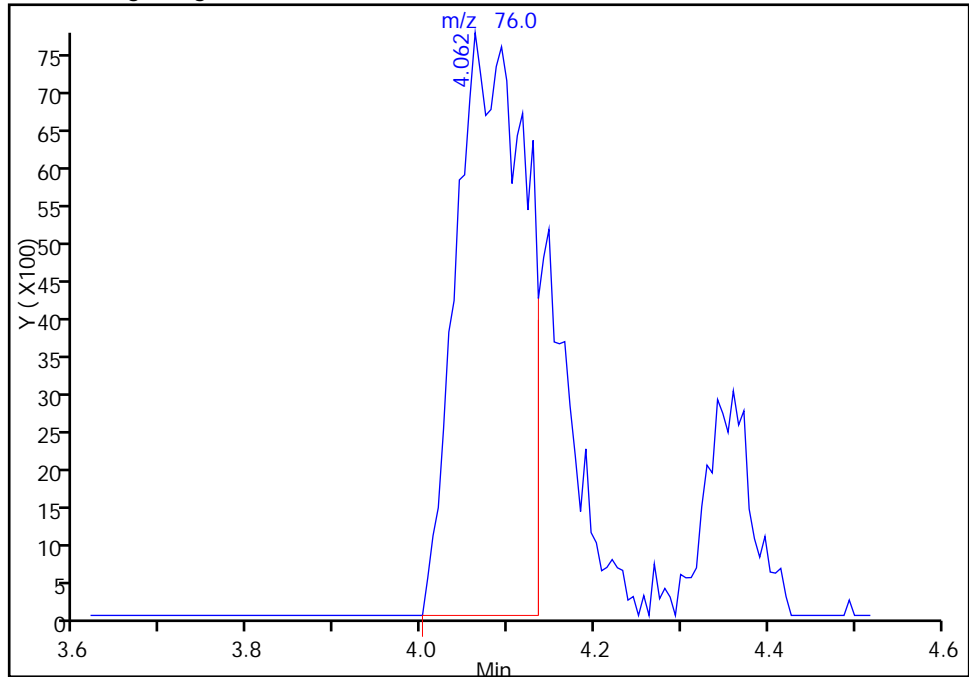
## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D  
Injection Date: 31-Mar-2015 14:29:30 Instrument ID: CHHP3  
Lims ID: IC VSTD5  
Client ID:  
Operator ID: 10099 ALS Bottle#: 16 Worklist Smp#: 21  
Purge Vol: 5.000 mL Dil. Factor: 1.0000  
Method: MSVOA\_S\_CHHP3 Limit Group: VOA 8260C ICAL  
Column: DB-624 (0.18 mm) Detector: MS SCAN

## 25 Carbon disulfide, CAS: 75-15-0

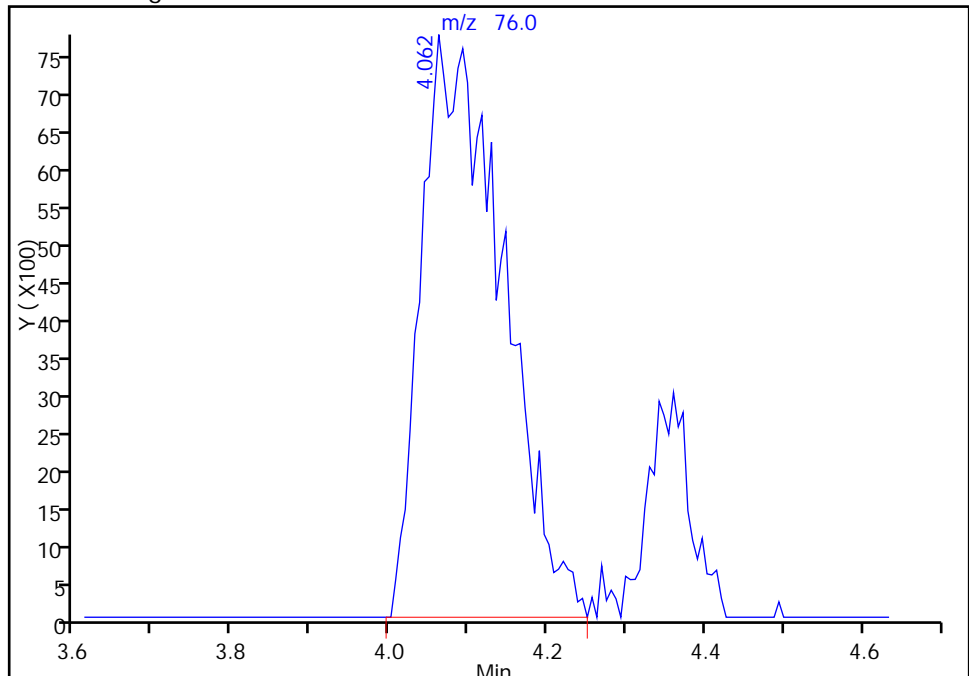
RT: 4.06  
Area: 42587  
Amount: 17.748786  
Amount Units: ng

## Processing Integration Results



RT: 4.06  
Area: 55337  
Amount: 22.382902  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 01-Apr-2015 04:30:05  
Audit Action: Manually Integrated  
Audit Reason: Poor chromatography

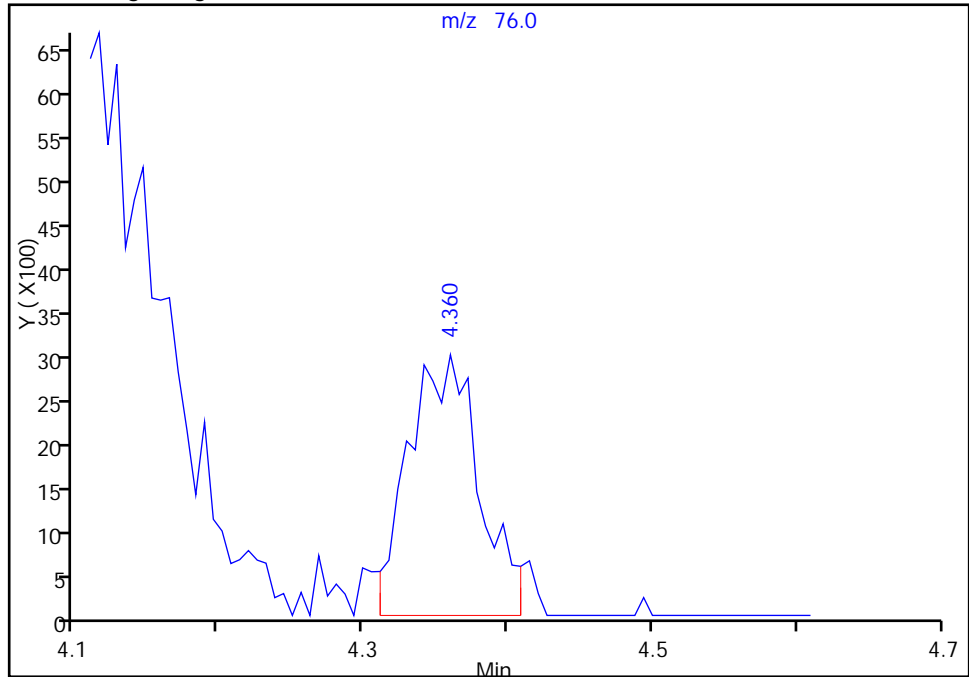
## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D  
Injection Date: 31-Mar-2015 14:29:30 Instrument ID: CHHP3  
Lims ID: IC VSTD5  
Client ID:  
Operator ID: 10099 ALS Bottle#: 16 Worklist Smp#: 21  
Purge Vol: 5.000 mL Dil. Factor: 1.0000  
Method: MSVOA\_S\_CHHP3 Limit Group: VOA 8260C ICAL  
Column: DB-624 (0.18 mm) Detector: MS SCAN

**28 3-Chloro-1-propene, CAS: 107-05-1**

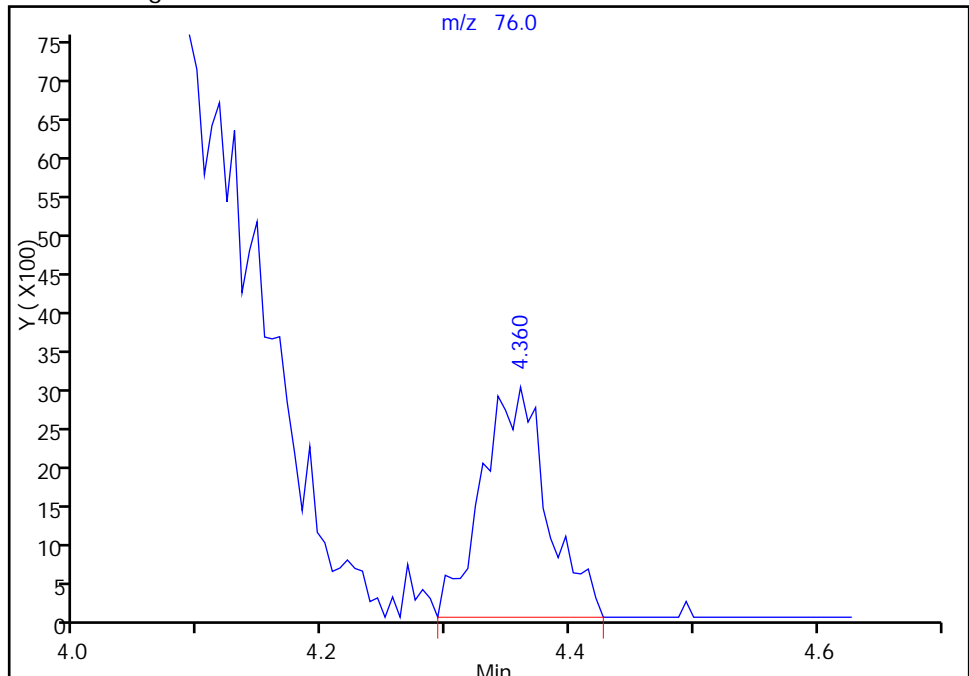
RT: 4.36  
Area: 10235  
Amount: 21.223914  
Amount Units: ng

## Processing Integration Results



RT: 4.36  
Area: 10932  
Amount: 22.483561  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 01-Apr-2015 04:30:05  
Audit Action: Manually Integrated  
Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D

Injection Date: 31-Mar-2015 14:29:30

Instrument ID: CHHP3

Lims ID: IC VSTD5

Client ID:

Operator ID: 10099

ALS Bottle#:

16

Worklist Smp#: 21

Purge Vol: 5.000 mL

Dil. Factor:

1.0000

Method: MSVOA\_S\_CHHP3

Limit Group:

VOA 8260C ICAL

Column: DB-624 (0.18 mm)

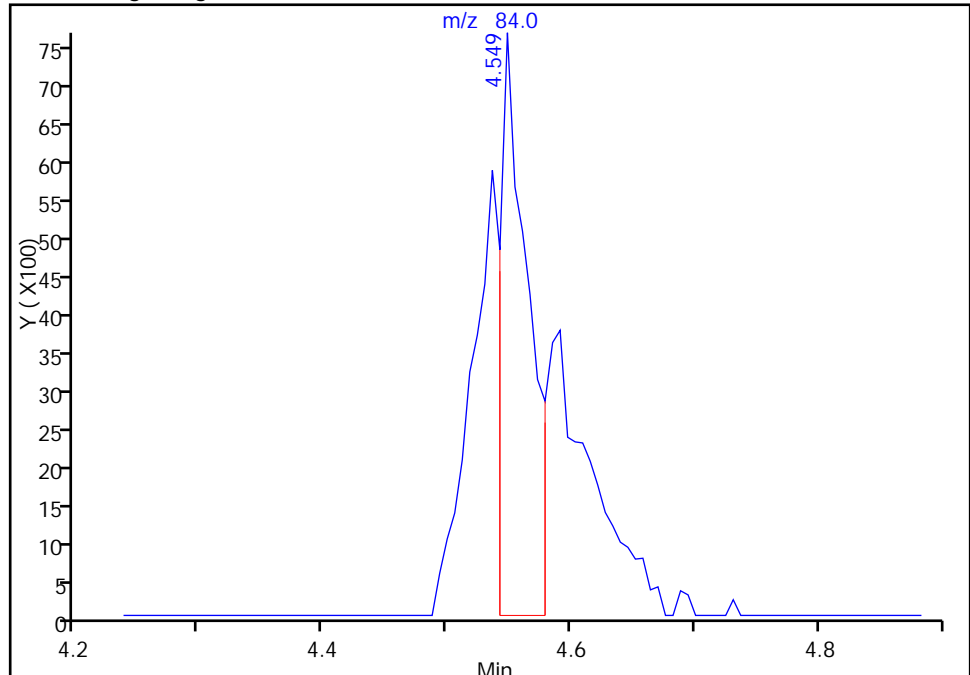
Detector

MS SCAN

## 30 Methylene Chloride, CAS: 75-09-2

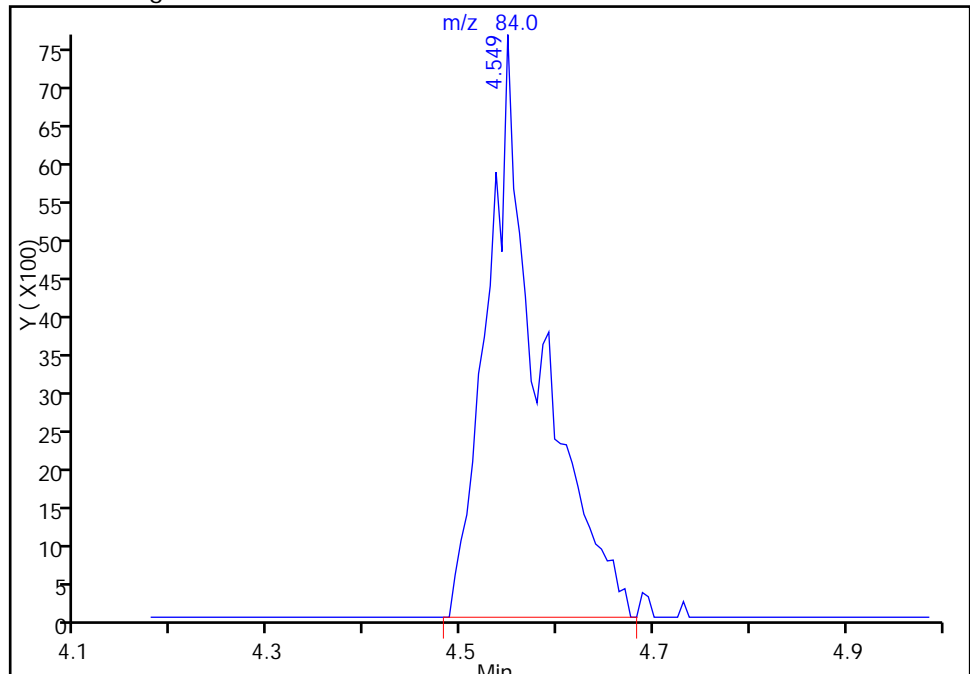
RT: 4.55  
Area: 12080  
Amount: 20.620625  
Amount Units: ng

## Processing Integration Results



RT: 4.55  
Area: 28981  
Amount: 31.704151  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 01-Apr-2015 04:30:05

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D

Injection Date: 31-Mar-2015 14:29:30

Instrument ID: CHHP3

Lims ID: IC VSTD5

Client ID:

Operator ID: 10099

ALS Bottle#:

16

Worklist Smp#: 21

Purge Vol: 5.000 mL

Dil. Factor:

1.0000

Method: MSVOA\_S\_CHHP3

Limit Group:

VOA 8260C ICAL

Column: DB-624 (0.18 mm)

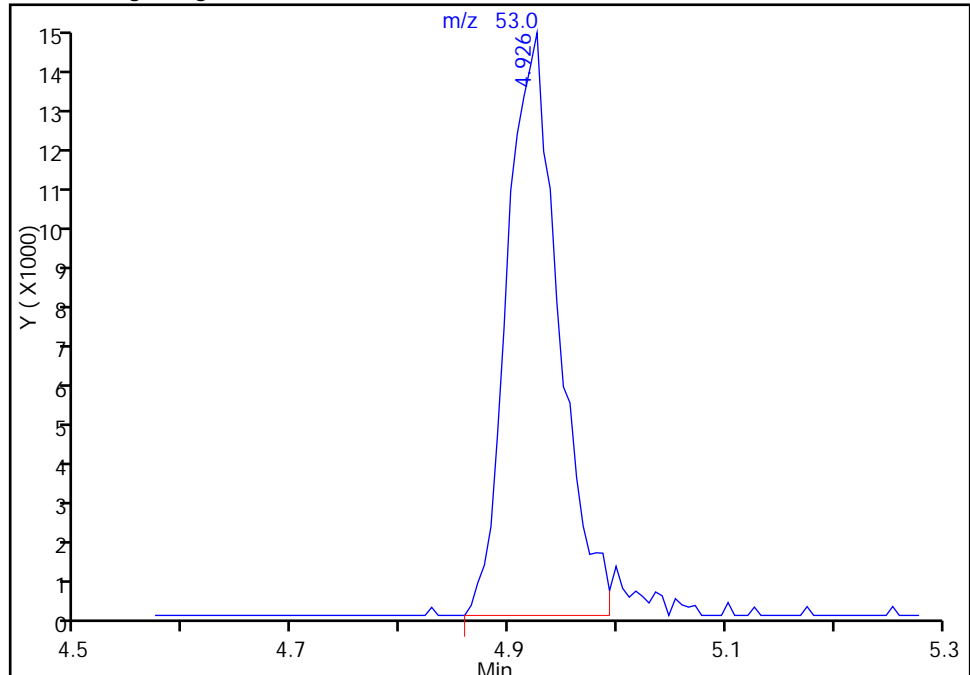
Detector

MS SCAN

## 32 Acrylonitrile, CAS: 107-13-1

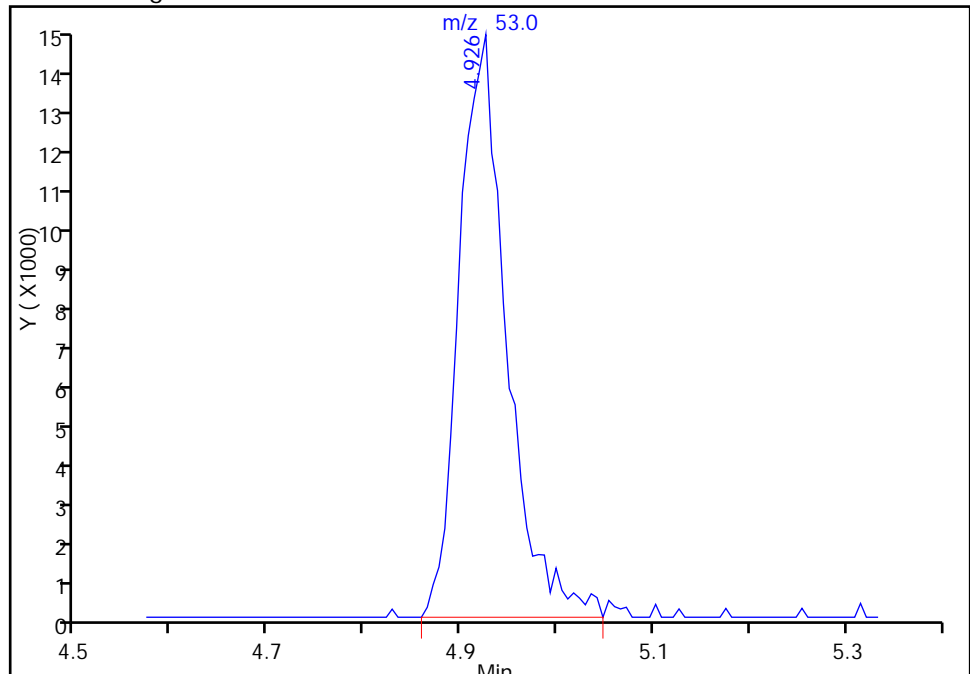
RT: 4.93  
Area: 48754  
Amount: 227.6466  
Amount Units: ng

## Processing Integration Results



RT: 4.93  
Area: 50533  
Amount: 234.8386  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 01-Apr-2015 04:30:05

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

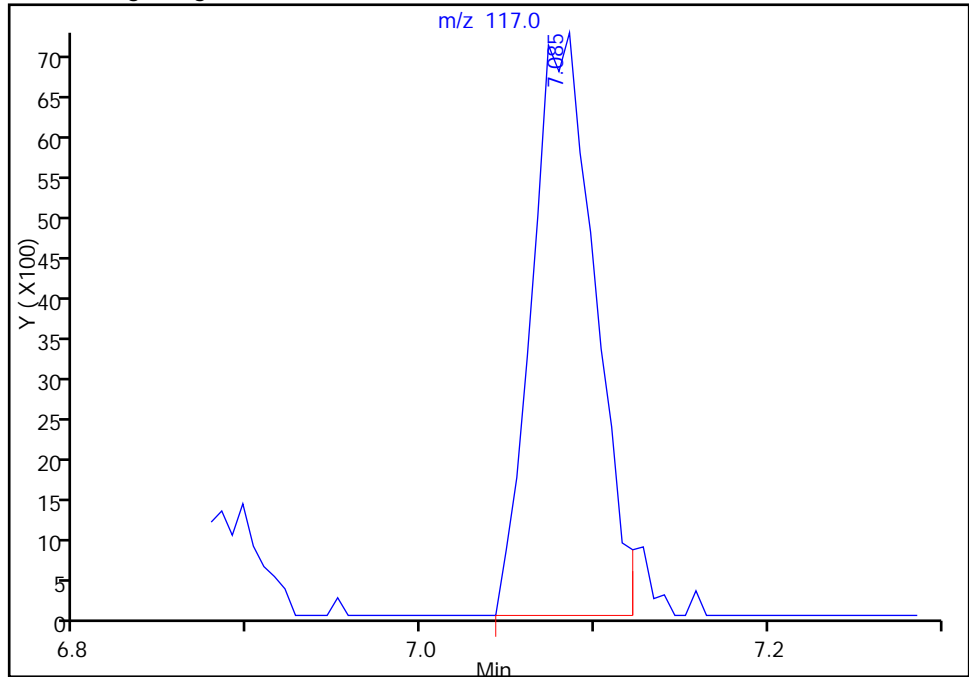
## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D  
Injection Date: 31-Mar-2015 14:29:30 Instrument ID: CHHP3  
Lims ID: IC VSTD5  
Client ID:  
Operator ID: 10099 ALS Bottle#: 16 Worklist Smp#: 21  
Purge Vol: 5.000 mL Dil. Factor: 1.0000  
Method: MSVOA\_S\_CHHP3 Limit Group: VOA 8260C ICAL  
Column: DB-624 (0.18 mm) Detector: MS SCAN

## 53 Carbon tetrachloride, CAS: 56-23-5

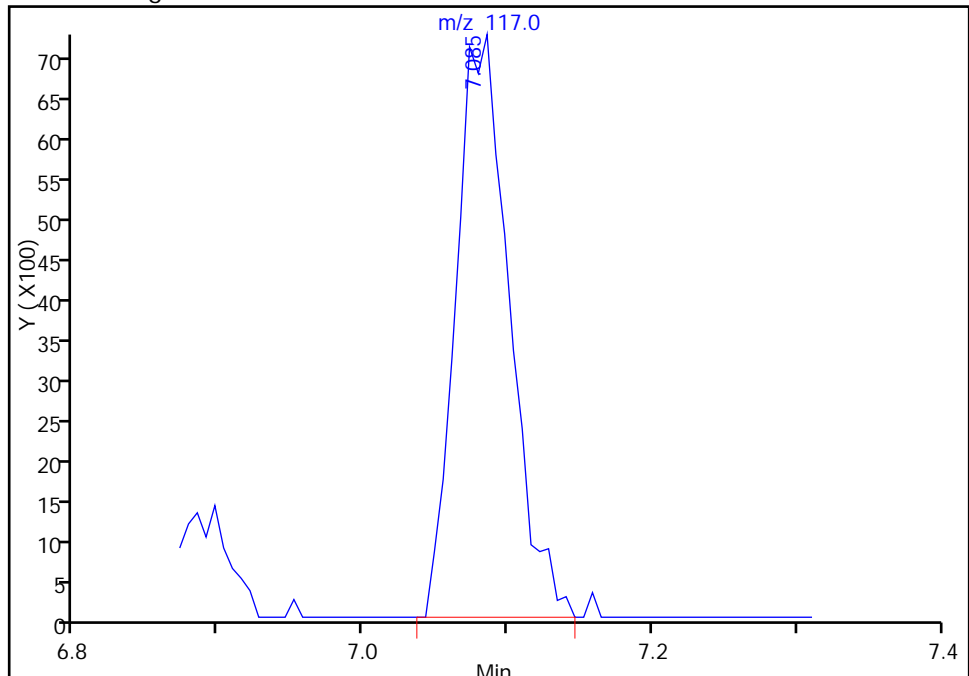
RT: 7.09  
Area: 18239  
Amount: 21.272586  
Amount Units: ng

## Processing Integration Results



RT: 7.09  
Area: 18722  
Amount: 21.765855  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 01-Apr-2015 04:30:05  
Audit Action: Manually Integrated  
Audit Reason: Poor chromatography



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCVIS 180-139697/3 Calibration Date: 04/27/2015 07:08  
Instrument ID: CHHP3 Calib Start Date: 03/23/2015 13:00  
GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 03/23/2015 15:37  
Lab File ID: 3042703.D Conc. Units: ug/L Heated Purge: (Y/N) Y

| ANALYTE                   | CURVE<br>TYPE | AVE RRF | RRF    | MIN RRF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D    | MAX<br>%D |
|---------------------------|---------------|---------|--------|---------|----------------|-----------------|-------|-----------|
| 2-Chloroethyl vinyl ether | Ave           | 0.1728  | 0.1401 | 0.0100  | 64.9           | 80.0            | -18.9 | 20.0      |

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\3042703.D  
 Lims ID: CCVIS  
 Client ID:  
 Sample Type: CCVIS  
 Inject. Date: 27-Apr-2015 07:08:30 ALS Bottle#: 3 Worklist Smp#: 3  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: CCVIS  
 Operator ID: 10099 Instrument ID: CHHP3  
 Sublist: chrom-MSVOA\_S\_CHHP3\*sub20  
 Method: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\MSVOA\_S\_CHHP3.m  
 Limit Group: VOA 8260C ICAL  
 Last Update: 27-Apr-2015 08:51:13 Calib Date: 31-Mar-2015 14:29:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D  
 Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
 Process Host: XAWRK028

First Level Reviewer: gordonk

Date: 27-Apr-2015 07:30:19

| Compound                        | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q   | Response | Cal Amt ng | OnCol Amt ng | Flags |
|---------------------------------|-----|-----------|---------------|---------------|-----|----------|------------|--------------|-------|
| * 1 TBA-d9 (IS)                 | 65  | 4.741     | 4.741         | 0.000         | 94  | 137837   | 5000.0     | 5000.0       |       |
| * 2 Fluorobenzene (IS)          | 96  | 7.600     | 7.600         | 0.000         | 98  | 696670   | 250.0      | 250.0        |       |
| * 3 Chlorobenzene-d5            | 119 | 10.684    | 10.684        | 0.000         | 90  | 153732   | 250.0      | 250.0        |       |
| * 4 1,4-Dichlorobenzene-d4      | 152 | 13.008    | 13.008        | 0.000         | 97  | 236290   | 250.0      | 250.0        |       |
| \$ 5 Dibromofluoromethane (Surr | 113 | 6.858     | 6.858         | 0.000         | 94  | 123110   | 200.0      | 207.3        |       |
| \$ 6 1,2-Dichloroethane-d4 (Sur | 65  | 7.223     | 7.223         | 0.000         | 93  | 135917   | 200.0      | 198.0        |       |
| \$ 7 Toluene-d8 (Surr)          | 98  | 9.243     | 9.243         | 0.000         | 94  | 526968   | 200.0      | 204.7        |       |
| \$ 8 4-Bromofluorobenzene (Surr | 95  | 11.846    | 11.846        | 0.000         | 86  | 205703   | 200.0      | 201.5        |       |
| 10 Dichlorodifluoromethane      | 85  | 1.754     | 1.754         | 0.000         | 99  | 230569   | 200.0      | 318.7        |       |
| 11 Chloromethane                | 50  | 1.948     | 1.948         | 0.000         | 99  | 362111   | 200.0      | 274.4        |       |
| 12 Vinyl chloride               | 62  | 2.107     | 2.107         | 0.000         | 98  | 283055   | 200.0      | 256.9        |       |
| 13 Butadiene                    | 39  | 2.137     | 2.137         | 0.000         | 90  | 303567   | 200.0      | 263.5        |       |
| 14 Bromomethane                 | 94  | 2.472     | 2.472         | 0.000         | 91  | 66768    | 200.0      | 224.6        |       |
| 15 Chloroethane                 | 64  | 2.599     | 2.599         | 0.000         | 99  | 80998    | 200.0      | 211.4        |       |
| 16 Dichlorofluoromethane        | 67  | 2.910     | 2.910         | 0.000         | 97  | 255256   | 200.0      | 225.1        |       |
| 17 Trichlorofluoromethane       | 101 | 2.977     | 2.977         | 0.000         | 72  | 218240   | 200.0      | 235.9        | M     |
| 19 Ethyl ether                  | 59  | 3.415     | 3.415         | 0.000         | 98  | 115563   | 200.0      | 173.5        |       |
| 20 Acrolein                     | 56  | 3.591     | 3.591         | 0.000         | 97  | 50407    | 875.0      | 858.5        |       |
| 21 1,1-Dichloroethene           | 96  | 3.707     | 3.707         | 0.000         | 95  | 173841   | 200.0      | 214.2        |       |
| 22 1,1,2-Trichloro-1,2,2-trif   | 101 | 3.804     | 3.804         | 0.000         | 94  | 181255   | 200.0      | 228.2        |       |
| 23 Acetone                      | 43  | 3.871     | 3.871         | 0.000         | 100 | 34239    | 200.0      | 160.6        |       |
| 24 Iodomethane                  | 142 | 3.932     | 3.932         | 0.000         | 95  | 243293   | 200.0      | 222.2        | M     |
| 25 Carbon disulfide             | 76  | 4.017     | 4.017         | 0.000         | 100 | 570580   | 200.0      | 231.7        |       |
| 28 3-Chloro-1-propene           | 76  | 4.321     | 4.321         | 0.000         | 92  | 106122   | 200.0      | 219.1        |       |
| 29 Methyl acetate               | 43  | 4.418     | 4.418         | 0.000         | 99  | 382201   | 1000.0     | 886.4        |       |
| 30 Methylene Chloride           | 84  | 4.516     | 4.516         | 0.000         | 96  | 184644   | 200.0      | 202.8        |       |
| 31 2-Methyl-2-propanol          | 59  | 4.856     | 4.856         | 0.000         | 95  | 85562    | 2000.0     | 2083.4       |       |
| 32 Acrylonitrile                | 53  | 4.911     | 4.911         | 0.000         | 97  | 416026   | 2000.0     | 1941.1       |       |
| 33 trans-1,2-Dichloroethene     | 96  | 4.941     | 4.941         | 0.000         | 94  | 186920   | 200.0      | 228.4        |       |
| 34 Methyl tert-butyl ether      | 73  | 4.996     | 4.996         | 0.000         | 97  | 303552   | 200.0      | 190.2        |       |
| 35 Hexane                       | 57  | 5.367     | 5.367         | 0.000         | 92  | 364643   | 200.0      | 200.7        |       |

| Compound                       | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q  | Response | Cal Amt ng | OnCol Amt ng | Flags |
|--------------------------------|-----|-----------|---------------|---------------|----|----------|------------|--------------|-------|
| 36 1,1-Dichloroethane          | 63  | 5.532     | 5.532         | 0.000         | 96 | 373029   | 200.0      | 232.6        |       |
| 41 2,2-Dichloropropane         | 77  | 6.280     | 6.280         | 0.000         | 55 | 150445   | 200.0      | 223.8        |       |
| 42 cis-1,2-Dichloroethene      | 96  | 6.286     | 6.286         | 0.000         | 86 | 191392   | 200.0      | 216.7        |       |
| 43 2-Butanone (MEK)            | 43  | 6.329     | 6.329         | 0.000         | 98 | 43658    | 200.0      | 171.8        |       |
| 47 Chlorobromomethane          | 128 | 6.566     | 6.566         | 0.000         | 89 | 64204    | 200.0      | 200.9        |       |
| 48 Tetrahydrofuran             | 42  | 6.639     | 6.639         | 0.000         | 96 | 59069    | 400.0      | 357.6        |       |
| 49 Chloroform                  | 83  | 6.675     | 6.675         | 0.000         | 98 | 286753   | 200.0      | 222.8        |       |
| 50 1,1,1-Trichloroethane       | 97  | 6.876     | 6.876         | 0.000         | 97 | 242969   | 200.0      | 233.7        |       |
| 51 Cyclohexane                 | 56  | 6.949     | 6.949         | 0.000         | 92 | 469865   | 200.0      | 228.4        |       |
| 52 1,1-Dichloropropene         | 75  | 7.071     | 7.071         | 0.000         | 91 | 227971   | 200.0      | 225.4        |       |
| 53 Carbon tetrachloride        | 117 | 7.071     | 7.071         | 0.000         | 78 | 197689   | 200.0      | 230.8        |       |
| 54 Isobutyl alcohol            | 41  | 7.259     | 7.259         | 0.000         | 92 | 72417    | 5000.0     | 4479.4       |       |
| 55 Benzene                     | 78  | 7.296     | 7.296         | 0.000         | 97 | 638380   | 200.0      | 206.1        |       |
| 56 1,2-Dichloroethane          | 62  | 7.308     | 7.308         | 0.000         | 95 | 178856   | 200.0      | 204.6        |       |
| 59 n-Heptane                   | 43  | 7.624     | 7.624         | 0.000         | 96 | 333507   | 200.0      | 202.7        |       |
| 60 Trichloroethene             | 130 | 8.001     | 8.001         | 0.000         | 98 | 162148   | 200.0      | 208.1        |       |
| 63 Methylcyclohexane           | 83  | 8.208     | 8.208         | 0.000         | 96 | 357088   | 200.0      | 222.3        |       |
| 64 1,2-Dichloropropane         | 63  | 8.227     | 8.227         | 0.000         | 94 | 164361   | 200.0      | 200.1        |       |
| 65 Dibromomethane              | 93  | 8.336     | 8.336         | 0.000         | 96 | 57848    | 200.0      | 183.8        |       |
| 67 1,4-Dioxane                 | 88  | 8.373     | 8.373         | 0.000         | 98 | 16538    | 4000.0     | 3208.4       |       |
| 68 Dichlorobromomethane        | 83  | 8.506     | 8.506         | 0.000         | 97 | 166747   | 200.0      | 195.9        |       |
| 70 2-Chloroethyl vinyl ether   | 63  | 8.823     | 8.823         | 0.000         | 91 | 156182   | 400.0      | 324.3        |       |
| 71 cis-1,3-Dichloropropene     | 75  | 8.969     | 8.969         | 0.000         | 92 | 193684   | 200.0      | 183.0        |       |
| 72 4-Methyl-2-pentanone (MIBK) | 43  | 9.127     | 9.127         | 0.000         | 97 | 90300    | 200.0      | 159.0        |       |
| 73 Toluene                     | 91  | 9.309     | 9.309         | 0.000         | 98 | 662638   | 200.0      | 214.3        |       |
| 74 trans-1,3-Dichloropropene   | 75  | 9.516     | 9.516         | 0.000         | 98 | 143200   | 200.0      | 185.2        |       |
| 75 Ethyl methacrylate          | 69  | 9.620     | 9.620         | 0.000         | 95 | 117848   | 200.0      | 178.3        |       |
| 76 1,1,2-Trichloroethane       | 97  | 9.699     | 9.699         | 0.000         | 94 | 84185    | 200.0      | 176.1        |       |
| 77 Tetrachloroethene           | 164 | 9.869     | 9.869         | 0.000         | 96 | 118767   | 200.0      | 204.2        |       |
| 78 1,3-Dichloropropane         | 76  | 9.869     | 9.869         | 0.000         | 96 | 160465   | 200.0      | 185.4        |       |
| 79 2-Hexanone                  | 43  | 9.954     | 9.954         | 0.000         | 97 | 64949    | 200.0      | 179.2        |       |
| 81 Chlorodibromomethane        | 129 | 10.100    | 10.100        | 0.000         | 90 | 92751    | 200.0      | 188.1        |       |
| 82 Ethylene Dibromide          | 107 | 10.210    | 10.210        | 0.000         | 98 | 80657    | 200.0      | 176.0        |       |
| 83 Chlorobenzene               | 112 | 10.709    | 10.709        | 0.000         | 91 | 402846   | 200.0      | 203.1        |       |
| 85 1,1,1,2-Tetrachloroethane   | 131 | 10.788    | 10.788        | 0.000         | 94 | 124441   | 200.0      | 205.7        |       |
| 86 Ethylbenzene                | 106 | 10.818    | 10.818        | 0.000         | 99 | 249751   | 200.0      | 214.5        |       |
| 87 m-Xylene & p-Xylene         | 106 | 10.934    | 10.934        | 0.000         | 99 | 296630   | 200.0      | 203.6        |       |
| 88 o-Xylene                    | 106 | 11.329    | 11.329        | 0.000         | 98 | 290292   | 200.0      | 206.0        |       |
| 89 Styrene                     | 104 | 11.335    | 11.335        | 0.000         | 94 | 462101   | 200.0      | 199.1        |       |
| 90 Bromoform                   | 173 | 11.518    | 11.518        | 0.000         | 96 | 48960    | 200.0      | 167.5        |       |
| 91 Isopropylbenzene            | 105 | 11.694    | 11.694        | 0.000         | 97 | 805531   | 200.0      | 217.5        |       |
| 93 1,1,2,2-Tetrachloroethane   | 83  | 11.974    | 11.974        | 0.000         | 93 | 102193   | 200.0      | 179.5        |       |
| 94 Bromobenzene                | 156 | 12.004    | 12.004        | 0.000         | 98 | 159167   | 200.0      | 197.6        |       |
| 95 1,2,3-Trichloropropane      | 110 | 12.023    | 12.023        | 0.000         | 86 | 27898    | 200.0      | 174.3        |       |
| 96 trans-1,4-Dichloro-2-buten  | 53  | 12.029    | 12.029        | 0.000         | 75 | 35741    | 200.0      | 183.2        |       |
| 97 N-Propylbenzene             | 120 | 12.108    | 12.108        | 0.000         | 99 | 227160   | 200.0      | 214.2        |       |
| 98 2-Chlorotoluene             | 126 | 12.199    | 12.199        | 0.000         | 96 | 174571   | 200.0      | 205.9        |       |
| 99 1,3,5-Trimethylbenzene      | 105 | 12.278    | 12.278        | 0.000         | 93 | 672609   | 200.0      | 217.5        |       |
| 100 4-Chlorotoluene            | 126 | 12.302    | 12.302        | 0.000         | 98 | 176106   | 200.0      | 201.1        |       |
| 101 tert-Butylbenzene          | 119 | 12.613    | 12.613        | 0.000         | 95 | 590000   | 200.0      | 215.2        |       |
| 103 1,2,4-Trimethylbenzene     | 105 | 12.655    | 12.655        | 0.000         | 97 | 688734   | 200.0      | 216.5        |       |
| 104 sec-Butylbenzene           | 105 | 12.832    | 12.832        | 0.000         | 95 | 903211   | 200.0      | 222.6        |       |

| Compound                         | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q  | Response | Cal Amt ng | OnCol Amt ng | Flags |
|----------------------------------|-----|-----------|---------------|---------------|----|----------|------------|--------------|-------|
| 105 1,3-Dichlorobenzene          | 146 | 12.947    | 12.947        | 0.000         | 96 | 307008   | 200.0      | 201.1        |       |
| 106 4-Isopropyltoluene           | 119 | 12.978    | 12.978        | 0.000         | 97 | 734258   | 200.0      | 221.1        |       |
| 107 1,4-Dichlorobenzene          | 146 | 13.033    | 13.033        | 0.000         | 93 | 292368   | 200.0      | 197.8        |       |
| 110 n-Butylbenzene               | 91  | 13.385    | 13.385        | 0.000         | 98 | 741254   | 200.0      | 231.3        |       |
| 111 1,2-Dichlorobenzene          | 146 | 13.410    | 13.410        | 0.000         | 94 | 261143   | 200.0      | 191.9        |       |
| 112 1,2-Dibromo-3-Chloropropan   | 75  | 14.182    | 14.182        | 0.000         | 78 | 13942    | 200.0      | 162.8        |       |
| 114 1,2,4-Trichlorobenzene       | 180 | 15.034    | 15.034        | 0.000         | 93 | 187250   | 200.0      | 188.6        |       |
| 115 Hexachlorobutadiene          | 225 | 15.210    | 15.210        | 0.000         | 94 | 146055   | 200.0      | 215.4        |       |
| 116 Naphthalene                  | 128 | 15.289    | 15.289        | 0.000         | 97 | 263553   | 200.0      | 176.6        |       |
| 117 1,2,3-Trichlorobenzene       | 180 | 15.557    | 15.557        | 0.000         | 93 | 135899   | 200.0      | 170.8        |       |
| S 130 1,2-Dichloroethene, Total  | 96  |           |               |               | 0  |          | 400.0      | 445.1        |       |
| S 129 Xylenes, Total             | 106 |           |               |               | 0  |          | 400.0      | 409.6        |       |
| S 131 1,3-Dichloropropene, Total | 1   |           |               |               | 0  |          | 400.0      | 368.2        |       |

### QC Flag Legend

Review Flags

M - Manually Integrated

### Reagents:

|                     |                     |           |             |
|---------------------|---------------------|-----------|-------------|
| VOA8260SURR_00033   | Amount Added: 8.00  | Units: uL |             |
| VOA8260VOAPRI_00112 | Amount Added: 8.00  | Units: uL |             |
| VOACEVE(PRI)_00001  | Amount Added: 8.00  | Units: uL |             |
| VOAACRO2ND_00007    | Amount Added: 35.00 | Units: uL |             |
| VOA8260INT_00031    | Amount Added: 10.00 | Units: uL | Run Reagent |

Report Date: 27-Apr-2015 08:51:13

Chrom Revision: 2.2 09-Apr-2015 10:05:40

TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\3042703.D

Injection Date: 27-Apr-2015 07:08:30

Instrument ID: CHHP3

Operator ID: 10099

Lims ID: CCVIS

Worklist Smp#: 3

Client ID:

Purge Vol: 5.000 mL

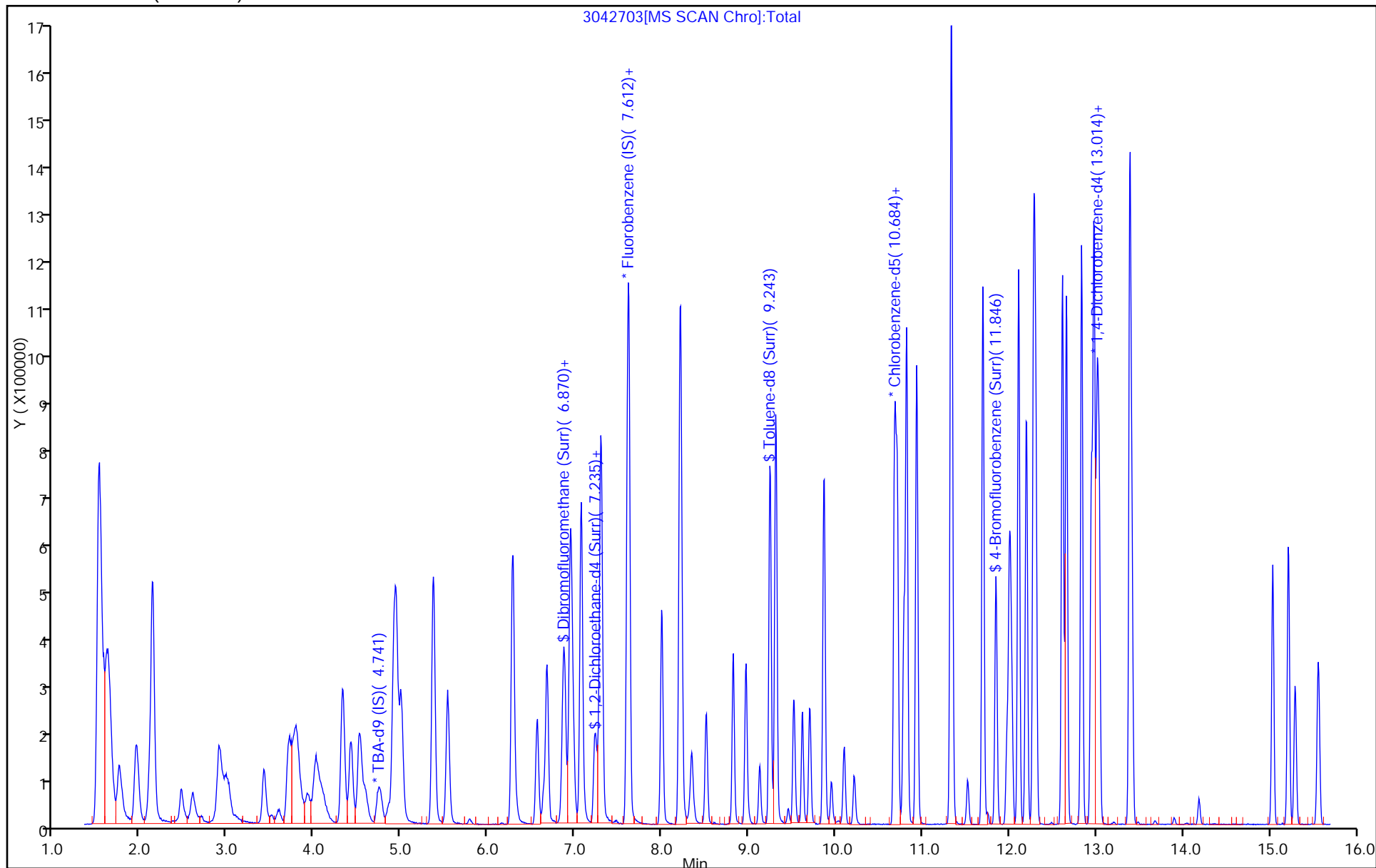
Dil. Factor: 1.0000

ALS Bottle#: 3

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)



FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCVIS 180-139697/3 Calibration Date: 04/27/2015 07:08

Instrument ID: CHHP3 Calib Start Date: 03/31/2015 10:54

GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 03/31/2015 14:29

Lab File ID: 3042703.D Conc. Units: ug/L Heated Purge: (Y/N) Y

| ANALYTE                               | CURVE<br>TYPE | AVE RRF | RRF     | MIN RRF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D    | MAX<br>%D |
|---------------------------------------|---------------|---------|---------|---------|----------------|-----------------|-------|-----------|
| Dichlorodifluoromethane               | Ave           | 0.2597  | 0.4137  | 0.1000  | 63.7           | 40.0            | 59.3* | 20.0      |
| Chloromethane                         | Ave           | 0.4735  | 0.6497  | 0.1000  | 54.9           | 40.0            | 37.2* | 20.0      |
| Vinyl chloride                        | Ave           | 0.3954  | 0.5079  | 0.1000  | 51.4           | 40.0            | 28.4* | 20.0      |
| 1,3-Butadiene                         | Ave           | 0.4134  | 0.5447  | 0.0100  | 52.7           | 40.0            | 31.8* | 20.0      |
| Bromomethane                          | Ave           | 0.1067  | 0.1198  | 0.0500  | 44.9           | 40.0            | 12.3  | 20.0      |
| Chloroethane                          | Ave           | 0.1375  | 0.1453  | 0.0500  | 42.3           | 40.0            | 5.7   | 20.0      |
| Dichlorofluoromethane                 | Ave           | 0.4070  | 0.4580  | 0.0100  | 45.0           | 40.0            | 12.5  | 20.0      |
| Trichlorofluoromethane                | Ave           | 0.3320  | 0.3916  | 0.1000  | 47.2           | 40.0            | 17.9  | 20.0      |
| Ethyl ether                           | Ave           | 0.2390  | 0.2074  | 0.0100  | 34.7           | 40.0            | -13.3 | 20.0      |
| Acrolein                              | Ave           | 0.0211  | 0.0207  | 0.0100  | 172            | 175             | -1.9  | 20.0      |
| 1,1-Dichloroethene                    | Ave           | 0.2913  | 0.3119  | 0.1000  | 42.8           | 40.0            | 7.1   | 20.0      |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | Ave           | 0.2850  | 0.3252  | 0.1000  | 45.6           | 40.0            | 14.1  | 20.0      |
| Acetone                               | Ave           | 0.0765  | 0.0614  | 0.0500  | 32.1           | 40.0            | -19.7 | 20.0      |
| Iodomethane                           | Ave           | 0.3929  | 0.4365  | 0.0100  | 44.4           | 40.0            | 11.1  | 20.0      |
| Carbon disulfide                      | Ave           | 0.8836  | 1.024   | 0.1000  | 46.3           | 40.0            | 15.9  | 20.0      |
| Allyl chloride                        | Ave           | 0.1738  | 0.1904  | 0.0100  | 43.8           | 40.0            | 9.6   | 20.0      |
| Methyl acetate                        | Ave           | 0.1547  | 0.1372  | 0.1000  | 177            | 200             | -11.4 | 20.0      |
| Methylene Chloride                    | Ave           | 0.3267  | 0.3313  | 0.1000  | 40.6           | 40.0            | 1.4   | 20.0      |
| tert-Butyl alcohol                    | Ave           | 1.490   | 1.552   | 0.0100  | 417            | 400             | 4.2   | 20.0      |
| Acrylonitrile                         | Ave           | 0.0769  | 0.0747  | 0.0100  | 388            | 400             | -2.9  | 20.0      |
| trans-1,2-Dichloroethene              | Ave           | 0.2936  | 0.3354  | 0.1000  | 45.7           | 40.0            | 14.2  | 20.0      |
| Methyl tert-butyl ether               | Ave           | 0.5726  | 0.5447  | 0.1000  | 38.0           | 40.0            | -4.9  | 20.0      |
| Hexane                                | Ave           | 0.6520  | 0.6543  | 0.0100  | 40.1           | 40.0            | 0.4   | 20.0      |
| 1,1-Dichloroethane                    | Ave           | 0.5754  | 0.6693  | 0.2000  | 46.5           | 40.0            | 16.3  | 20.0      |
| 2,2-Dichloropropane                   | Ave           | 0.2413  | 0.2699  | 0.0100  | 44.8           | 40.0            | 11.9  | 20.0      |
| cis-1,2-Dichloroethene                | Ave           | 0.3169  | 0.3434  | 0.1000  | 43.3           | 40.0            | 8.4   | 20.0      |
| 2-Butanone (MEK)                      | Ave           | 0.0912  | 0.0783  | 0.0500  | 34.4           | 40.0            | -14.1 | 20.0      |
| Chlorobromomethane                    | Ave           | 0.1147  | 0.1152  | 0.0100  | 40.2           | 40.0            | 0.4   | 20.0      |
| Tetrahydrofuran                       | Ave           | 0.0593  | 0.0530  | 0.0100  | 71.5           | 80.0            | -10.6 | 20.0      |
| Chloroform                            | Ave           | 0.4619  | 0.5145  | 0.2000  | 44.6           | 40.0            | 11.4  | 20.0      |
| 1,1,1-Trichloroethane                 | Ave           | 0.3730  | 0.4360  | 0.1000  | 46.7           | 40.0            | 16.9  | 20.0      |
| Cyclohexane                           | Ave           | 0.7382  | 0.8431  | 0.1000  | 45.7           | 40.0            | 14.2  | 20.0      |
| 1,1-Dichloropropene                   | Ave           | 0.3629  | 0.4090  | 0.0100  | 45.1           | 40.0            | 12.7  | 20.0      |
| Carbon tetrachloride                  | Ave           | 0.3074  | 0.3547  | 0.1000  | 46.2           | 40.0            | 15.4  | 20.0      |
| Isobutyl alcohol                      | Ave           | 0.0058  | 0.0052* | 0.0100  | 896            | 1000            | -10.4 | 20.0      |
| Benzene                               | Ave           | 1.111   | 1.145   | 0.5000  | 41.2           | 40.0            | 3.1   | 20.0      |
| 1,2-Dichloroethane                    | Ave           | 0.3138  | 0.3209  | 0.1000  | 40.9           | 40.0            | 2.3   | 20.0      |
| n-Heptane                             | Ave           | 0.5903  | 0.5984  | 0.0100  | 40.5           | 40.0            | 1.4   | 20.0      |
| Trichloroethene                       | Ave           | 0.2797  | 0.2909  | 0.2000  | 41.6           | 40.0            | 4.0   | 20.0      |
| Methylcyclohexane                     | Ave           | 0.5764  | 0.6407  | 0.1000  | 44.5           | 40.0            | 11.2  | 20.0      |

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCVIS 180-139697/3 Calibration Date: 04/27/2015 07:08

Instrument ID: CHHP3 Calib Start Date: 03/31/2015 10:54

GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 03/31/2015 14:29

Lab File ID: 3042703.D Conc. Units: ug/L Heated Purge: (Y/N) Y

| ANALYTE                     | CURVE<br>TYPE | AVE RRF | RRF     | MIN RRF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D     | MAX<br>%D |
|-----------------------------|---------------|---------|---------|---------|----------------|-----------------|--------|-----------|
| 1,2-Dichloropropane         | Ave           | 0.2948  | 0.2949  | 0.1000  | 40.0           | 40.0            | 0.0    | 20.0      |
| Dibromomethane              | Ave           | 0.1129  | 0.1038  | 0.0100  | 36.8           | 40.0            | -8.1   | 20.0      |
| 1,4-Dioxane                 | Ave           | 0.0018  | 0.0015* | 0.0100  | 642            | 800             | -19.8  | 20.0      |
| Dichlorobromomethane        | Ave           | 0.3054  | 0.2992  | 0.2000  | 39.2           | 40.0            | -2.0   | 20.0      |
| cis-1,3-Dichloropropene     | Ave           | 0.3797  | 0.3475  | 0.2000  | 36.6           | 40.0            | -8.5   | 20.0      |
| 4-Methyl-2-pentanone (MIBK) | Ave           | 0.9238  | 0.7342  | 0.1000  | 31.8           | 40.0            | -20.5* | 20.0      |
| Toluene                     | Ave           | 5.028   | 5.388   | 0.4000  | 42.9           | 40.0            | 7.2    | 20.0      |
| trans-1,3-Dichloropropene   | Ave           | 1.257   | 1.164   | 0.1000  | 37.0           | 40.0            | -7.4   | 20.0      |
| Ethyl methacrylate          | Ave           | 1.075   | 0.9582  | 0.0100  | 35.7           | 40.0            | -10.8  | 20.0      |
| 1,1,2-Trichloroethane       | Ave           | 0.7772  | 0.6845  | 0.1000  | 35.2           | 40.0            | -11.9  | 20.0      |
| 1,3-Dichloropropane         | Ave           | 1.408   | 1.305   | 0.0100  | 37.1           | 40.0            | -7.3   | 20.0      |
| Tetrachloroethene           | Ave           | 0.9458  | 0.9657  | 0.2000  | 40.8           | 40.0            | 2.1    | 20.0      |
| 2-Hexanone                  | Ave           | 0.5893  | 0.5281  | 0.1000  | 35.8           | 40.0            | -10.4  | 20.0      |
| Chlorodibromomethane        | Ave           | 0.8021  | 0.7542  | 0.1000  | 37.6           | 40.0            | -6.0   | 20.0      |
| 1,2-Dibromoethane           | Ave           | 0.7452  | 0.6558  | 0.1000  | 35.2           | 40.0            | -12.0  | 20.0      |
| Chlorobenzene               | Ave           | 3.226   | 3.276   | 0.5000  | 40.6           | 40.0            | 1.5    | 20.0      |
| 1,1,1,2-Tetrachloroethane   | Ave           | 0.9837  | 1.012   | 0.0100  | 41.1           | 40.0            | 2.9    | 20.0      |
| Ethylbenzene                | Ave           | 1.894   | 2.031   | 0.1000  | 42.9           | 40.0            | 7.2    | 20.0      |
| m-Xylene & p-Xylene         | Ave           | 2.369   | 2.412   | 0.1000  | 40.7           | 40.0            | 1.8    | 20.0      |
| o-Xylene                    | Ave           | 2.292   | 2.360   | 0.3000  | 41.2           | 40.0            | 3.0    | 20.0      |
| Styrene                     | Ave           | 3.775   | 3.757   | 0.3000  | 39.8           | 40.0            | -0.5   | 20.0      |
| Bromoform                   | Ave           | 0.4753  | 0.3981  | 0.1000  | 33.5           | 40.0            | -16.2  | 20.0      |
| Isopropylbenzene            | Ave           | 6.024   | 6.550   | 0.1000  | 43.5           | 40.0            | 8.7    | 20.0      |
| 1,1,2,2-Tetrachloroethane   | Ave           | 0.9257  | 0.8309  | 0.3000  | 35.9           | 40.0            | -10.2  | 20.0      |
| Bromobenzene                | Ave           | 0.8521  | 0.8420  | 0.0100  | 39.5           | 40.0            | -1.2   | 20.0      |
| 1,2,3-Trichloropropane      | Lin1          |         | 0.1476  | 0.0100  | 34.9           | 40.0            | -12.8  | 20.0      |
| trans-1,4-Dichloro-2-butene | Ave           | 0.2065  | 0.1891  | 0.0100  | 36.6           | 40.0            | -8.4   | 20.0      |
| N-Propylbenzene             | Ave           | 1.122   | 1.202   | 0.0100  | 42.8           | 40.0            | 7.1    | 20.0      |
| 2-Chlorotoluene             | Ave           | 0.8972  | 0.9235  | 0.0100  | 41.2           | 40.0            | 2.9    | 20.0      |
| 1,3,5-Trimethylbenzene      | Ave           | 3.272   | 3.558   | 0.0100  | 43.5           | 40.0            | 8.7    | 20.0      |
| 4-Chlorotoluene             | Ave           | 0.9264  | 0.9316  | 0.0100  | 40.2           | 40.0            | 0.6    | 20.0      |
| tert-Butylbenzene           | Ave           | 2.900   | 3.121   | 0.0100  | 43.0           | 40.0            | 7.6    | 20.0      |
| 1,2,4-Trimethylbenzene      | Ave           | 3.366   | 3.643   | 0.0100  | 43.3           | 40.0            | 8.2    | 20.0      |
| sec-Butylbenzene            | Ave           | 4.292   | 4.778   | 0.0100  | 44.5           | 40.0            | 11.3   | 20.0      |
| 1,3-Dichlorobenzene         | Ave           | 1.615   | 1.624   | 0.6000  | 40.2           | 40.0            | 0.6    | 20.0      |
| 4-Isopropyltoluene          | Ave           | 3.514   | 3.884   | 0.0100  | 44.2           | 40.0            | 10.5   | 20.0      |
| 1,4-Dichlorobenzene         | Ave           | 1.564   | 1.547   | 0.5000  | 39.6           | 40.0            | -1.1   | 20.0      |
| n-Butylbenzene              | Ave           | 3.391   | 3.921   | 0.0100  | 46.3           | 40.0            | 15.6   | 20.0      |
| 1,2-Dichlorobenzene         | Ave           | 1.440   | 1.381   | 0.4000  | 38.4           | 40.0            | -4.0   | 20.0      |
| 1,2-Dibromo-3-Chloropropane | Ave           | 0.0906  | 0.0738  | 0.0500  | 32.6           | 40.0            | -18.6  | 20.0      |
| 1,2,4-Trichlorobenzene      | Ave           | 1.050   | 0.9906  | 0.2000  | 37.7           | 40.0            | -5.7   | 20.0      |

FORM VII  
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 180-139697/3 Calibration Date: 04/27/2015 07:08  
 Instrument ID: CHHP3 Calib Start Date: 03/31/2015 10:54  
 GC Column: DB-624 ID: 0.18 (mm) Calib End Date: 03/31/2015 14:29  
 Lab File ID: 3042703.D Conc. Units: ug/L Heated Purge: (Y/N) Y

| ANALYTE                      | CURVE<br>TYPE | AVE RRF | RRF    | MIN RRF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D    | MAX<br>%D |
|------------------------------|---------------|---------|--------|---------|----------------|-----------------|-------|-----------|
| Hexachlorobutadiene          | Ave           | 0.7175  | 0.7727 | 0.0100  | 43.1           | 40.0            | 7.7   | 20.0      |
| Naphthalene                  | Lin1          |         | 1.394  | 0.0100  | 35.3           | 40.0            | -11.7 | 20.0      |
| 1,2,3-Trichlorobenzene       | Ave           | 0.8420  | 0.7189 | 0.0100  | 34.2           | 40.0            | -14.6 | 20.0      |
| Dibromofluoromethane (Surr)  | Ave           | 0.2132  | 0.2209 |         | 41.5           | 40.0            | 3.6   | 20.0      |
| 1,2-Dichloroethane-d4 (Surr) | Ave           | 0.2463  | 0.2439 |         | 39.6           | 40.0            | -1.0  | 20.0      |
| Toluene-d8 (Surr)            | Ave           | 4.187   | 4.285  |         | 40.9           | 40.0            | 2.3   | 20.0      |
| 4-Bromofluorobenzene (Surr)  | Ave           | 1.660   | 1.673  |         | 40.3           | 40.0            | 0.8   | 20.0      |



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\3042703.D  
 Lims ID: CCVIS  
 Client ID:  
 Sample Type: CCVIS  
 Inject. Date: 27-Apr-2015 07:08:30 ALS Bottle#: 3 Worklist Smp#: 3  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: CCVIS  
 Operator ID: 10099 Instrument ID: CHHP3  
 Sublist: chrom-MSVOA\_S\_CHHP3\*sub20  
 Method: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\MSVOA\_S\_CHHP3.m  
 Limit Group: VOA 8260C ICAL  
 Last Update: 27-Apr-2015 08:51:13 Calib Date: 31-Mar-2015 14:29:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D  
 Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
 Process Host: XAWRK028

First Level Reviewer: gordonk

Date: 27-Apr-2015 07:30:19

| Compound                        | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q   | Response | Cal Amt ng | OnCol Amt ng | Flags |
|---------------------------------|-----|-----------|---------------|---------------|-----|----------|------------|--------------|-------|
| * 1 TBA-d9 (IS)                 | 65  | 4.741     | 4.741         | 0.000         | 94  | 137837   | 5000.0     | 5000.0       |       |
| * 2 Fluorobenzene (IS)          | 96  | 7.600     | 7.600         | 0.000         | 98  | 696670   | 250.0      | 250.0        |       |
| * 3 Chlorobenzene-d5            | 119 | 10.684    | 10.684        | 0.000         | 90  | 153732   | 250.0      | 250.0        |       |
| * 4 1,4-Dichlorobenzene-d4      | 152 | 13.008    | 13.008        | 0.000         | 97  | 236290   | 250.0      | 250.0        |       |
| \$ 5 Dibromofluoromethane (Surr | 113 | 6.858     | 6.858         | 0.000         | 94  | 123110   | 200.0      | 207.3        |       |
| \$ 6 1,2-Dichloroethane-d4 (Sur | 65  | 7.223     | 7.223         | 0.000         | 93  | 135917   | 200.0      | 198.0        |       |
| \$ 7 Toluene-d8 (Surr)          | 98  | 9.243     | 9.243         | 0.000         | 94  | 526968   | 200.0      | 204.7        |       |
| \$ 8 4-Bromofluorobenzene (Surr | 95  | 11.846    | 11.846        | 0.000         | 86  | 205703   | 200.0      | 201.5        |       |
| 10 Dichlorodifluoromethane      | 85  | 1.754     | 1.754         | 0.000         | 99  | 230569   | 200.0      | 318.7        |       |
| 11 Chloromethane                | 50  | 1.948     | 1.948         | 0.000         | 99  | 362111   | 200.0      | 274.4        |       |
| 12 Vinyl chloride               | 62  | 2.107     | 2.107         | 0.000         | 98  | 283055   | 200.0      | 256.9        |       |
| 13 Butadiene                    | 39  | 2.137     | 2.137         | 0.000         | 90  | 303567   | 200.0      | 263.5        |       |
| 14 Bromomethane                 | 94  | 2.472     | 2.472         | 0.000         | 91  | 66768    | 200.0      | 224.6        |       |
| 15 Chloroethane                 | 64  | 2.599     | 2.599         | 0.000         | 99  | 80998    | 200.0      | 211.4        |       |
| 16 Dichlorofluoromethane        | 67  | 2.910     | 2.910         | 0.000         | 97  | 255256   | 200.0      | 225.1        |       |
| 17 Trichlorofluoromethane       | 101 | 2.977     | 2.977         | 0.000         | 72  | 218240   | 200.0      | 235.9        | M     |
| 19 Ethyl ether                  | 59  | 3.415     | 3.415         | 0.000         | 98  | 115563   | 200.0      | 173.5        |       |
| 20 Acrolein                     | 56  | 3.591     | 3.591         | 0.000         | 97  | 50407    | 875.0      | 858.5        |       |
| 21 1,1-Dichloroethene           | 96  | 3.707     | 3.707         | 0.000         | 95  | 173841   | 200.0      | 214.2        |       |
| 22 1,1,2-Trichloro-1,2,2-trif   | 101 | 3.804     | 3.804         | 0.000         | 94  | 181255   | 200.0      | 228.2        |       |
| 23 Acetone                      | 43  | 3.871     | 3.871         | 0.000         | 100 | 34239    | 200.0      | 160.6        |       |
| 24 Iodomethane                  | 142 | 3.932     | 3.932         | 0.000         | 95  | 243293   | 200.0      | 222.2        | M     |
| 25 Carbon disulfide             | 76  | 4.017     | 4.017         | 0.000         | 100 | 570580   | 200.0      | 231.7        |       |
| 28 3-Chloro-1-propene           | 76  | 4.321     | 4.321         | 0.000         | 92  | 106122   | 200.0      | 219.1        |       |
| 29 Methyl acetate               | 43  | 4.418     | 4.418         | 0.000         | 99  | 382201   | 1000.0     | 886.4        |       |
| 30 Methylene Chloride           | 84  | 4.516     | 4.516         | 0.000         | 96  | 184644   | 200.0      | 202.8        |       |
| 31 2-Methyl-2-propanol          | 59  | 4.856     | 4.856         | 0.000         | 95  | 85562    | 2000.0     | 2083.4       |       |
| 32 Acrylonitrile                | 53  | 4.911     | 4.911         | 0.000         | 97  | 416026   | 2000.0     | 1941.1       |       |
| 33 trans-1,2-Dichloroethene     | 96  | 4.941     | 4.941         | 0.000         | 94  | 186920   | 200.0      | 228.4        |       |
| 34 Methyl tert-butyl ether      | 73  | 4.996     | 4.996         | 0.000         | 97  | 303552   | 200.0      | 190.2        |       |
| 35 Hexane                       | 57  | 5.367     | 5.367         | 0.000         | 92  | 364643   | 200.0      | 200.7        |       |

| Compound                       | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q  | Response | Cal Amt ng | OnCol Amt ng | Flags |
|--------------------------------|-----|-----------|---------------|---------------|----|----------|------------|--------------|-------|
| 36 1,1-Dichloroethane          | 63  | 5.532     | 5.532         | 0.000         | 96 | 373029   | 200.0      | 232.6        |       |
| 41 2,2-Dichloropropane         | 77  | 6.280     | 6.280         | 0.000         | 55 | 150445   | 200.0      | 223.8        |       |
| 42 cis-1,2-Dichloroethene      | 96  | 6.286     | 6.286         | 0.000         | 86 | 191392   | 200.0      | 216.7        |       |
| 43 2-Butanone (MEK)            | 43  | 6.329     | 6.329         | 0.000         | 98 | 43658    | 200.0      | 171.8        |       |
| 47 Chlorobromomethane          | 128 | 6.566     | 6.566         | 0.000         | 89 | 64204    | 200.0      | 200.9        |       |
| 48 Tetrahydrofuran             | 42  | 6.639     | 6.639         | 0.000         | 96 | 59069    | 400.0      | 357.6        |       |
| 49 Chloroform                  | 83  | 6.675     | 6.675         | 0.000         | 98 | 286753   | 200.0      | 222.8        |       |
| 50 1,1,1-Trichloroethane       | 97  | 6.876     | 6.876         | 0.000         | 97 | 242969   | 200.0      | 233.7        |       |
| 51 Cyclohexane                 | 56  | 6.949     | 6.949         | 0.000         | 92 | 469865   | 200.0      | 228.4        |       |
| 52 1,1-Dichloropropene         | 75  | 7.071     | 7.071         | 0.000         | 91 | 227971   | 200.0      | 225.4        |       |
| 53 Carbon tetrachloride        | 117 | 7.071     | 7.071         | 0.000         | 78 | 197689   | 200.0      | 230.8        |       |
| 54 Isobutyl alcohol            | 41  | 7.259     | 7.259         | 0.000         | 92 | 72417    | 5000.0     | 4479.4       |       |
| 55 Benzene                     | 78  | 7.296     | 7.296         | 0.000         | 97 | 638380   | 200.0      | 206.1        |       |
| 56 1,2-Dichloroethane          | 62  | 7.308     | 7.308         | 0.000         | 95 | 178856   | 200.0      | 204.6        |       |
| 59 n-Heptane                   | 43  | 7.624     | 7.624         | 0.000         | 96 | 333507   | 200.0      | 202.7        |       |
| 60 Trichloroethene             | 130 | 8.001     | 8.001         | 0.000         | 98 | 162148   | 200.0      | 208.1        |       |
| 63 Methylcyclohexane           | 83  | 8.208     | 8.208         | 0.000         | 96 | 357088   | 200.0      | 222.3        |       |
| 64 1,2-Dichloropropane         | 63  | 8.227     | 8.227         | 0.000         | 94 | 164361   | 200.0      | 200.1        |       |
| 65 Dibromomethane              | 93  | 8.336     | 8.336         | 0.000         | 96 | 57848    | 200.0      | 183.8        |       |
| 67 1,4-Dioxane                 | 88  | 8.373     | 8.373         | 0.000         | 98 | 16538    | 4000.0     | 3208.4       |       |
| 68 Dichlorobromomethane        | 83  | 8.506     | 8.506         | 0.000         | 97 | 166747   | 200.0      | 195.9        |       |
| 70 2-Chloroethyl vinyl ether   | 63  | 8.823     | 8.823         | 0.000         | 91 | 156182   | 400.0      | 324.3        |       |
| 71 cis-1,3-Dichloropropene     | 75  | 8.969     | 8.969         | 0.000         | 92 | 193684   | 200.0      | 183.0        |       |
| 72 4-Methyl-2-pentanone (MIBK) | 43  | 9.127     | 9.127         | 0.000         | 97 | 90300    | 200.0      | 159.0        |       |
| 73 Toluene                     | 91  | 9.309     | 9.309         | 0.000         | 98 | 662638   | 200.0      | 214.3        |       |
| 74 trans-1,3-Dichloropropene   | 75  | 9.516     | 9.516         | 0.000         | 98 | 143200   | 200.0      | 185.2        |       |
| 75 Ethyl methacrylate          | 69  | 9.620     | 9.620         | 0.000         | 95 | 117848   | 200.0      | 178.3        |       |
| 76 1,1,2-Trichloroethane       | 97  | 9.699     | 9.699         | 0.000         | 94 | 84185    | 200.0      | 176.1        |       |
| 77 Tetrachloroethene           | 164 | 9.869     | 9.869         | 0.000         | 96 | 118767   | 200.0      | 204.2        |       |
| 78 1,3-Dichloropropane         | 76  | 9.869     | 9.869         | 0.000         | 96 | 160465   | 200.0      | 185.4        |       |
| 79 2-Hexanone                  | 43  | 9.954     | 9.954         | 0.000         | 97 | 64949    | 200.0      | 179.2        |       |
| 81 Chlorodibromomethane        | 129 | 10.100    | 10.100        | 0.000         | 90 | 92751    | 200.0      | 188.1        |       |
| 82 Ethylene Dibromide          | 107 | 10.210    | 10.210        | 0.000         | 98 | 80657    | 200.0      | 176.0        |       |
| 83 Chlorobenzene               | 112 | 10.709    | 10.709        | 0.000         | 91 | 402846   | 200.0      | 203.1        |       |
| 85 1,1,1,2-Tetrachloroethane   | 131 | 10.788    | 10.788        | 0.000         | 94 | 124441   | 200.0      | 205.7        |       |
| 86 Ethylbenzene                | 106 | 10.818    | 10.818        | 0.000         | 99 | 249751   | 200.0      | 214.5        |       |
| 87 m-Xylene & p-Xylene         | 106 | 10.934    | 10.934        | 0.000         | 99 | 296630   | 200.0      | 203.6        |       |
| 88 o-Xylene                    | 106 | 11.329    | 11.329        | 0.000         | 98 | 290292   | 200.0      | 206.0        |       |
| 89 Styrene                     | 104 | 11.335    | 11.335        | 0.000         | 94 | 462101   | 200.0      | 199.1        |       |
| 90 Bromoform                   | 173 | 11.518    | 11.518        | 0.000         | 96 | 48960    | 200.0      | 167.5        |       |
| 91 Isopropylbenzene            | 105 | 11.694    | 11.694        | 0.000         | 97 | 805531   | 200.0      | 217.5        |       |
| 93 1,1,2,2-Tetrachloroethane   | 83  | 11.974    | 11.974        | 0.000         | 93 | 102193   | 200.0      | 179.5        |       |
| 94 Bromobenzene                | 156 | 12.004    | 12.004        | 0.000         | 98 | 159167   | 200.0      | 197.6        |       |
| 95 1,2,3-Trichloropropane      | 110 | 12.023    | 12.023        | 0.000         | 86 | 27898    | 200.0      | 174.3        |       |
| 96 trans-1,4-Dichloro-2-buten  | 53  | 12.029    | 12.029        | 0.000         | 75 | 35741    | 200.0      | 183.2        |       |
| 97 N-Propylbenzene             | 120 | 12.108    | 12.108        | 0.000         | 99 | 227160   | 200.0      | 214.2        |       |
| 98 2-Chlorotoluene             | 126 | 12.199    | 12.199        | 0.000         | 96 | 174571   | 200.0      | 205.9        |       |
| 99 1,3,5-Trimethylbenzene      | 105 | 12.278    | 12.278        | 0.000         | 93 | 672609   | 200.0      | 217.5        |       |
| 100 4-Chlorotoluene            | 126 | 12.302    | 12.302        | 0.000         | 98 | 176106   | 200.0      | 201.1        |       |
| 101 tert-Butylbenzene          | 119 | 12.613    | 12.613        | 0.000         | 95 | 590000   | 200.0      | 215.2        |       |
| 103 1,2,4-Trimethylbenzene     | 105 | 12.655    | 12.655        | 0.000         | 97 | 688734   | 200.0      | 216.5        |       |
| 104 sec-Butylbenzene           | 105 | 12.832    | 12.832        | 0.000         | 95 | 903211   | 200.0      | 222.6        |       |

| Compound                         | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q  | Response | Cal Amt ng | OnCol Amt ng | Flags |
|----------------------------------|-----|-----------|---------------|---------------|----|----------|------------|--------------|-------|
| 105 1,3-Dichlorobenzene          | 146 | 12.947    | 12.947        | 0.000         | 96 | 307008   | 200.0      | 201.1        |       |
| 106 4-Isopropyltoluene           | 119 | 12.978    | 12.978        | 0.000         | 97 | 734258   | 200.0      | 221.1        |       |
| 107 1,4-Dichlorobenzene          | 146 | 13.033    | 13.033        | 0.000         | 93 | 292368   | 200.0      | 197.8        |       |
| 110 n-Butylbenzene               | 91  | 13.385    | 13.385        | 0.000         | 98 | 741254   | 200.0      | 231.3        |       |
| 111 1,2-Dichlorobenzene          | 146 | 13.410    | 13.410        | 0.000         | 94 | 261143   | 200.0      | 191.9        |       |
| 112 1,2-Dibromo-3-Chloropropan   | 75  | 14.182    | 14.182        | 0.000         | 78 | 13942    | 200.0      | 162.8        |       |
| 114 1,2,4-Trichlorobenzene       | 180 | 15.034    | 15.034        | 0.000         | 93 | 187250   | 200.0      | 188.6        |       |
| 115 Hexachlorobutadiene          | 225 | 15.210    | 15.210        | 0.000         | 94 | 146055   | 200.0      | 215.4        |       |
| 116 Naphthalene                  | 128 | 15.289    | 15.289        | 0.000         | 97 | 263553   | 200.0      | 176.6        |       |
| 117 1,2,3-Trichlorobenzene       | 180 | 15.557    | 15.557        | 0.000         | 93 | 135899   | 200.0      | 170.8        |       |
| S 130 1,2-Dichloroethene, Total  | 96  |           |               |               | 0  |          | 400.0      | 445.1        |       |
| S 129 Xylenes, Total             | 106 |           |               |               | 0  |          | 400.0      | 409.6        |       |
| S 131 1,3-Dichloropropene, Total | 1   |           |               |               | 0  |          | 400.0      | 368.2        |       |

**QC Flag Legend**

Review Flags

M - Manually Integrated

**Reagents:**

|                     |                     |           |             |
|---------------------|---------------------|-----------|-------------|
| VOA8260SURR_00033   | Amount Added: 8.00  | Units: uL |             |
| VOA8260VOAPRI_00112 | Amount Added: 8.00  | Units: uL |             |
| VOACEVE(PRI)_00001  | Amount Added: 8.00  | Units: uL |             |
| VOAACRO2ND_00007    | Amount Added: 35.00 | Units: uL |             |
| VOA8260INT_00031    | Amount Added: 10.00 | Units: uL | Run Reagent |

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\3042703.D

Injection Date: 27-Apr-2015 07:08:30

Instrument ID: CHHP3

Operator ID: 10099

Lims ID: CCVIS

Worklist Smp#: 3

Client ID:

Purge Vol: 5.000 mL

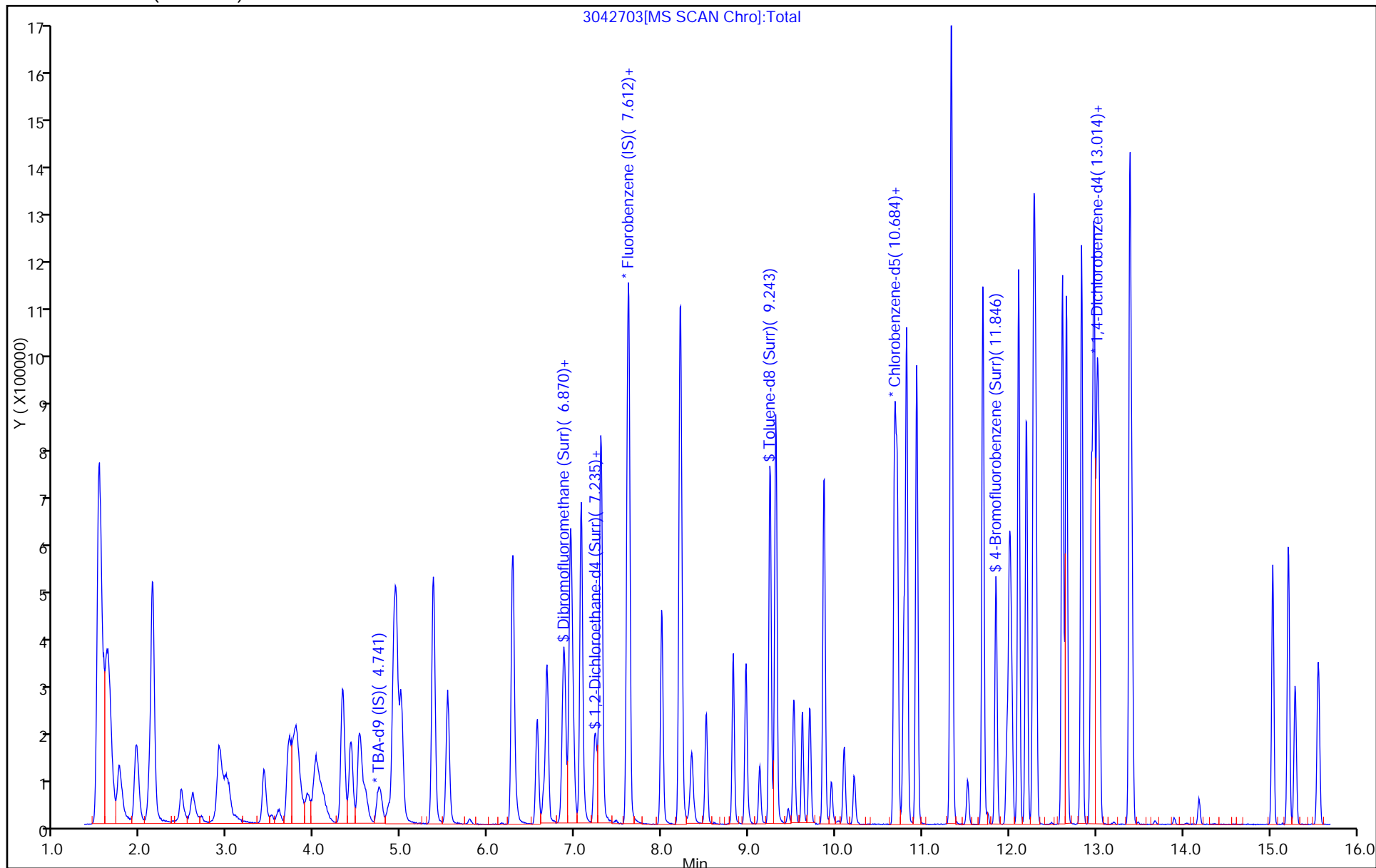
Dil. Factor: 1.0000

ALS Bottle#: 3

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\3042703.D

Injection Date: 27-Apr-2015 07:08:30

Instrument ID: CHHP3

Lims ID: CCVIS

Client ID:

Operator ID: 10099

ALS Bottle#:

3

Worklist Smp#: 3

Purge Vol: 5.000 mL

Dil. Factor: 1.0000

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

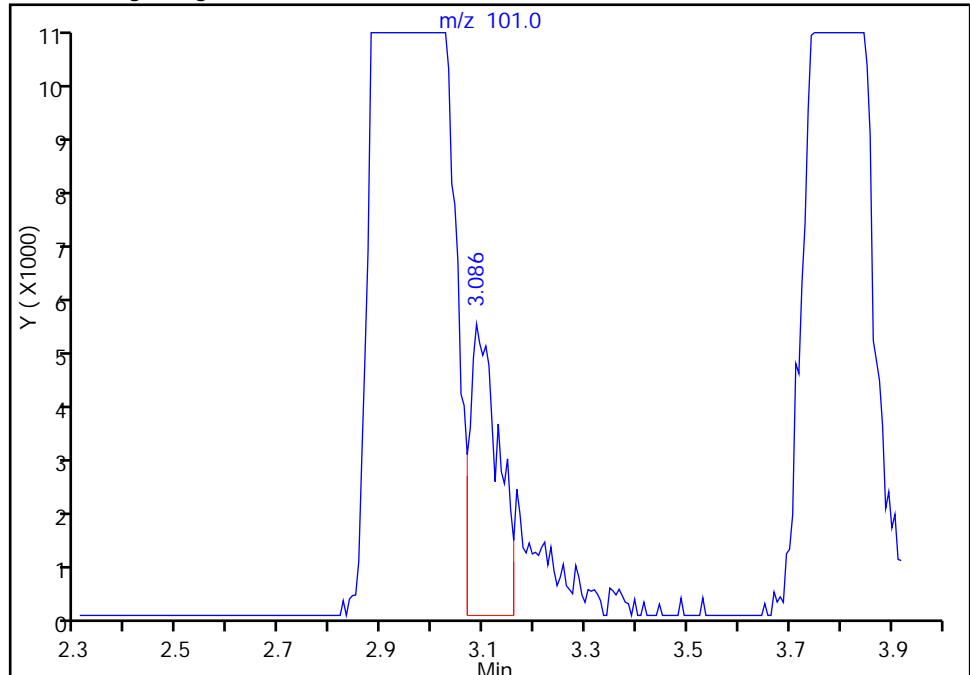
Column: DB-624 (0.18 mm)

Detector: MS SCAN

## 17 Trichlorofluoromethane, CAS: 75-69-4

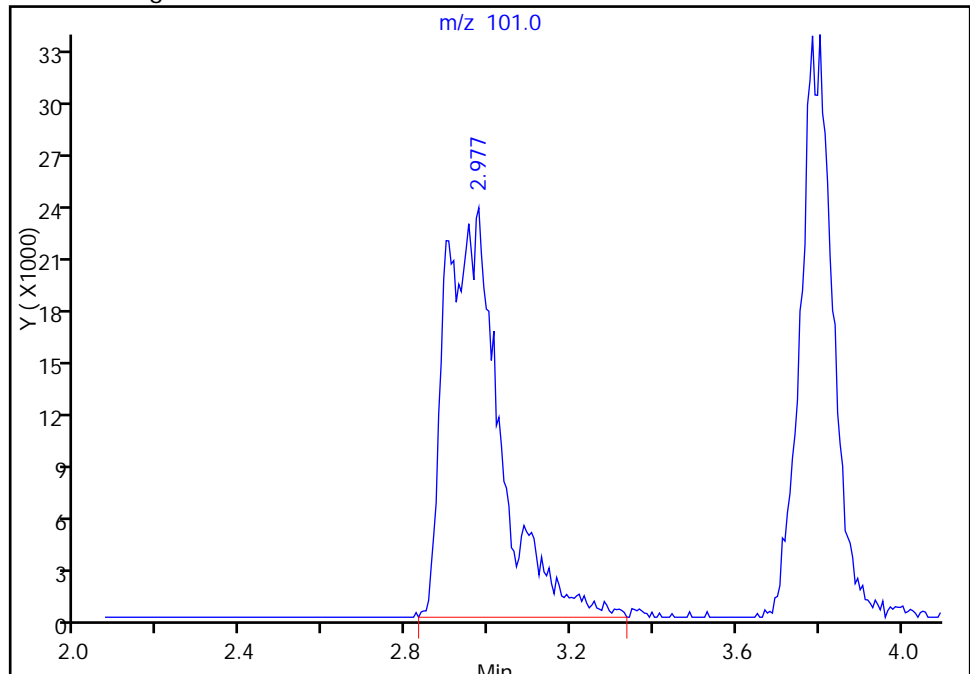
RT: 3.09  
Area: 20228  
Amount: 21.862065  
Amount Units: ng

## Processing Integration Results



RT: 2.98  
Area: 218240  
Amount: 235.8699  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 27-Apr-2015 07:30:19

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\3042703.D

Injection Date: 27-Apr-2015 07:08:30

Instrument ID: CHHP3

Lims ID: CCVIS

Client ID:

Operator ID: 10099

ALS Bottle#:

3

Worklist Smp#: 3

Purge Vol: 5.000 mL

Dil. Factor: 1.0000

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

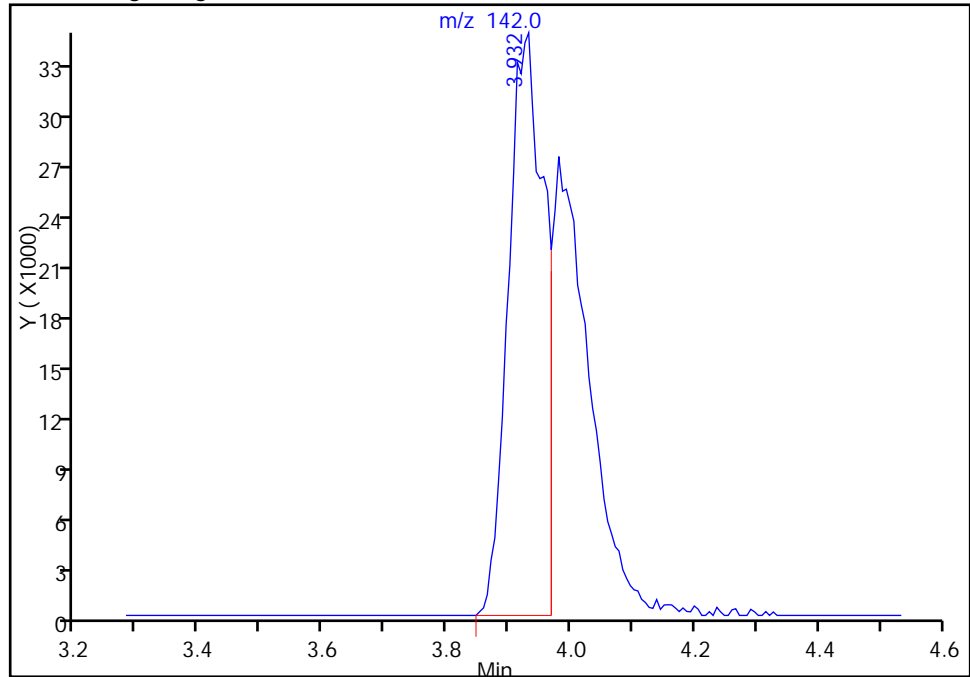
Column: DB-624 (0.18 mm)

Detector: MS SCAN

## 24 Iodomethane, CAS: 74-88-4

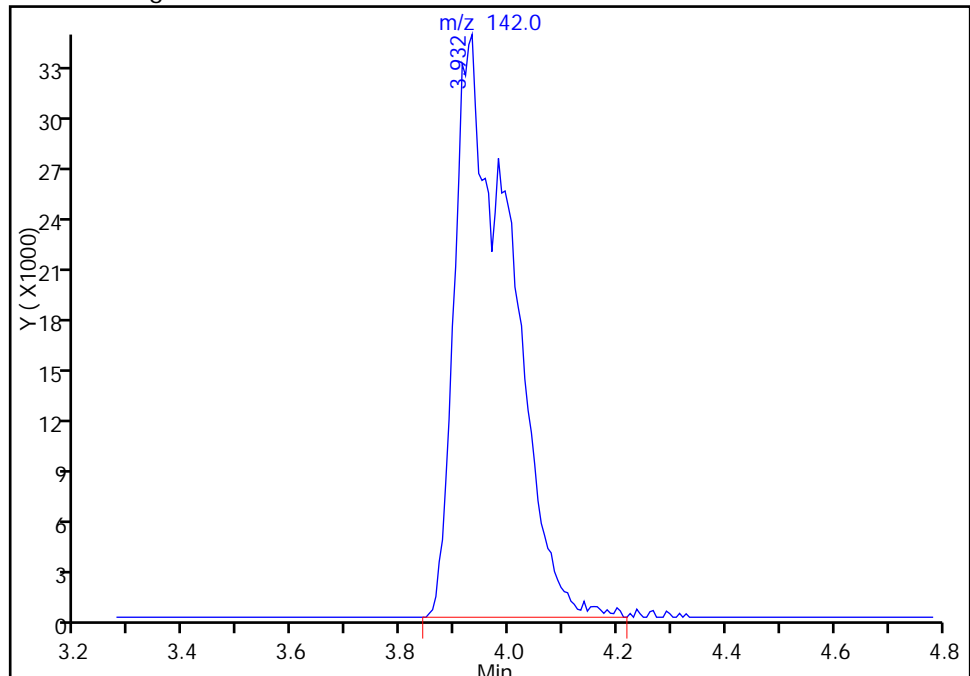
RT: 3.93  
Area: 137506  
Amount: 125.6023  
Amount Units: ng

## Processing Integration Results



RT: 3.93  
Area: 243293  
Amount: 222.2314  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 27-Apr-2015 07:30:19

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K01.D  
Lims ID: BFB  
Client ID:  
Sample Type: BFB  
Inject. Date: 23-Mar-2015 12:07:30 ALS Bottle#: 1 Worklist Smp#: 1  
Injection Vol: 5.0 mL Dil. Factor: 1.0000  
Sample Info: BFB  
Operator ID: 10099 Instrument ID: CHHP3  
Method: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\MSVOA\_S\_CHHP3.m  
Limit Group: VOA 8260C ICAL  
Last Update: 24-Mar-2015 04:21:17 Calib Date: 23-Mar-2015 15:37:30  
Integrator: RTE ID Type: Deconvolution ID  
Quant Method: Internal Standard Quant By: Initial Calibration  
Last ICal File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K11.D  
Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
Process Host: XAWRK011

First Level Reviewer: gordonk

Date: 23-Mar-2015 12:17:44

| Compound | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|----------|-----|--------------|------------------|------------------|---|----------|---------------|-----------------|-------|
|----------|-----|--------------|------------------|------------------|---|----------|---------------|-----------------|-------|

|          |    |       |       |       |   |        |    |    |  |
|----------|----|-------|-------|-------|---|--------|----|----|--|
| \$ 9 BFB | 95 | 8.597 | 7.677 | 0.920 | 0 | 323114 | NR | NR |  |
|----------|----|-------|-------|-------|---|--------|----|----|--|

**QC Flag Legend**

Processing Flags

NR - Missing Quant Standard

**Reagents:**

VOABFB50\_00061

Amount Added: 1.00

Units: uL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K01.D

Injection Date: 23-Mar-2015 12:07:30

Instrument ID: CHHP3

Lims ID: BFB

Client ID:

Operator ID: 10099

ALS Bottle#: 1 Worklist Smp#: 1

Injection Vol: 5.0 mL

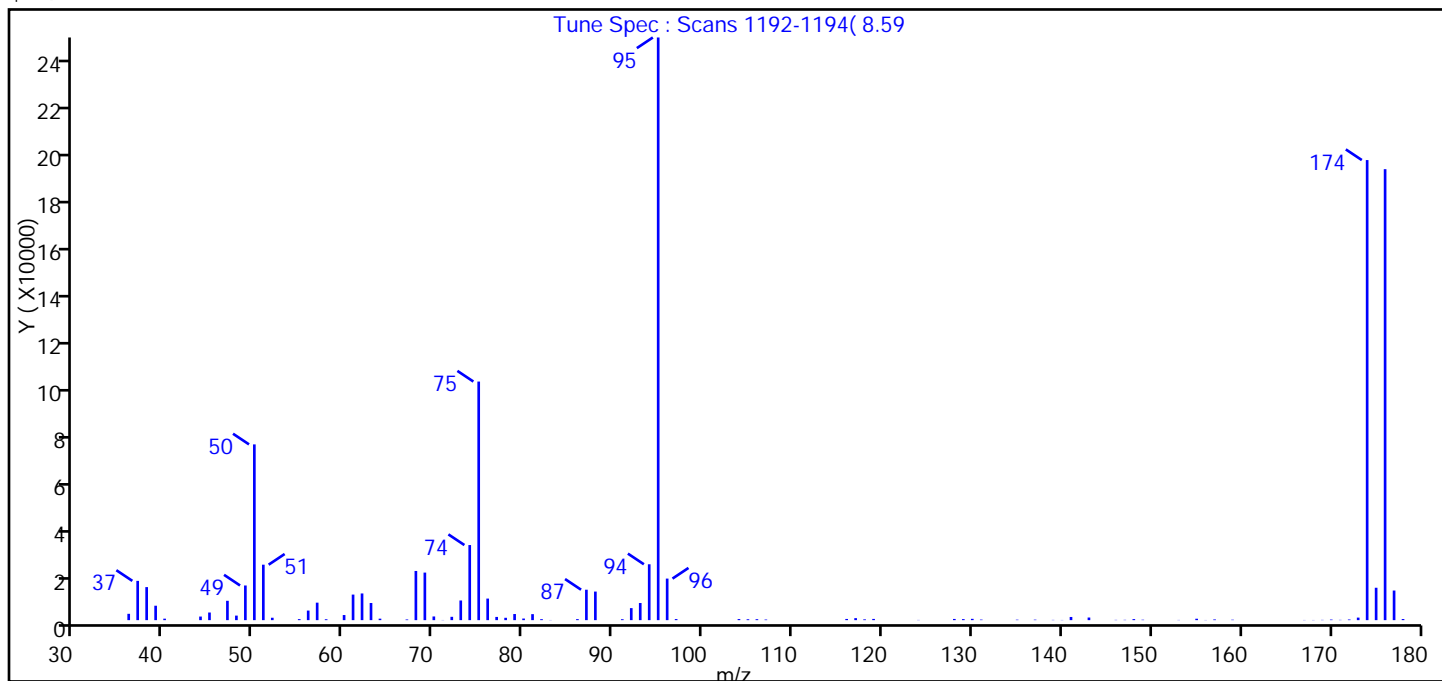
Dil. Factor: 1.0000

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Tune Method: BFB Method 8260

\$ 9 BFB



| m/z | Ion Abundance Criteria                         | % Relative Abundance |
|-----|--|----------------------|
| 95  | Base peak, 100% relative abundance             | 100.0                |
| 50  | 15 to 40% of m/z 95                            | 30.2                 |
| 75  | 30 to 60% of m/z 95                            | 40.9                 |
| 96  | 5 to 9% of m/z 95                              | 7.1                  |
| 173 | Less than 2% of m/z 174                        | 0.4 (0.6)            |
| 174 | 50 to 120% of m/z 95                           | 79.0                 |
| 175 | 5 to 9% of m/z 174                             | 5.6 (7.0)            |
| 176 | Greater than 95% but less than 101% of m/z 174 | 77.4 (98.0)          |
| 177 | 5 to 9% of m/z 176                             | 5.1 (6.6)            |



Data File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K01.D\MSVOA\_S\_CHHP3.rsl\spectra.d  
Injection Date: 23-Mar-2015 12:07:30  
Spectrum: Tune Spec : Scans 1192-1194( 8.59  
Base Peak: 95.00  
Minimum % Base Peak: 0  
Number of Points: 89

| m/z   | Y     | m/z   | Y     | m/z    | Y      | m/z    | Y      |
|-------|-------|-------|-------|--------|--------|--------|--------|
| 36.00 | 2623  | 68.00 | 20384 | 95.00  | 241536 | 147.00 | 128    |
| 37.00 | 16276 | 69.00 | 19712 | 96.00  | 17224  | 148.00 | 430    |
| 38.00 | 13697 | 70.00 | 1522  | 97.00  | 440    | 149.00 | 174    |
| 39.00 | 5977  | 71.00 | 69    | 104.00 | 442    | 153.00 | 86     |
| 40.00 | 613   | 72.00 | 1378  | 105.00 | 363    | 155.00 | 583    |
| 44.00 | 1491  | 73.00 | 8149  | 106.00 | 390    | 156.00 | 71     |
| 45.00 | 3164  | 74.00 | 31128 | 107.00 | 248    | 157.00 | 292    |
| 47.00 | 8017  | 75.00 | 98904 | 116.00 | 495    | 159.00 | 181    |
| 48.00 | 1882  | 76.00 | 8938  | 117.00 | 831    | 167.00 | 74     |
| 49.00 | 14366 | 77.00 | 1334  | 118.00 | 327    | 168.00 | 70     |
| 50.00 | 72856 | 78.00 | 975   | 119.00 | 508    | 169.00 | 110    |
| 51.00 | 22992 | 79.00 | 2535  | 124.00 | 88     | 170.00 | 241    |
| 52.00 | 996   | 80.00 | 664   | 128.00 | 497    | 171.00 | 114    |
| 55.00 | 422   | 81.00 | 2487  | 129.00 | 423    | 172.00 | 272    |
| 56.00 | 3968  | 82.00 | 401   | 130.00 | 542    | 173.00 | 1053   |
| 57.00 | 7248  | 83.00 | 67    | 131.00 | 227    | 174.00 | 190720 |
| 58.00 | 367   | 86.00 | 419   | 135.00 | 195    | 175.00 | 13430  |
| 60.00 | 2115  | 87.00 | 12613 | 137.00 | 203    | 176.00 | 186944 |
| 61.00 | 10596 | 88.00 | 11844 | 139.00 | 104    | 177.00 | 12276  |
| 62.00 | 11062 | 91.00 | 378   | 140.00 | 76     | 178.00 | 459    |
| 63.00 | 7107  | 92.00 | 4985  | 141.00 | 1313   |        |        |
| 64.00 | 612   | 93.00 | 7102  | 143.00 | 1084   |        |        |
| 67.00 | 283   | 94.00 | 23160 | 146.00 | 113    |        |        |

Report Date: 24-Mar-2015 04:21:17

Chrom Revision: 2.2 13-Mar-2015 11:20:44

TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150323-6126.b\30323K01.D

Injection Date: 23-Mar-2015 12:07:30

Instrument ID: CHHP3

Operator ID: 10099

Lims ID: BFB

Worklist Smp#: 1

Client ID:

Injection Vol: 5.0 mL

Dil. Factor: 1.0000

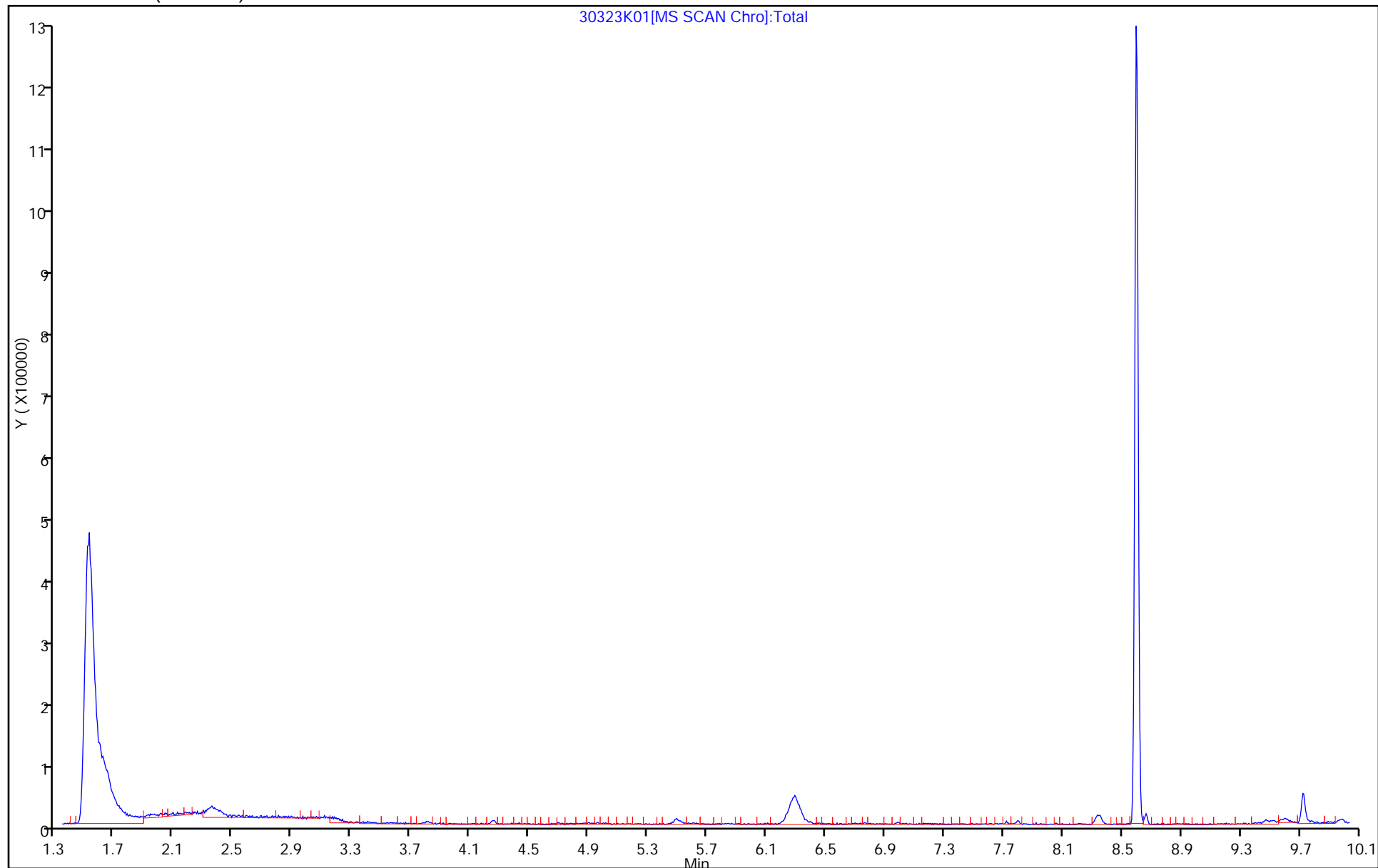
ALS Bottle#: 1

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)

30323K01[MS SCAN Chro]:Total



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033101.D  
Lims ID: BFB  
Client ID:  
Sample Type: BFB  
Inject. Date: 31-Mar-2015 07:47:30 ALS Bottle#: 1 Worklist Smp#: 1  
Injection Vol: 5.0 mL Dil. Factor: 1.0000  
Sample Info: BFB  
Operator ID: 10099 Instrument ID: CHHP3  
Method: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\MSVOA\_S\_CHHP3.m  
Limit Group: VOA 8260C ICAL  
Last Update: 01-Apr-2015 04:54:10 Calib Date: 31-Mar-2015 14:29:30  
Integrator: RTE ID Type: Deconvolution ID  
Quant Method: Internal Standard Quant By: Initial Calibration  
Last ICal File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D  
Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
Process Host: XAWRK006

First Level Reviewer: gordonk

Date: 31-Mar-2015 08:37:23

| Compound | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|----------|-----|--------------|------------------|------------------|---|----------|---------------|-----------------|-------|
|----------|-----|--------------|------------------|------------------|---|----------|---------------|-----------------|-------|

|          |    |       |       |       |   |        |    |    |  |
|----------|----|-------|-------|-------|---|--------|----|----|--|
| \$ 9 BFB | 95 | 8.598 | 8.598 | 0.000 | 0 | 519804 | NR | NR |  |
|----------|----|-------|-------|-------|---|--------|----|----|--|

**QC Flag Legend**

Processing Flags

NR - Missing Quant Standard

**Reagents:**

VOABFB50\_00061

Amount Added: 1.00

Units: uL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033101.D

Injection Date: 31-Mar-2015 07:47:30

Instrument ID: CHHP3

Lims ID: BFB

Client ID:

Operator ID: 10099

ALS Bottle#: 1 Worklist Smp#: 1

Injection Vol: 5.0 mL

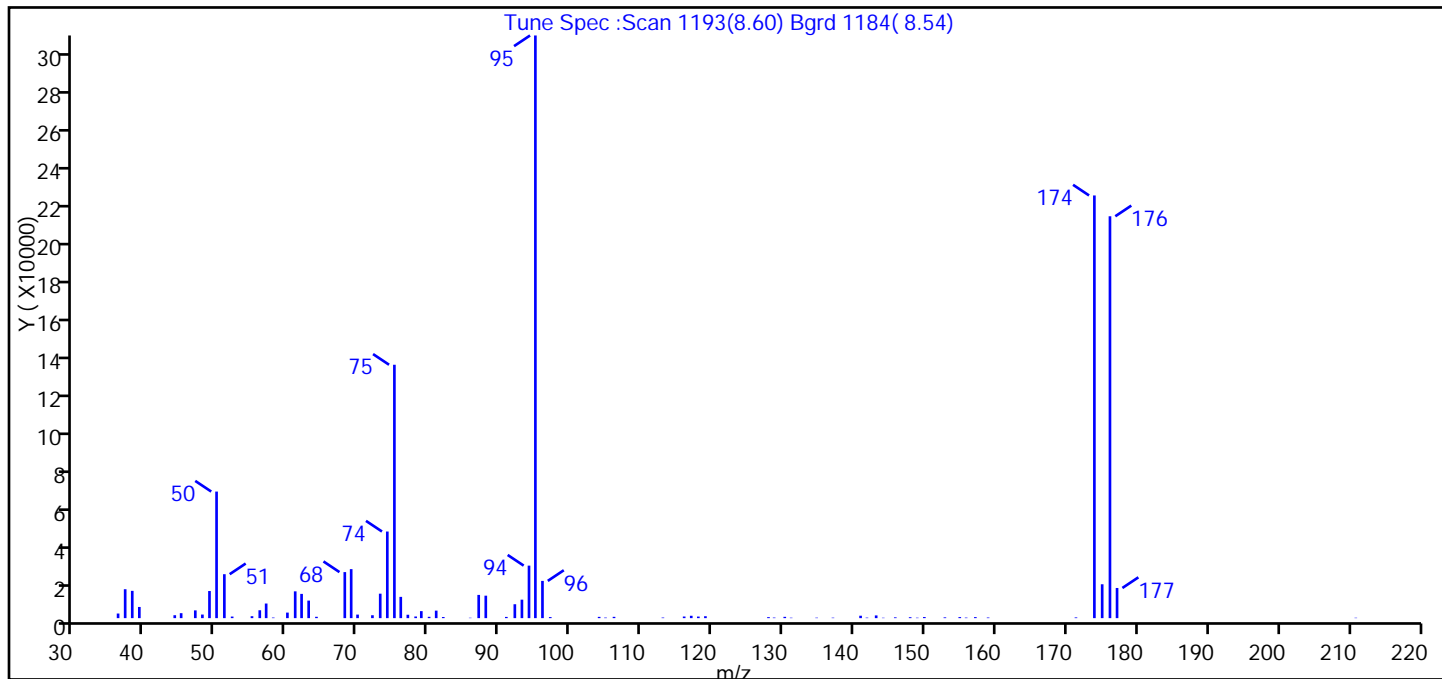
Dil. Factor: 1.0000

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Tune Method: BFB Method 8260

\$ 9 BFB



| m/z | Ion Abundance Criteria                         | % Relative Abundance |
|-----|--|----------------------|
| 95  | Base peak, 100% relative abundance             | 100.0                |
| 50  | 15 to 40% of m/z 95                            | 21.7                 |
| 75  | 30 to 60% of m/z 95                            | 43.5                 |
| 96  | 5 to 9% of m/z 95                              | 6.4                  |
| 173 | Less than 2% of m/z 174                        | 0.0 (0.0)            |
| 174 | 50 to 120% of m/z 95                           | 72.5                 |
| 175 | 5 to 9% of m/z 174                             | 5.8 (8.0)            |
| 176 | Greater than 95% but less than 101% of m/z 174 | 69.0 (95.1)          |
| 177 | 5 to 9% of m/z 176                             | 5.2 (7.5)            |

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033101.D\MSVOA\_S\_CHHP3.rsl\spectra.d  
 Injection Date: 31-Mar-2015 07:47:30  
 Spectrum: Tune Spec :Scan 1193(8.60) Bgrd 1184( 8.54)  
 Base Peak: 95.00  
 Minimum % Base Peak: 0  
 Number of Points: 78

| m/z   | Y     | m/z   | Y      | m/z    | Y      | m/z    | Y      |
|-------|-------|-------|--------|--------|--------|--------|--------|
| 36.10 | 2441  | 64.10 | 717    | 93.10  | 9774   | 141.80 | 276    |
| 37.10 | 15294 | 68.10 | 24352  | 94.10  | 27776  | 143.10 | 1440   |
| 38.10 | 14433 | 69.00 | 25920  | 95.00  | 308160 | 144.10 | 212    |
| 39.10 | 5914  | 69.90 | 1878   | 96.00  | 19696  | 145.80 | 413    |
| 44.10 | 1550  | 72.00 | 1539   | 97.10  | 556    | 147.90 | 485    |
| 45.00 | 2629  | 73.10 | 12941  | 104.00 | 673    | 148.90 | 234    |
| 47.00 | 4103  | 74.10 | 45808  | 104.90 | 292    | 149.90 | 580    |
| 48.00 | 1898  | 75.10 | 134016 | 106.10 | 688    | 152.80 | 406    |
| 49.00 | 14343 | 76.00 | 11250  | 113.00 | 314    | 154.90 | 554    |
| 50.00 | 66944 | 77.00 | 1799   | 116.00 | 858    | 155.80 | 285    |
| 51.10 | 23240 | 78.10 | 868    | 117.00 | 1256   | 157.10 | 543    |
| 52.20 | 842   | 78.90 | 3712   | 118.00 | 835    | 158.90 | 329    |
| 55.00 | 1023  | 80.00 | 705    | 119.00 | 1015   | 171.30 | 381    |
| 56.10 | 4170  | 81.00 | 3974   | 127.90 | 527    | 173.90 | 223552 |
| 57.00 | 7732  | 82.00 | 584    | 128.70 | 298    | 175.00 | 17920  |
| 58.00 | 309   | 85.80 | 208    | 130.20 | 688    | 176.10 | 212544 |
| 60.00 | 2936  | 87.00 | 12288  | 131.10 | 232    | 177.10 | 15952  |
| 61.10 | 14172 | 88.00 | 11881  | 134.70 | 250    | 210.80 | 209    |
| 62.00 | 12827 | 90.90 | 651    | 137.00 | 253    |        |        |
| 63.00 | 9278  | 92.10 | 7357   | 140.90 | 1277   |        |        |

TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033101.D

Injection Date: 31-Mar-2015 07:47:30

Instrument ID: CHHP3

Operator ID: 10099

Lims ID: BFB

Worklist Smp#: 1

Client ID:

Injection Vol: 5.0 mL

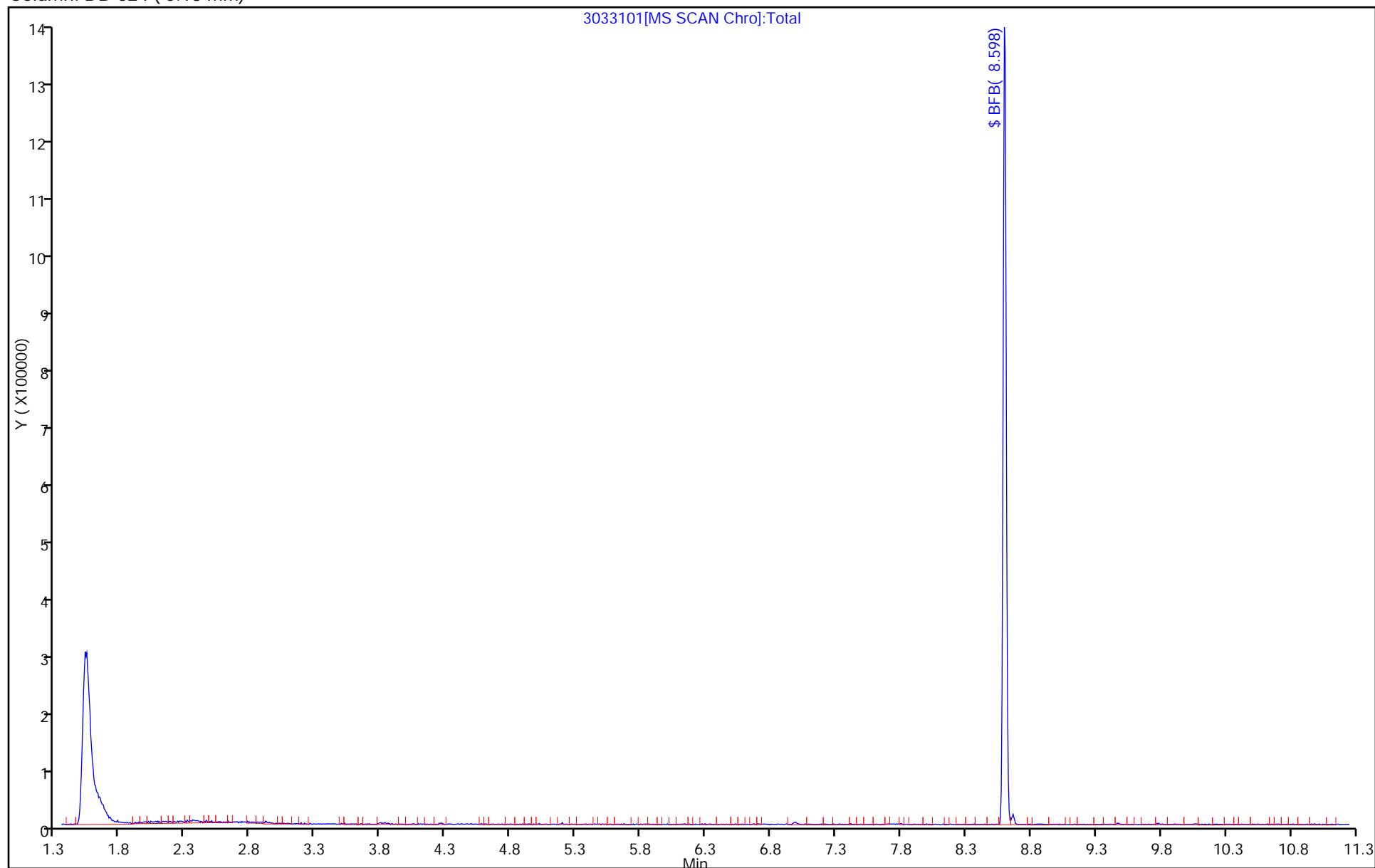
Dil. Factor: 1.0000

ALS Bottle#: 1

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\3042701.D  
Lims ID: BFB  
Client ID:  
Sample Type: BFB  
Inject. Date: 27-Apr-2015 05:56:30 ALS Bottle#: 1 Worklist Smp#: 1  
Injection Vol: 5.0 mL Dil. Factor: 1.0000  
Sample Info: BFB  
Operator ID: 10099 Instrument ID: CHHP3  
Method: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\MSVOA\_S\_CHHP3.m  
Limit Group: VOA 8260C ICAL  
Last Update: 27-Apr-2015 08:51:11 Calib Date: 31-Mar-2015 14:29:30  
Integrator: RTE ID Type: Deconvolution ID  
Quant Method: Internal Standard Quant By: Initial Calibration  
Last ICal File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D  
Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
Process Host: XAWRK028

First Level Reviewer: gordonk

Date: 27-Apr-2015 06:45:07

| Compound | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|----------|-----|--------------|------------------|------------------|---|----------|---------------|-----------------|-------|
| \$ 9 BFB | 95  | 8.597        | 8.597            | 0.000            | 0 | 526054   | NR            | NR              |       |

**QC Flag Legend**

Processing Flags

NR - Missing Quant Standard

**Reagents:**

VOABFB50\_00062

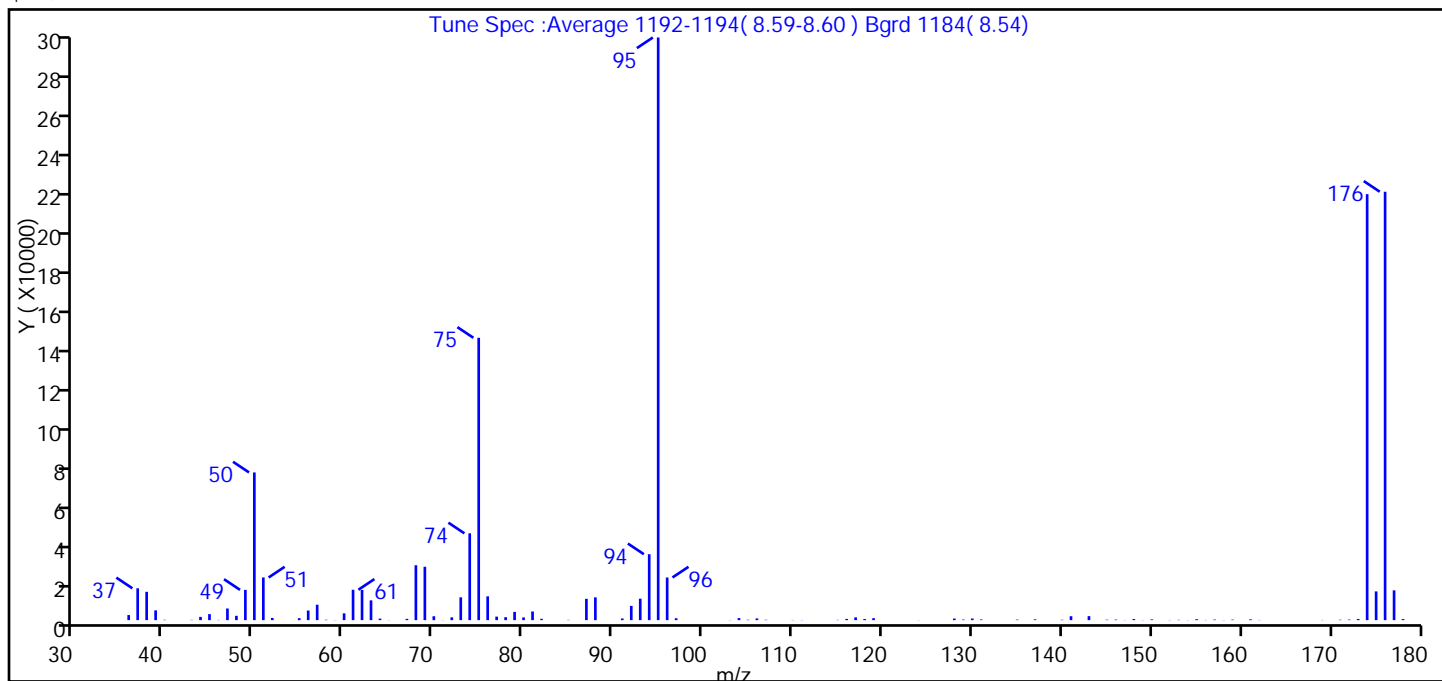
Amount Added: 1.00

Units: uL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\3042701.D  
Injection Date: 27-Apr-2015 05:56:30 Instrument ID: CHHP3  
Lims ID: BFB  
Client ID:  
Operator ID: 10099 ALS Bottle#: 1 Worklist Smp#: 1  
Injection Vol: 5.0 mL Dil. Factor: 1.0000  
Method: MSVOA\_S\_CHHP3 Limit Group: VOA 8260C ICAL  
Tune Method: BFB Method 8260

\$ 9 BFB



| m/z | Ion Abundance Criteria                         | % Relative Abundance |
|-----|--|----------------------|
| 95  | Base peak, 100% relative abundance             | 100.0                |
| 50  | 15 to 40% of m/z 95                            | 25.3                 |
| 75  | 30 to 60% of m/z 95                            | 48.5                 |
| 96  | 5 to 9% of m/z 95                              | 7.3                  |
| 173 | Less than 2% of m/z 174                        | 0.2 (0.3)            |
| 174 | 50 to 120% of m/z 95                           | 73.1                 |
| 175 | 5 to 9% of m/z 174                             | 4.9 (6.7)            |
| 176 | Greater than 95% but less than 101% of m/z 174 | 73.5 (100.6)         |
| 177 | 5 to 9% of m/z 176                             | 5.1 (7.0)            |



Data File: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\3042701.D\MSVOA\_S\_CHHP3.rsl\spectra.d  
Injection Date: 27-Apr-2015 05:56:30  
Spectrum: Tune Spec :Average 1192-1194( 8.59-8.60 ) Bgrd 1184( 8.54)  
Base Peak: 95.00  
Minimum % Base Peak: 0  
Number of Points: 99

| m/z   | Y     | m/z   | Y      | m/z    | Y     | m/z    | Y      |
|-------|-------|-------|--------|--------|-------|--------|--------|
| 36.00 | 2580  | 65.00 | 67     | 96.00  | 21592 | 146.00 | 289    |
| 37.00 | 16121 | 67.00 | 648    | 97.00  | 964   | 147.00 | 71     |
| 38.00 | 14338 | 68.00 | 27792  | 103.00 | 80    | 148.00 | 558    |
| 39.00 | 4954  | 69.00 | 27024  | 104.00 | 1035  | 149.00 | 79     |
| 40.00 | 175   | 70.00 | 1970   | 105.00 | 212   | 150.00 | 378    |
| 43.00 | 138   | 71.00 | 79     | 106.00 | 868   | 152.00 | 80     |
| 44.00 | 1647  | 72.00 | 1414   | 107.00 | 195   | 153.00 | 167    |
| 45.00 | 3055  | 73.00 | 11551  | 110.00 | 98    | 154.00 | 79     |
| 46.00 | 113   | 74.00 | 43936  | 111.00 | 81    | 155.00 | 486    |
| 47.00 | 5895  | 75.00 | 142912 | 115.00 | 138   | 156.00 | 97     |
| 48.00 | 2189  | 76.00 | 12039  | 116.00 | 619   | 157.00 | 289    |
| 49.00 | 15320 | 77.00 | 1778   | 117.00 | 1418  | 158.00 | 70     |
| 50.00 | 74760 | 78.00 | 1506   | 118.00 | 563   | 159.00 | 265    |
| 51.00 | 21600 | 79.00 | 4177   | 119.00 | 995   | 161.00 | 412    |
| 52.00 | 1103  | 80.00 | 1390   | 124.00 | 69    | 162.00 | 90     |
| 55.00 | 997   | 81.00 | 4384   | 128.00 | 815   | 169.00 | 92     |
| 56.00 | 4871  | 82.00 | 686    | 129.00 | 292   | 171.00 | 216    |
| 57.00 | 7799  | 85.00 | 141    | 130.00 | 830   | 172.00 | 295    |
| 58.00 | 219   | 87.00 | 10792  | 131.00 | 343   | 173.00 | 591    |
| 59.00 | 81    | 88.00 | 11531  | 135.00 | 270   | 174.00 | 215616 |
| 60.00 | 3437  | 91.00 | 849    | 137.00 | 401   | 175.00 | 14549  |
| 61.00 | 15381 | 92.00 | 7218   | 140.00 | 206   | 176.00 | 216832 |
| 62.00 | 15292 | 93.00 | 10862  | 141.00 | 1987  | 177.00 | 15076  |
| 63.00 | 10023 | 94.00 | 33368  | 143.00 | 2034  | 178.00 | 549    |
| 64.00 | 776   | 95.00 | 294912 | 145.00 | 229   |        |        |

Report Date: 27-Apr-2015 08:51:11

Chrom Revision: 2.2 09-Apr-2015 10:05:40

TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\3042701.D

Injection Date: 27-Apr-2015 05:56:30

Instrument ID: CHHP3

Operator ID: 10099

Lims ID: BFB

Worklist Smp#: 1

Client ID:

Injection Vol: 5.0 mL

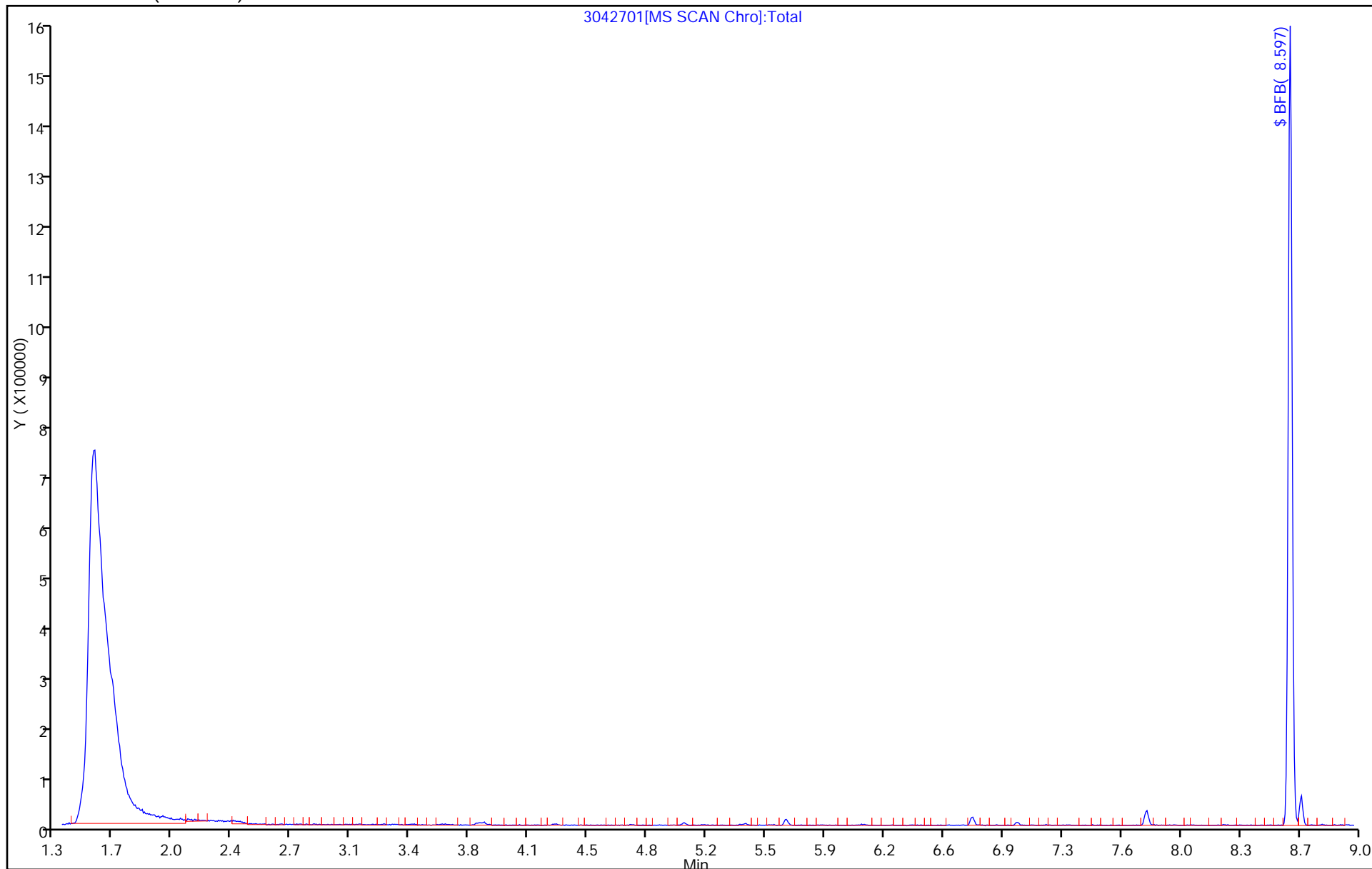
Dil. Factor: 1.0000

ALS Bottle#: 1

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)



FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 180-139703/1-A  
 Matrix: Sediment Lab File ID: 3042705.D  
 Analysis Method: 8260C Date Collected: \_\_\_\_\_  
 Sample wt/vol: 5.00(g) Date Analyzed: 04/27/2015 08:11  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 139697 Units: ug/Kg

| CAS NO.    | COMPOUND NAME             | RESULT | Q | RL  | MDL  |
|------------|---------------------------|--------|---|-----|------|
| 71-55-6    | 1,1,1-Trichloroethane     | ND     |   | 5.0 | 0.49 |
| 79-34-5    | 1,1,2,2-Tetrachloroethane | ND     |   | 5.0 | 0.72 |
| 79-00-5    | 1,1,2-Trichloroethane     | ND     |   | 5.0 | 0.83 |
| 75-34-3    | 1,1-Dichloroethane        | ND     |   | 5.0 | 0.58 |
| 75-35-4    | 1,1-Dichloroethene        | ND     |   | 5.0 | 0.85 |
| 95-50-1    | 1,2-Dichlorobenzene       | ND     |   | 5.0 | 0.80 |
| 107-06-2   | 1,2-Dichloroethane        | ND     |   | 5.0 | 0.61 |
| 78-87-5    | 1,2-Dichloropropane       | ND     |   | 5.0 | 0.54 |
| 541-73-1   | 1,3-Dichlorobenzene       | ND     |   | 5.0 | 0.66 |
| 106-46-7   | 1,4-Dichlorobenzene       | ND     |   | 5.0 | 0.64 |
| 110-75-8   | 2-Chloroethyl vinyl ether | ND     |   | 10  | 0.77 |
| 107-02-8   | Acrolein                  | ND     |   | 100 | 7.0  |
| 107-13-1   | Acrylonitrile             | ND     |   | 100 | 10   |
| 71-43-2    | Benzene                   | ND     |   | 5.0 | 0.68 |
| 75-25-2    | Bromoform                 | ND     |   | 5.0 | 0.44 |
| 74-83-9    | Bromomethane              | ND     |   | 5.0 | 0.74 |
| 56-23-5    | Carbon tetrachloride      | ND     |   | 5.0 | 0.45 |
| 108-90-7   | Chlorobenzene             | ND     |   | 5.0 | 0.76 |
| 67-66-3    | Chloroform                | ND     |   | 5.0 | 0.58 |
| 74-87-3    | Chloromethane             | ND     |   | 5.0 | 0.85 |
| 124-48-1   | Chlorodibromomethane      | ND     |   | 5.0 | 0.71 |
| 10061-01-5 | cis-1,3-Dichloropropene   | ND     |   | 5.0 | 0.68 |
| 75-27-4    | Dichlorobromomethane      | ND     |   | 5.0 | 0.56 |
| 100-41-4   | Ethylbenzene              | ND     |   | 5.0 | 0.64 |
| 75-09-2    | Methylene Chloride        | 1.53   | J | 5.0 | 0.67 |
| 127-18-4   | Tetrachloroethene         | ND     |   | 5.0 | 0.68 |
| 108-88-3   | Toluene                   | 1.03   | J | 5.0 | 0.73 |
| 156-60-5   | trans-1,2-Dichloroethene  | ND     |   | 5.0 | 0.60 |
| 10061-02-6 | trans-1,3-Dichloropropene | ND     |   | 5.0 | 0.60 |
| 79-01-6    | Trichloroethene           | ND     |   | 5.0 | 0.66 |
| 75-01-4    | Vinyl chloride            | ND     |   | 5.0 | 0.47 |
| 75-00-3    | Chloroethane              | ND     |   | 5.0 | 1.5  |

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 180-139703/1-A  
Matrix: Sediment Lab File ID: 3042705.D  
Analysis Method: 8260C Date Collected: \_\_\_\_\_  
Sample wt/vol: 5.00(g) Date Analyzed: 04/27/2015 08:11  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 139697 Units: ug/Kg

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 101  |   | 52-124 |
| 460-00-4   | 4-Bromofluorobenzene (Surr)  | 93   |   | 63-120 |
| 1868-53-7  | Dibromofluoromethane (Surr)  | 97   |   | 68-121 |
| 2037-26-5  | Toluene-d8 (Surr)            | 100  |   | 72-127 |

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\3042705.D  
 Lims ID: MB 180-139703/1-A  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 27-Apr-2015 08:11:30 ALS Bottle#: 5 Worklist Smp#: 5  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: MB 180-139703/1-A  
 Operator ID: 10099 Instrument ID: CHHP3  
 Method: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\MSVOA\_S\_CHHP3.m  
 Limit Group: VOA 8260C ICAL  
 Last Update: 27-Apr-2015 08:52:45 Calib Date: 31-Mar-2015 14:29:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICAL File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D  
 Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
 Process Host: XAWRK028

First Level Reviewer: gordonk

Date: 27-Apr-2015 08:52:45

| Compound                        | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q  | Response | Cal Amt ng | OnCol Amt ng | Flags |
|---------------------------------|-----|-----------|---------------|---------------|----|----------|------------|--------------|-------|
| * 1 TBA-d9 (IS)                 | 65  | 4.671     | 4.741         | -0.070        | 99 | 140703   | 5000.0     | 5000.0       |       |
| * 2 Fluorobenzene (IS)          | 96  | 7.610     | 7.600         | 0.010         | 98 | 711997   | 250.0      | 250.0        |       |
| * 3 Chlorobenzene-d5            | 119 | 10.682    | 10.684        | -0.002        | 91 | 154652   | 250.0      | 250.0        |       |
| * 4 1,4-Dichlorobenzene-d4      | 152 | 13.006    | 13.008        | -0.002        | 97 | 225991   | 250.0      | 250.0        |       |
| \$ 5 Dibromofluoromethane (Surr | 113 | 6.861     | 6.858         | 0.003         | 92 | 146783   | 250.0      | 241.8        |       |
| \$ 6 1,2-Dichloroethane-d4 (Sur | 65  | 7.226     | 7.223         | 0.003         | 93 | 176914   | 250.0      | 252.2        |       |
| \$ 7 Toluene-d8 (Surr)          | 98  | 9.246     | 9.243         | 0.004         | 94 | 649067   | 250.0      | 250.6        |       |
| \$ 8 4-Bromofluorobenzene (Surr | 95  | 11.844    | 11.846        | -0.002        | 84 | 238490   | 250.0      | 232.3        |       |
| 10 Dichlorodifluoromethane      | 85  |           | 1.754         |               |    |          |            | ND           |       |
| 11 Chloromethane                | 50  |           | 1.948         |               |    |          |            | ND           |       |
| 12 Vinyl chloride               | 62  |           | 2.107         |               |    |          |            | ND           |       |
| 13 Butadiene                    | 39  |           | 2.137         |               |    |          |            | ND           |       |
| 14 Bromomethane                 | 94  |           | 2.472         |               |    |          |            | ND           |       |
| 15 Chloroethane                 | 64  |           | 2.599         |               |    |          |            | ND           |       |
| 16 Dichlorofluoromethane        | 67  |           | 2.910         |               |    |          |            | ND           |       |
| 17 Trichlorofluoromethane       | 101 |           | 2.977         |               |    |          |            | ND           |       |
| 18 Ethanol                      | 45  |           | 3.325         |               |    |          |            | ND           |       |
| 19 Ethyl ether                  | 59  |           | 3.415         |               |    |          |            | ND           |       |
| 20 Acrolein                     | 56  |           | 3.591         |               |    |          |            | ND           |       |
| 21 1,1-Dichloroethene           | 96  |           | 3.707         |               |    |          |            | ND           |       |
| 22 1,1,2-Trichloro-1,2,2-trif   | 101 |           | 3.804         |               |    |          |            | ND           |       |
| 23 Acetone                      | 43  |           | 3.871         |               |    |          |            | ND           |       |
| 24 Iodomethane                  | 142 |           | 3.932         |               |    |          |            | ND           |       |
| 25 Carbon disulfide             | 76  |           | 4.017         |               |    |          |            | ND           |       |
| 26 Isopropyl alcohol            | 45  |           | 4.177         |               |    |          |            | ND           |       |
| 27 Acetonitrile                 | 40  |           | 4.305         |               |    |          |            | ND           |       |
| 28 3-Chloro-1-propene           | 76  |           | 4.321         |               |    |          |            | ND           |       |
| 29 Methyl acetate               | 43  |           | 4.418         |               |    |          |            | ND           |       |
| 30 Methylene Chloride           | 84  | 4.537     | 4.516         | 0.021         | 1  | 7105     |            | 7.64         | M     |
| 31 2-Methyl-2-propanol          | 59  |           | 4.856         |               |    |          |            | ND           |       |
| 32 Acrylonitrile                | 53  |           | 4.911         |               |    |          |            | ND           |       |
| 33 trans-1,2-Dichloroethene     | 96  |           | 4.941         |               |    |          |            | ND           |       |

| Compound                       | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q  | Response | Cal Amt ng | OnCol Amt ng | Flags |
|--------------------------------|-----|-----------|---------------|---------------|----|----------|------------|--------------|-------|
| 34 Methyl tert-butyl ether     | 73  |           | 4.996         |               |    |          |            | ND           |       |
| 35 Hexane                      | 57  |           | 5.367         |               |    |          |            | ND           |       |
| 36 1,1-Dichloroethane          | 63  |           | 5.532         |               |    |          |            | ND           |       |
| 37 Vinyl acetate               | 43  |           | 5.646         |               |    |          |            | ND           |       |
| 38 2-Chloro-1,3-butadiene      | 53  |           | 5.686         |               |    |          |            | ND           |       |
| 39 Isopropyl ether             | 45  |           | 5.716         |               |    |          |            | ND           |       |
| 40 Tert-butyl ethyl ether      | 59  |           | 6.173         |               |    |          |            | ND           |       |
| 41 2,2-Dichloropropane         | 77  |           | 6.280         |               |    |          |            | ND           |       |
| 42 cis-1,2-Dichloroethene      | 96  |           | 6.286         |               |    |          |            | ND           |       |
| 43 2-Butanone (MEK)            | 43  |           | 6.329         |               |    |          |            | ND           |       |
| 44 Propionitrile               | 54  |           | 6.385         |               |    |          |            | ND           |       |
| 45 Ethyl acetate               | 43  |           | 6.434         |               |    |          |            | ND           |       |
| 47 Chlorobromomethane          | 128 |           | 6.566         |               |    |          |            | ND           |       |
| 46 Methacrylonitrile           | 41  |           | 6.574         |               |    |          |            | ND           |       |
| 48 Tetrahydrofuran             | 42  |           | 6.639         |               |    |          |            | ND           |       |
| 49 Chloroform                  | 83  |           | 6.675         |               |    |          |            | ND           |       |
| 50 1,1,1-Trichloroethane       | 97  |           | 6.876         |               |    |          |            | ND           |       |
| 51 Cyclohexane                 | 56  |           | 6.949         |               |    |          |            | ND           |       |
| 52 1,1-Dichloropropene         | 75  |           | 7.071         |               |    |          |            | ND           |       |
| 53 Carbon tetrachloride        | 117 |           | 7.071         |               |    |          |            | ND           |       |
| 54 Isobutyl alcohol            | 41  |           | 7.259         |               |    |          |            | ND           |       |
| 55 Benzene                     | 78  |           | 7.296         |               |    |          |            | ND           |       |
| 56 1,2-Dichloroethane          | 62  |           | 7.308         |               |    |          |            | ND           |       |
| 57 Tert-amyl methyl ether      | 73  |           | 7.347         |               |    |          |            | ND           |       |
| 58 Isooctane                   | 57  |           | 7.438         |               |    |          |            | ND           |       |
| 59 n-Heptane                   | 43  |           | 7.624         |               |    |          |            | ND           |       |
| 61 n-Butanol                   | 56  |           | 7.949         |               |    |          |            | ND           |       |
| 60 Trichloroethene             | 130 |           | 8.001         |               |    |          |            | ND           |       |
| 62 Ethyl acrylate              | 55  |           | 8.131         |               |    |          |            | ND           |       |
| 63 Methylcyclohexane           | 83  |           | 8.208         |               |    |          |            | ND           |       |
| 64 1,2-Dichloropropane         | 63  |           | 8.227         |               |    |          |            | ND           |       |
| 65 Dibromomethane              | 93  |           | 8.336         |               |    |          |            | ND           |       |
| 66 Methyl methacrylate         | 69  |           | 8.369         |               |    |          |            | ND           |       |
| 67 1,4-Dioxane                 | 88  |           | 8.373         |               |    |          |            | ND           |       |
| 68 Dichlorobromomethane        | 83  |           | 8.506         |               |    |          |            | ND           |       |
| 69 2-Nitropropane              | 41  |           | 8.746         |               |    |          |            | ND           |       |
| 70 2-Chloroethyl vinyl ether   | 63  |           | 8.823         |               |    |          |            | ND           |       |
| 71 cis-1,3-Dichloropropene     | 75  |           | 8.969         |               |    |          |            | ND           |       |
| 72 4-Methyl-2-pentanone (MIBK) | 43  |           | 9.127         |               |    |          |            | ND           |       |
| 73 Toluene                     | 91  | 9.313     | 9.309         | 0.004         | 95 | 16063    |            | 5.16         |       |
| 74 trans-1,3-Dichloropropene   | 75  |           | 9.516         |               |    |          |            | ND           |       |
| 75 Ethyl methacrylate          | 69  |           | 9.620         |               |    |          |            | ND           |       |
| 76 1,1,2-Trichloroethane       | 97  |           | 9.699         |               |    |          |            | ND           |       |
| 77 Tetrachloroethene           | 164 |           | 9.869         |               |    |          |            | ND           |       |
| 78 1,3-Dichloropropane         | 76  |           | 9.869         |               |    |          |            | ND           |       |
| 79 2-Hexanone                  | 43  |           | 9.954         |               |    |          |            | ND           |       |
| 80 n-Butyl acetate             | 43  |           | 10.090        |               |    |          |            | ND           |       |
| 81 Chlorodibromomethane        | 129 |           | 10.100        |               |    |          |            | ND           |       |
| 82 Ethylene Dibromide          | 107 |           | 10.210        |               |    |          |            | ND           |       |
| 83 Chlorobenzene               | 112 |           | 10.709        |               |    |          |            | ND           |       |
| 84 4-Chlorobenzotrifluoride    | 180 |           | 10.745        |               |    |          |            | ND           |       |
| 85 1,1,1,2-Tetrachloroethane   | 131 |           | 10.788        |               |    |          |            | ND           |       |

| Compound                         | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q  | Response | Cal Amt ng | OnCol Amt ng | Flags |
|----------------------------------|-----|-----------|---------------|---------------|----|----------|------------|--------------|-------|
| 86 Ethylbenzene                  | 106 |           | 10.818        |               |    |          |            | ND           |       |
| 87 m-Xylene & p-Xylene           | 106 |           | 10.934        |               |    |          |            | ND           |       |
| 88 o-Xylene                      | 106 |           | 11.329        |               |    |          |            | ND           |       |
| 89 Styrene                       | 104 |           | 11.335        |               |    |          |            | ND           |       |
| 90 Bromoform                     | 173 |           | 11.518        |               |    |          |            | ND           |       |
| 91 Isopropylbenzene              | 105 |           | 11.694        |               |    |          |            | ND           |       |
| 92 Cyclohexanone                 | 55  |           | 11.788        |               |    |          |            | ND           |       |
| 93 1,1,2,2-Tetrachloroethane     | 83  |           | 11.974        |               |    |          |            | ND           |       |
| 94 Bromobenzene                  | 156 |           | 12.004        |               |    |          |            | ND           |       |
| 95 1,2,3-Trichloropropane        | 110 |           | 12.023        |               |    |          |            | ND           |       |
| 96 trans-1,4-Dichloro-2-buten    | 53  |           | 12.029        |               |    |          |            | ND           |       |
| 97 N-Propylbenzene               | 120 |           | 12.108        |               |    |          |            | ND           |       |
| 98 2-Chlorotoluene               | 126 |           | 12.199        |               |    |          |            | ND           |       |
| 99 1,3,5-Trimethylbenzene        | 105 |           | 12.278        |               |    |          |            | ND           |       |
| 100 4-Chlorotoluene              | 126 |           | 12.302        |               |    |          |            | ND           |       |
| 101 tert-Butylbenzene            | 119 |           | 12.613        |               |    |          |            | ND           |       |
| 102 Pentachloroethane            | 167 |           | 12.639        |               |    |          |            | ND           |       |
| 103 1,2,4-Trimethylbenzene       | 105 |           | 12.655        |               |    |          |            | ND           |       |
| 104 sec-Butylbenzene             | 105 |           | 12.832        |               |    |          |            | ND           |       |
| 105 1,3-Dichlorobenzene          | 146 |           | 12.947        |               |    |          |            | ND           |       |
| 106 4-Isopropyltoluene           | 119 |           | 12.978        |               |    |          |            | ND           |       |
| 107 1,4-Dichlorobenzene          | 146 |           | 13.033        |               |    |          |            | ND           |       |
| 108 1,2,3-Trimethylbenzene       | 105 |           | 13.095        |               |    |          |            | ND           |       |
| 109 Benzyl chloride              | 91  |           | 13.175        |               |    |          |            | ND           |       |
| 110 n-Butylbenzene               | 91  |           | 13.385        |               |    |          |            | ND           |       |
| 111 1,2-Dichlorobenzene          | 146 |           | 13.410        |               |    |          |            | ND           |       |
| 112 1,2-Dibromo-3-Chloropropan   | 75  |           | 14.182        |               |    |          |            | ND           |       |
| 113 1,3,5-Trichlorobenzene       | 180 |           | 14.422        |               |    |          |            | ND           |       |
| 114 1,2,4-Trichlorobenzene       | 180 |           | 15.034        |               |    |          |            | ND           |       |
| 115 Hexachlorobutadiene          | 225 |           | 15.210        |               |    |          |            | ND           |       |
| 116 Naphthalene                  | 128 |           | 15.289        |               |    |          |            | ND           |       |
| 117 1,2,3-Trichlorobenzene       | 180 | 15.567    | 15.557        | 0.010         | 92 | 4699     |            | 6.17         |       |
| 118 2-Methylnaphthalene          | 142 |           | 16.697        |               |    |          |            | ND           |       |
| 123 3-Chlorobenzotrifluoride     | 180 |           | 0.000         |               |    |          |            | ND           |       |
| 122 3-Chlorotoluene              | 126 |           | 0.000         |               |    |          |            | ND           |       |
| 120 2,4- & 2,5- & 2,6- Dichlor   | 125 |           | 0.000         |               |    |          |            | ND           |       |
| 124 2,4,5-Trichlorotoluene       | 159 |           | 0.000         |               |    |          |            | ND           |       |
| 127 2-Chlorobenzotrifluoride     | 180 |           | 0.000         |               |    |          |            | ND           |       |
| 128 2,3,6-Trichlorotoluene       | 159 |           | 0.000         |               |    |          |            | ND           |       |
| 126 2,4-Dichloro-1-(triflourom   | 214 |           | 0.000         |               |    |          |            | ND           |       |
| 121 1,2-dichloro-4-(trifluorom   | 214 |           | 0.000         |               |    |          |            | ND           |       |
| 119 2,5-Dichlorobenzotrifluori   | 214 |           | 0.000         |               |    |          |            | ND           |       |
| 125 2,3- & 3,4- Dichlorotoluen   | 125 |           | 0.000         |               |    |          |            | ND           |       |
| S 130 1,2-Dichloroethene, Total  | 96  |           | 1.000         |               |    |          |            | ND           |       |
| S 129 Xylenes, Total             | 106 |           | 1.000         |               |    |          |            | ND           |       |
| S 131 1,3-Dichloropropene, Total | 1   |           | 0.000         |               |    |          |            | ND           |       |
| T 134 Tetrahydrofuran TIC        | 42  |           | 0.000         |               |    |          |            | ND           |       |
| T 133 Methyl n-amyl ketone TIC   | 43  |           | 0.000         |               |    |          |            | ND           |       |
| T 132 Mesityl oxide TIC          | 83  |           | 0.000         |               |    |          |            | ND           |       |

## QC Flag Legend

Review Flags

M - Manually Integrated

## Reagents:

VOA8260SURR\_00033

Amount Added: 10.00

Units: uL

VOA8260INT\_00031

Amount Added: 10.00

Units: uL

Run Reagent



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\3042705.D

Injection Date: 27-Apr-2015 08:11:30

Instrument ID: CHHP3

Operator ID: 10099

Lims ID: MB 180-139703/1-A

Worklist Smp#: 5

Client ID:

Purge Vol: 5.000 mL

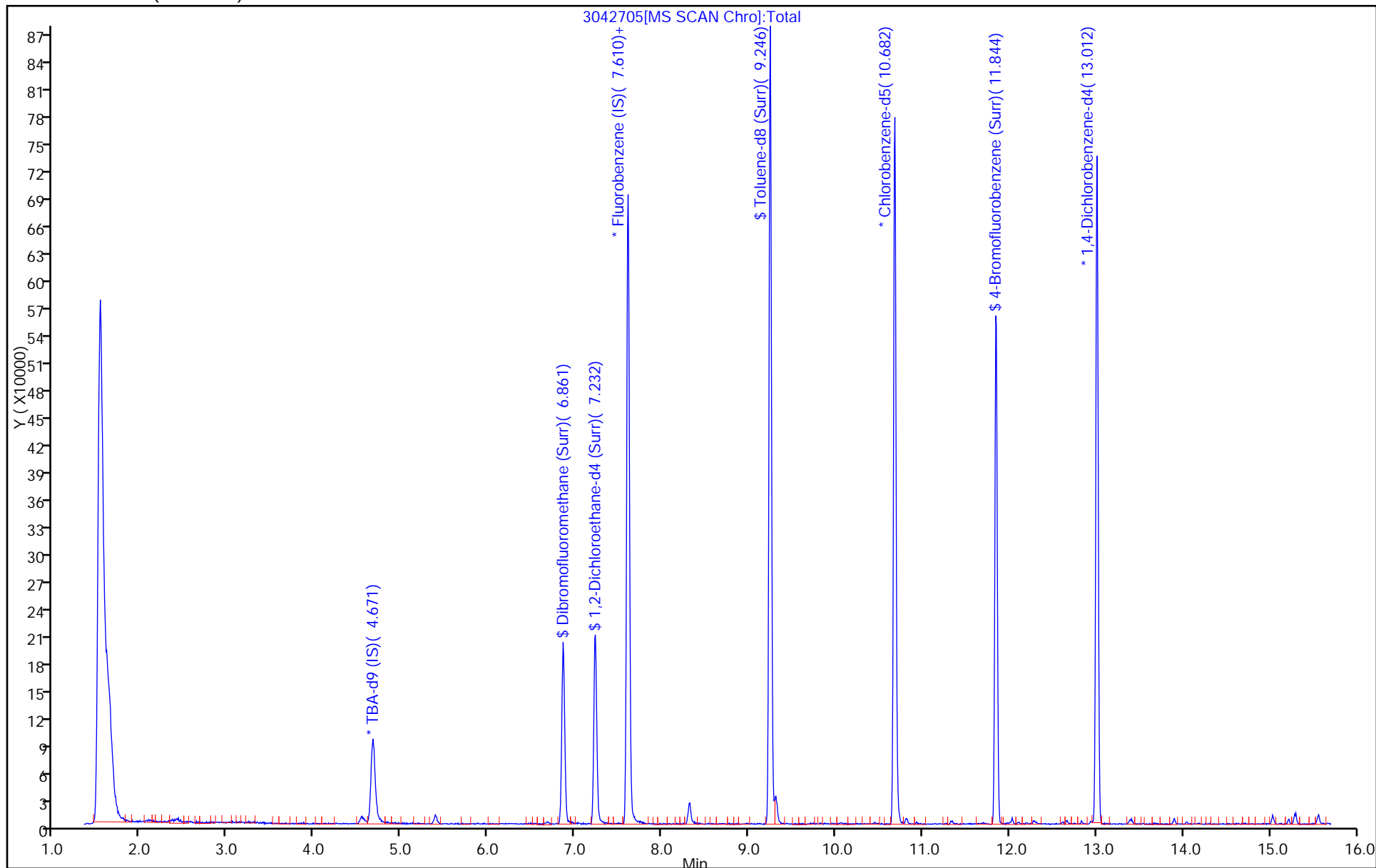
Dil. Factor: 1.0000

ALS Bottle#: 5

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\3042705.D

Injection Date: 27-Apr-2015 08:11:30

Instrument ID: CHHP3

Lims ID: MB 180-139703/1-A

Client ID:

Operator ID: 10099

ALS Bottle#: 5

Worklist Smp#: 5

Purge Vol: 5.000 mL

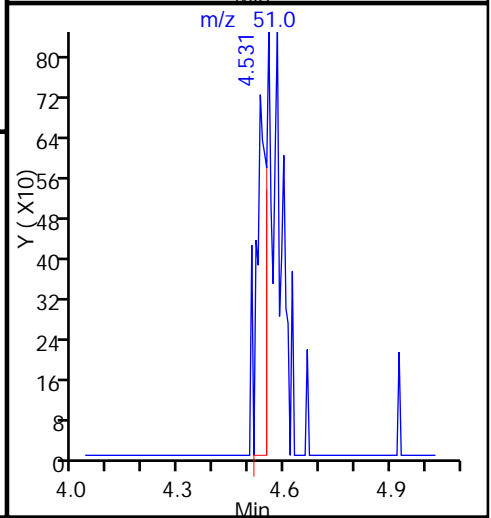
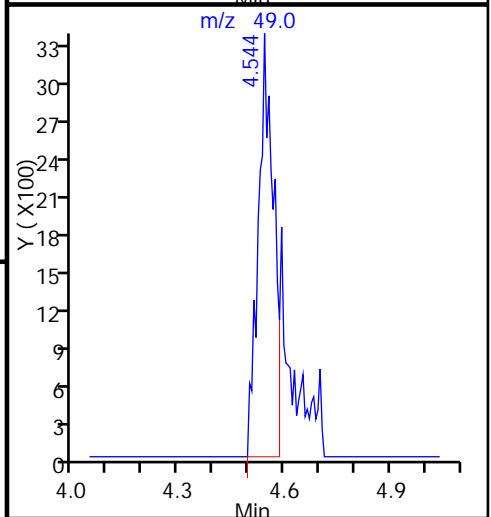
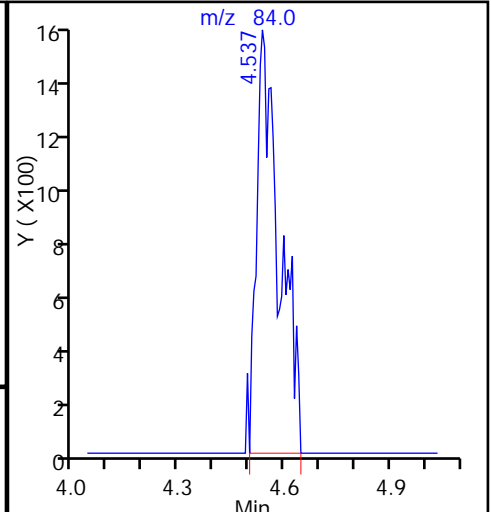
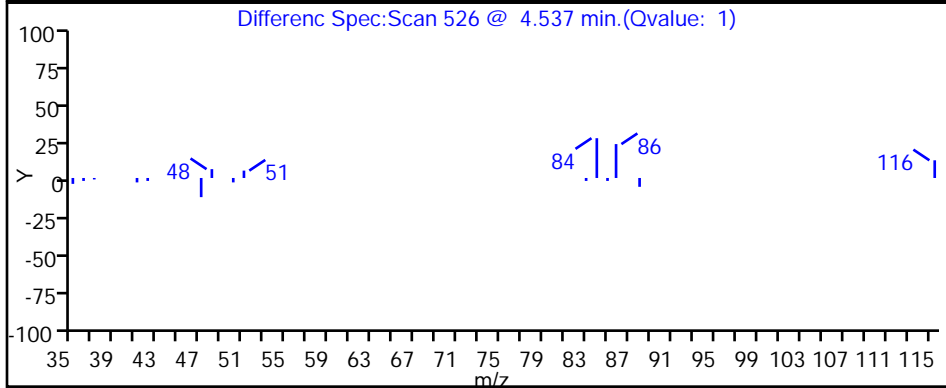
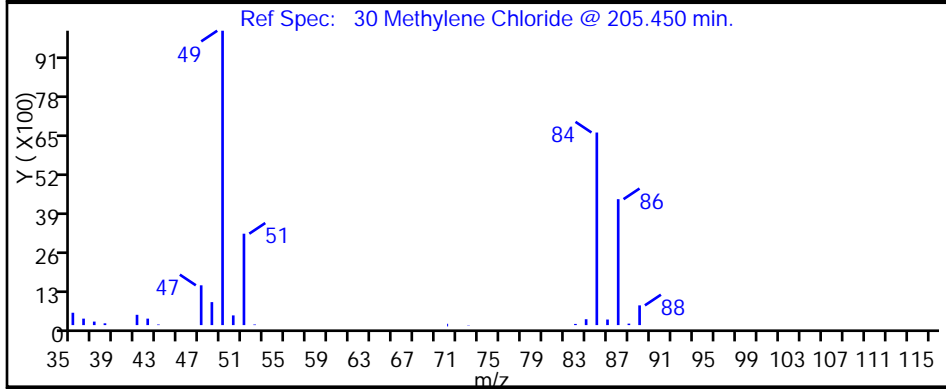
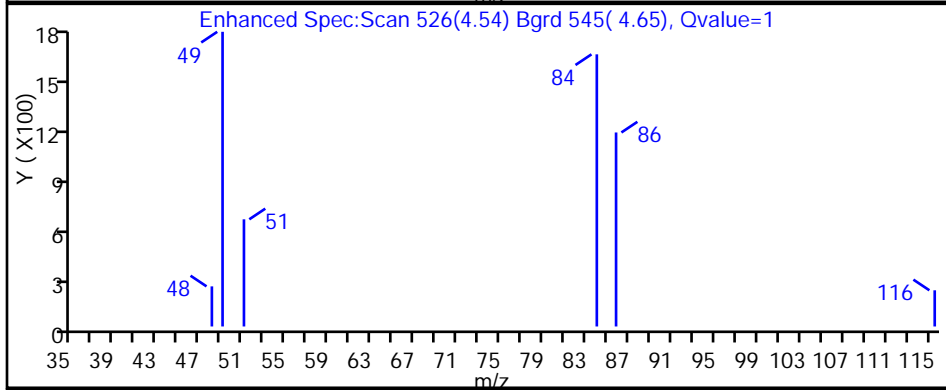
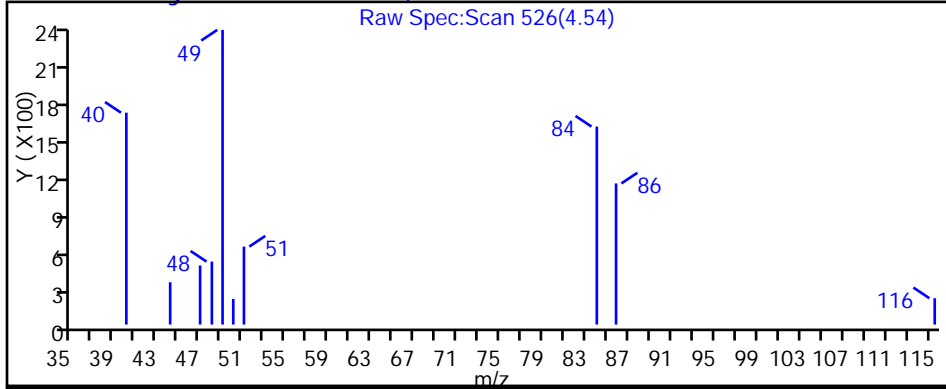
Dil. Factor: 1.0000

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)

Detector: MS SCAN

**30 Methylene Chloride, CAS: 75-09-2**

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\3042705.D

Injection Date: 27-Apr-2015 08:11:30

Instrument ID: CHHP3

Lims ID: MB 180-139703/1-A

Client ID:

Operator ID: 10099

ALS Bottle#: 5

Worklist Smp#: 5

Purge Vol: 5.000 mL

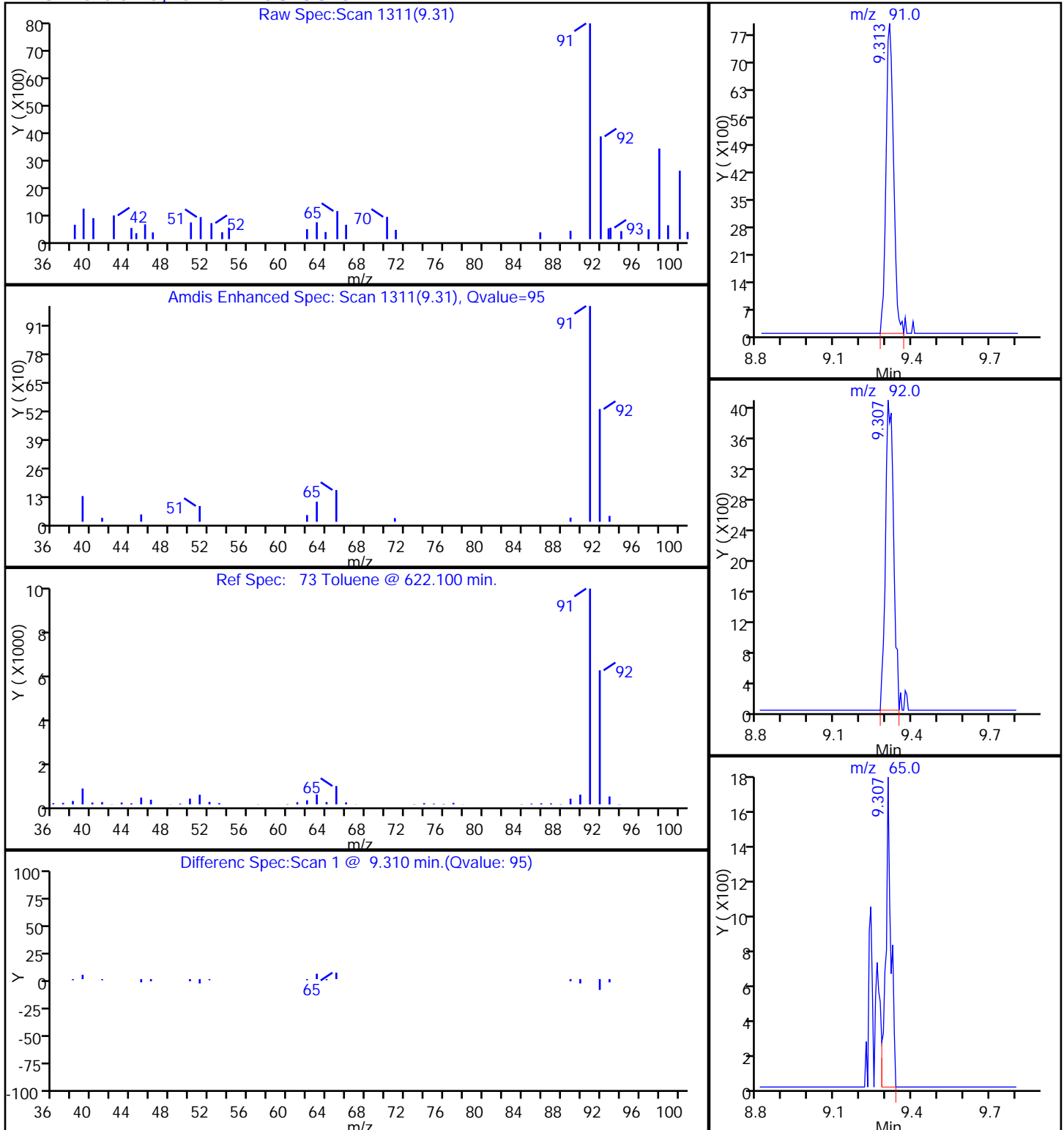
Dil. Factor: 1.0000

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)

Detector: MS SCAN

**73 Toluene, CAS: 108-88-3**

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\3042705.D

Injection Date: 27-Apr-2015 08:11:30

Instrument ID: CHHP3

Lims ID: MB 180-139703/1-A

Client ID:

Operator ID: 10099

ALS Bottle#:

5

Worklist Smp#: 5

Purge Vol: 5.000 mL

Dil. Factor:

1.0000

Method: MSVOA\_S\_CHHP3

Limit Group:

VOA 8260C ICAL

Column: DB-624 (0.18 mm)

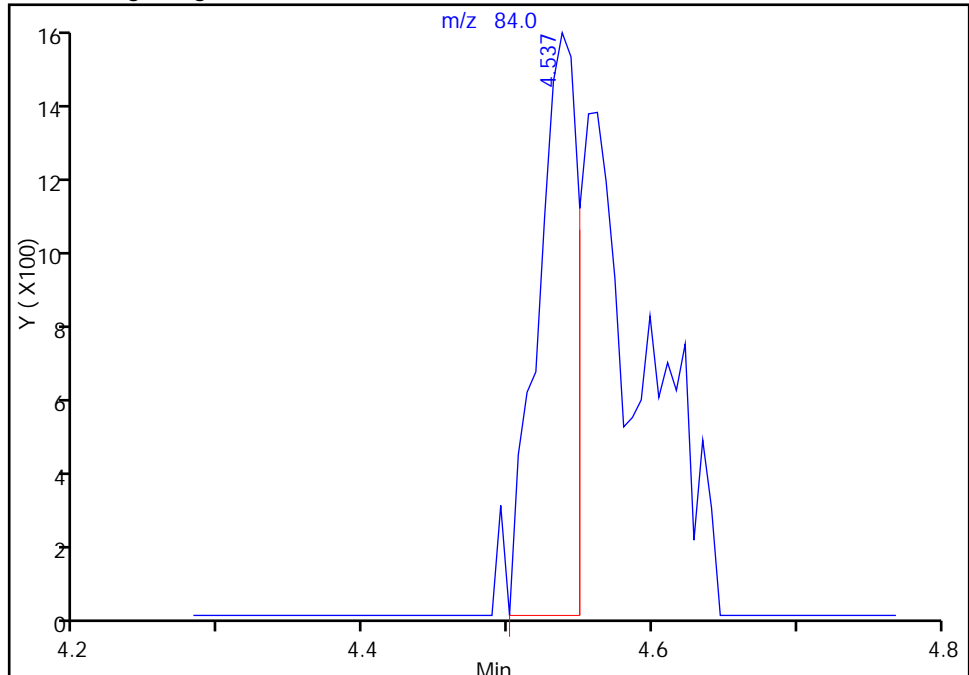
Detector

MS SCAN

## 30 Methylene Chloride, CAS: 75-09-2

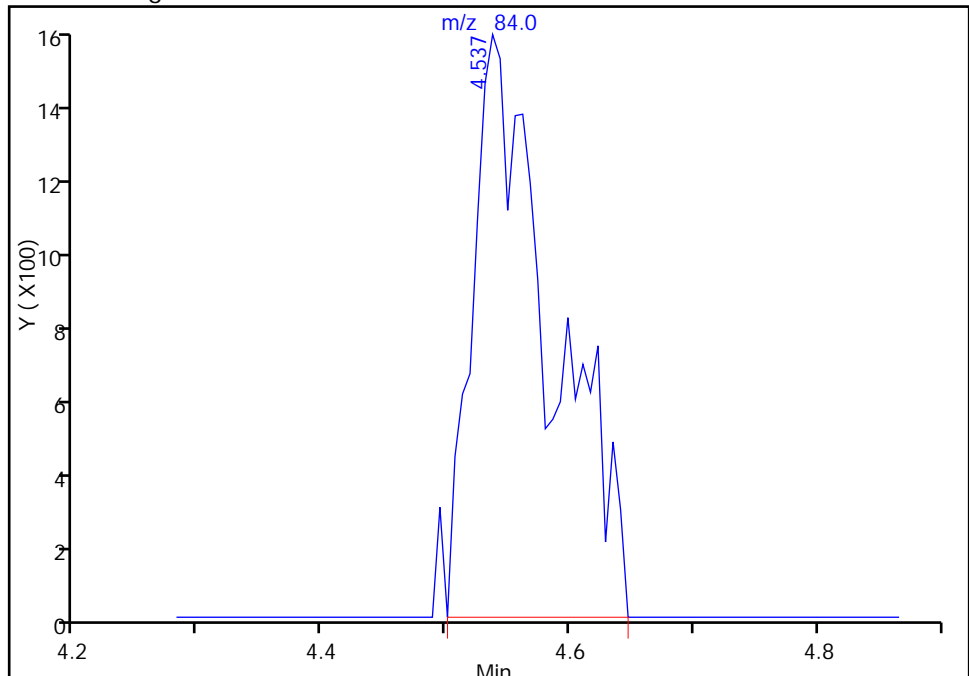
RT: 4.54  
Area: 3105  
Amount: 3.336955  
Amount Units: ng

## Processing Integration Results



RT: 4.54  
Area: 7105  
Amount: 7.635769  
Amount Units: ng

## Manual Integration Results



Reviewer: gordonk, 27-Apr-2015 08:52:45

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 180-139703/2-A  
 Matrix: Sediment Lab File ID: 3042708.D  
 Analysis Method: 8260C Date Collected: \_\_\_\_\_  
 Sample wt/vol: 5.00(g) Date Analyzed: 04/27/2015 09:19  
 Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
 Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
 % Moisture: \_\_\_\_\_ Level: (low/med) Low  
 Analysis Batch No.: 139697 Units: ug/Kg

| CAS NO.    | COMPOUND NAME             | RESULT | Q | RL  | MDL  |
|------------|---------------------------|--------|---|-----|------|
| 71-55-6    | 1,1,1-Trichloroethane     | 40.1   |   | 5.0 | 0.49 |
| 79-34-5    | 1,1,2,2-Tetrachloroethane | 33.9   |   | 5.0 | 0.72 |
| 79-00-5    | 1,1,2-Trichloroethane     | 35.3   |   | 5.0 | 0.83 |
| 75-34-3    | 1,1-Dichloroethane        | 40.8   |   | 5.0 | 0.58 |
| 75-35-4    | 1,1-Dichloroethene        | 38.3   |   | 5.0 | 0.85 |
| 95-50-1    | 1,2-Dichlorobenzene       | 33.6   |   | 5.0 | 0.80 |
| 107-06-2   | 1,2-Dichloroethane        | 38.6   |   | 5.0 | 0.61 |
| 78-87-5    | 1,2-Dichloropropane       | 36.5   |   | 5.0 | 0.54 |
| 541-73-1   | 1,3-Dichlorobenzene       | 35.3   |   | 5.0 | 0.66 |
| 106-46-7   | 1,4-Dichlorobenzene       | 35.5   |   | 5.0 | 0.64 |
| 110-75-8   | 2-Chloroethyl vinyl ether | 67.6   |   | 10  | 0.77 |
| 107-02-8   | Acrolein                  | 143    |   | 100 | 7.0  |
| 107-13-1   | Acrylonitrile             | 362    |   | 100 | 10   |
| 71-43-2    | Benzene                   | 38.1   |   | 5.0 | 0.68 |
| 75-25-2    | Bromoform                 | 33.4   |   | 5.0 | 0.44 |
| 74-83-9    | Bromomethane              | 39.4   |   | 5.0 | 0.74 |
| 56-23-5    | Carbon tetrachloride      | 40.0   |   | 5.0 | 0.45 |
| 108-90-7   | Chlorobenzene             | 37.0   |   | 5.0 | 0.76 |
| 67-66-3    | Chloroform                | 38.7   |   | 5.0 | 0.58 |
| 74-87-3    | Chloromethane             | 46.4   |   | 5.0 | 0.85 |
| 124-48-1   | Chlorodibromomethane      | 34.1   |   | 5.0 | 0.71 |
| 10061-01-5 | cis-1,3-Dichloropropene   | 36.5   |   | 5.0 | 0.68 |
| 75-27-4    | Dichlorobromomethane      | 37.2   |   | 5.0 | 0.56 |
| 100-41-4   | Ethylbenzene              | 38.4   |   | 5.0 | 0.64 |
| 75-09-2    | Methylene Chloride        | 35.7   |   | 5.0 | 0.67 |
| 127-18-4   | Tetrachloroethene         | 37.9   |   | 5.0 | 0.68 |
| 108-88-3   | Toluene                   | 39.7   |   | 5.0 | 0.73 |
| 156-60-5   | trans-1,2-Dichloroethene  | 39.4   |   | 5.0 | 0.60 |
| 10061-02-6 | trans-1,3-Dichloropropene | 36.5   |   | 5.0 | 0.60 |
| 79-01-6    | Trichloroethene           | 37.8   |   | 5.0 | 0.66 |
| 75-01-4    | Vinyl chloride            | 42.1   |   | 5.0 | 0.47 |
| 75-00-3    | Chloroethane              | 38.0   |   | 5.0 | 1.5  |

FORM I  
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 180-139703/2-A  
Matrix: Sediment Lab File ID: 3042708.D  
Analysis Method: 8260C Date Collected: \_\_\_\_\_  
Sample wt/vol: 5.00(g) Date Analyzed: 04/27/2015 09:19  
Soil Aliquot Vol: \_\_\_\_\_ Dilution Factor: 1  
Soil Extract Vol.: \_\_\_\_\_ GC Column: DB-624 ID: 0.18 (mm)  
% Moisture: \_\_\_\_\_ Level: (low/med) Low  
Analysis Batch No.: 139697 Units: ug/Kg

| CAS NO.    | SURROGATE                    | %REC | Q | LIMITS |
|------------|------------------------------|------|---|--------|
| 17060-07-0 | 1,2-Dichloroethane-d4 (Surr) | 96   |   | 52-124 |
| 460-00-4   | 4-Bromofluorobenzene (Surr)  | 93   |   | 63-120 |
| 1868-53-7  | Dibromofluoromethane (Surr)  | 91   |   | 68-121 |
| 2037-26-5  | Toluene-d8 (Surr)            | 96   |   | 72-127 |

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\3042708.D  
 Lims ID: LCS 180-139703/2-A  
 Client ID:  
 Sample Type: LCS  
 Inject. Date: 27-Apr-2015 09:19:30 ALS Bottle#: 8 Worklist Smp#: 8  
 Purge Vol: 5.000 mL Dil. Factor: 1.0000  
 Sample Info: LCS 180-139703/2-A  
 Misc. Info.: 180-0006640-008180-0006640-008  
 Operator ID: 10099 Instrument ID: CHHP3  
 Method: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\MSVOA\_S\_CHHP3.m  
 Limit Group: VOA 8260C ICAL  
 Last Update: 27-Apr-2015 09:55:47 Calib Date: 31-Mar-2015 14:29:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHHP3\20150331-6243.b\3033116.D  
 Column 1 : DB-624 ( 0.18 mm) Det: MS SCAN  
 Process Host: XAWRK028

First Level Reviewer: gordonk

Date: 27-Apr-2015 09:55:47

| Compound                        | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q   | Response | Cal Amt ng | OnCol Amt ng | Flags |
|---------------------------------|-----|-----------|---------------|---------------|-----|----------|------------|--------------|-------|
| * 1 TBA-d9 (IS)                 | 65  | 4.734     | 4.741         | -0.007        | 94  | 144677   | 5000.0     | 5000.0       |       |
| * 2 Fluorobenzene (IS)          | 96  | 7.599     | 7.600         | -0.001        | 98  | 715683   | 250.0      | 250.0        |       |
| * 3 Chlorobenzene-d5            | 119 | 10.684    | 10.684        | 0.000         | 91  | 157198   | 250.0      | 250.0        |       |
| * 4 1,4-Dichlorobenzene-d4      | 152 | 13.007    | 13.008        | -0.001        | 97  | 246900   | 250.0      | 250.0        |       |
| \$ 5 Dibromofluoromethane (Surr | 113 | 6.857     | 6.858         | -0.001        | 93  | 139165   | 250.0      | 228.1        |       |
| \$ 6 1,2-Dichloroethane-d4 (Sur | 65  | 7.228     | 7.223         | 0.005         | 93  | 169776   | 250.0      | 240.8        |       |
| \$ 7 Toluene-d8 (Surr)          | 98  | 9.248     | 9.243         | 0.006         | 93  | 629966   | 250.0      | 239.3        |       |
| \$ 8 4-Bromofluorobenzene (Surr | 95  | 11.846    | 11.846        | 0.000         | 85  | 243134   | 250.0      | 232.9        |       |
| 10 Dichlorodifluoromethane      | 85  | 1.753     | 1.754         | -0.001        | 99  | 207222   | 200.0      | 278.8        |       |
| 11 Chloromethane                | 50  | 1.954     | 1.948         | 0.006         | 99  | 314166   | 200.0      | 231.8        |       |
| 12 Vinyl chloride               | 62  | 2.118     | 2.107         | 0.011         | 98  | 238347   | 200.0      | 210.6        |       |
| 13 Butadiene                    | 39  | 2.142     | 2.137         | 0.005         | 94  | 257659   | 200.0      | 217.7        |       |
| 14 Bromomethane                 | 94  | 2.471     | 2.472         | -0.001        | 88  | 60190    | 200.0      | 197.1        |       |
| 15 Chloroethane                 | 64  | 2.605     | 2.599         | 0.006         | 98  | 74876    | 200.0      | 190.2        |       |
| 16 Dichlorofluoromethane        | 67  | 2.915     | 2.910         | 0.005         | 98  | 238973   | 200.0      | 205.1        |       |
| 17 Trichlorofluoromethane       | 101 | 2.964     | 2.977         | -0.013        | 93  | 204052   | 200.0      | 214.7        | M     |
| 19 Ethyl ether                  | 59  | 3.432     | 3.415         | 0.017         | 98  | 125848   | 200.0      | 183.9        |       |
| 20 Acrolein                     | 56  | 3.596     | 3.591         | 0.005         | 99  | 42981    | 875.0      | 712.6        |       |
| 21 1,1-Dichloroethene           | 96  | 3.718     | 3.707         | 0.011         | 95  | 159834   | 200.0      | 191.7        |       |
| 22 1,1,2-Trichloro-1,2,2-trif   | 101 | 3.803     | 3.804         | -0.001        | 93  | 164999   | 200.0      | 202.2        |       |
| 23 Acetone                      | 43  | 3.870     | 3.871         | -0.001        | 100 | 38509    | 200.0      | 175.9        |       |
| 24 Iodomethane                  | 142 | 4.004     | 3.932         | 0.072         | 97  | 210861   | 200.0      | 187.5        |       |
| 25 Carbon disulfide             | 76  | 4.065     | 4.017         | 0.048         | 99  | 505434   | 200.0      | 199.8        |       |
| 28 3-Chloro-1-propene           | 76  | 4.332     | 4.321         | 0.011         | 92  | 97669    | 200.0      | 196.3        |       |
| 29 Methyl acetate               | 43  | 4.418     | 4.418         | 0.000         | 100 | 369457   | 1000.0     | 834.1        |       |
| 30 Methylene Chloride           | 84  | 4.527     | 4.516         | 0.011         | 95  | 167088   | 200.0      | 178.6        |       |
| 31 2-Methyl-2-propanol          | 59  | 4.850     | 4.856         | -0.006        | 96  | 67153    | 2000.0     | 1557.9       |       |
| 32 Acrylonitrile                | 53  | 4.910     | 4.911         | -0.001        | 98  | 399026   | 2000.0     | 1812.3       |       |
| 33 trans-1,2-Dichloroethene     | 96  | 4.947     | 4.941         | 0.006         | 94  | 165755   | 200.0      | 197.2        |       |
| 34 Methyl tert-butyl ether      | 73  | 4.996     | 4.996         | 0.000         | 97  | 281700   | 200.0      | 171.8        |       |
| 35 Hexane                       | 57  | 5.373     | 5.367         | 0.006         | 93  | 354572   | 200.0      | 190.0        |       |

| Compound                       | Sig | RT (min.) | Exp RT (min.) | Dlt RT (min.) | Q   | Response | Cal Amt ng | OnCol Amt ng | Flags |
|--------------------------------|-----|-----------|---------------|---------------|-----|----------|------------|--------------|-------|
| 36 1,1-Dichloroethane          | 63  | 5.537     | 5.532         | 0.005         | 96  | 335887   | 200.0      | 203.9        |       |
| 41 2,2-Dichloropropane         | 77  | 6.285     | 6.280         | 0.005         | 54  | 125491   | 200.0      | 181.7        |       |
| 42 cis-1,2-Dichloroethene      | 96  | 6.285     | 6.286         | -0.001        | 87  | 170308   | 200.0      | 187.7        |       |
| 43 2-Butanone (MEK)            | 43  | 6.334     | 6.329         | 0.005         | 98  | 48076    | 200.0      | 184.2        |       |
| 47 Chlorobromomethane          | 128 | 6.559     | 6.566         | -0.007        | 88  | 62107    | 200.0      | 189.1        |       |
| 48 Tetrahydrofuran             | 42  | 6.638     | 6.639         | -0.001        | 92  | 57213    | 400.0      | 337.2        |       |
| 49 Chloroform                  | 83  | 6.675     | 6.675         | 0.000         | 97  | 255607   | 200.0      | 193.3        |       |
| 50 1,1,1-Trichloroethane       | 97  | 6.881     | 6.876         | 0.005         | 95  | 214063   | 200.0      | 200.5        |       |
| 51 Cyclohexane                 | 56  | 6.948     | 6.949         | -0.001        | 93  | 430285   | 200.0      | 203.6        |       |
| 52 1,1-Dichloropropene         | 75  | 7.076     | 7.071         | 0.005         | 92  | 214432   | 200.0      | 206.4        |       |
| 53 Carbon tetrachloride        | 117 | 7.070     | 7.071         | -0.001        | 94  | 175835   | 200.0      | 199.8        |       |
| 54 Isobutyl alcohol            | 41  | 7.253     | 7.259         | -0.007        | 95  | 65497    | 5000.0     | 3943.8       |       |
| 55 Benzene                     | 78  | 7.295     | 7.296         | -0.001        | 97  | 606141   | 200.0      | 190.5        |       |
| 56 1,2-Dichloroethane          | 62  | 7.313     | 7.308         | 0.005         | 97  | 173210   | 200.0      | 192.8        |       |
| 59 n-Heptane                   | 43  | 7.624     | 7.624         | 0.000         | 96  | 340502   | 200.0      | 201.5        |       |
| 60 Trichloroethene             | 130 | 7.995     | 8.001         | -0.006        | 97  | 151200   | 200.0      | 188.8        |       |
| 63 Methylcyclohexane           | 83  | 8.208     | 8.208         | 0.000         | 97  | 326949   | 200.0      | 198.1        |       |
| 64 1,2-Dichloropropane         | 63  | 8.220     | 8.227         | -0.007        | 94  | 154097   | 200.0      | 182.6        |       |
| 65 Dibromomethane              | 93  | 8.341     | 8.336         | 0.005         | 94  | 58690    | 200.0      | 181.5        |       |
| 67 1,4-Dioxane                 | 88  | 8.366     | 8.373         | -0.007        | 98  | 16025    | 4000.0     | 3026.3       |       |
| 68 Dichlorobromomethane        | 83  | 8.506     | 8.506         | 0.000         | 98  | 162454   | 200.0      | 185.8        |       |
| 70 2-Chloroethyl vinyl ether   | 63  | 8.822     | 8.823         | -0.001        | 90  | 167318   | 400.0      | 338.2        |       |
| 71 cis-1,3-Dichloropropene     | 75  | 8.968     | 8.969         | -0.001        | 92  | 198408   | 200.0      | 182.5        |       |
| 72 4-Methyl-2-pentanone (MIBK) | 43  | 9.120     | 9.127         | -0.007        | 97  | 92323    | 200.0      | 158.9        |       |
| 73 Toluene                     | 91  | 9.315     | 9.309         | 0.006         | 98  | 626997   | 200.0      | 198.3        |       |
| 74 trans-1,3-Dichloropropene   | 75  | 9.522     | 9.516         | 0.006         | 97  | 144330   | 200.0      | 182.5        |       |
| 75 Ethyl methacrylate          | 69  | 9.613     | 9.620         | -0.007        | 94  | 123419   | 200.0      | 182.7        |       |
| 76 1,1,2-Trichloroethane       | 97  | 9.704     | 9.699         | 0.005         | 93  | 86367    | 200.0      | 176.7        |       |
| 77 Tetrachloroethene           | 164 | 9.868     | 9.869         | -0.001        | 95  | 112758   | 200.0      | 189.6        |       |
| 78 1,3-Dichloropropane         | 76  | 9.868     | 9.869         | -0.001        | 97  | 158363   | 200.0      | 178.9        |       |
| 79 2-Hexanone                  | 43  | 9.947     | 9.954         | -0.007        | 97  | 68369    | 200.0      | 184.5        |       |
| 81 Chlorodibromomethane        | 129 | 10.100    | 10.100        | 0.000         | 90  | 85956    | 200.0      | 170.4        |       |
| 82 Ethylene Dibromide          | 107 | 10.215    | 10.210        | 0.005         | 100 | 81382    | 200.0      | 173.7        |       |
| 83 Chlorobenzene               | 112 | 10.708    | 10.709        | -0.001        | 91  | 375455   | 200.0      | 185.1        |       |
| 85 1,1,1,2-Tetrachloroethane   | 131 | 10.787    | 10.788        | -0.001        | 94  | 113946   | 200.0      | 184.2        |       |
| 86 Ethylbenzene                | 106 | 10.817    | 10.818        | -0.001        | 99  | 228368   | 200.0      | 191.8        |       |
| 87 m-Xylene & p-Xylene         | 106 | 10.933    | 10.934        | -0.001        | 99  | 276501   | 200.0      | 185.6        |       |
| 88 o-Xylene                    | 106 | 11.328    | 11.329        | -0.001        | 97  | 271282   | 200.0      | 188.3        |       |
| 89 Styrene                     | 104 | 11.335    | 11.335        | 0.000         | 93  | 438044   | 200.0      | 184.6        |       |
| 90 Bromoform                   | 173 | 11.523    | 11.518        | 0.005         | 96  | 49922    | 200.0      | 167.0        |       |
| 91 Isopropylbenzene            | 105 | 11.700    | 11.694        | 0.006         | 97  | 748130   | 200.0      | 197.5        |       |
| 93 1,1,2,2-Tetrachloroethane   | 83  | 11.973    | 11.974        | -0.001        | 92  | 98585    | 200.0      | 169.4        |       |
| 94 Bromobenzene                | 156 | 12.004    | 12.004        | 0.000         | 98  | 145262   | 200.0      | 172.6        |       |
| 95 1,2,3-Trichloropropane      | 110 | 12.022    | 12.023        | -0.001        | 84  | 28293    | 200.0      | 168.5        |       |
| 96 trans-1,4-Dichloro-2-buten  | 53  | 12.028    | 12.029        | -0.001        | 73  | 33867    | 200.0      | 166.1        |       |
| 97 N-Propylbenzene             | 120 | 12.107    | 12.108        | -0.001        | 99  | 202621   | 200.0      | 182.8        |       |
| 98 2-Chlorotoluene             | 126 | 12.198    | 12.199        | -0.001        | 95  | 160877   | 200.0      | 181.6        |       |
| 99 1,3,5-Trimethylbenzene      | 105 | 12.284    | 12.278        | 0.006         | 95  | 610964   | 200.0      | 189.1        |       |
| 100 4-Chlorotoluene            | 126 | 12.302    | 12.302        | 0.000         | 99  | 158883   | 200.0      | 173.7        |       |
| 101 tert-Butylbenzene          | 119 | 12.612    | 12.613        | -0.001        | 94  | 550144   | 200.0      | 192.1        |       |
| 103 1,2,4-Trimethylbenzene     | 105 | 12.661    | 12.655        | 0.006         | 96  | 614361   | 200.0      | 184.8        |       |
| 104 sec-Butylbenzene           | 105 | 12.831    | 12.832        | -0.001        | 95  | 832860   | 200.0      | 196.5        |       |



| Compound                         | Sig | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Q  | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|----------------------------------|-----|--------------|------------------|------------------|----|----------|---------------|-----------------|-------|
| 105 1,3-Dichlorobenzene          | 146 | 12.947       | 12.947           | 0.000            | 95 | 281597   | 200.0         | 176.6           |       |
| 106 4-Isopropyltoluene           | 119 | 12.977       | 12.978           | -0.001           | 97 | 657208   | 200.0         | 189.4           |       |
| 107 1,4-Dichlorobenzene          | 146 | 13.038       | 13.033           | 0.006            | 94 | 274044   | 200.0         | 177.4           |       |
| 110 n-Butylbenzene               | 91  | 13.391       | 13.385           | 0.006            | 98 | 670781   | 200.0         | 200.3           |       |
| 111 1,2-Dichlorobenzene          | 146 | 13.409       | 13.410           | -0.001           | 94 | 239230   | 200.0         | 168.2           |       |
| 112 1,2-Dibromo-3-Chloropropan   | 75  | 14.182       | 14.182           | 0.000            | 74 | 13428    | 200.0         | 150.0           |       |
| 114 1,2,4-Trichlorobenzene       | 180 | 15.039       | 15.034           | 0.005            | 93 | 165821   | 200.0         | 159.9           |       |
| 115 Hexachlorobutadiene          | 225 | 15.216       | 15.210           | 0.006            | 94 | 129740   | 200.0         | 183.1           |       |
| 116 Naphthalene                  | 128 | 15.295       | 15.289           | 0.006            | 98 | 217215   | 200.0         | 135.3           |       |
| 117 1,2,3-Trichlorobenzene       | 180 | 15.556       | 15.557           | -0.001           | 95 | 118524   | 200.0         | 142.5           |       |
| S 130 1,2-Dichloroethene, Total  | 96  |              |                  |                  | 0  |          | 400.0         | 384.9           |       |
| S 129 Xylenes, Total             | 106 |              |                  |                  | 0  |          | 400.0         | 373.9           |       |
| S 131 1,3-Dichloropropene, Total | 1   |              |                  |                  | 0  |          | 400.0         | 365.1           |       |

**QC Flag Legend**

Review Flags

M - Manually Integrated

**Reagents:**

|                     |                     |           |             |
|---------------------|---------------------|-----------|-------------|
| VOA8260SURR_00033   | Amount Added: 10.00 | Units: uL |             |
| VOA8260VOA2ND_00113 | Amount Added: 8.00  | Units: uL |             |
| VOACEVE(PRI)_00001  | Amount Added: 8.00  | Units: uL |             |
| VOAACRO2ND_00007    | Amount Added: 35.00 | Units: uL |             |
| VOA8260INT_00031    | Amount Added: 10.00 | Units: uL | Run Reagent |

Report Date: 27-Apr-2015 09:55:47

Chrom Revision: 2.2 09-Apr-2015 10:05:40

TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHHP3\20150427-6640.b\3042708.D

Injection Date: 27-Apr-2015 09:19:30

Instrument ID: CHHP3

Operator ID: 10099

Lims ID: LCS 180-139703/2-A

Worklist Smp#: 8

Client ID:

Purge Vol: 5.000 mL

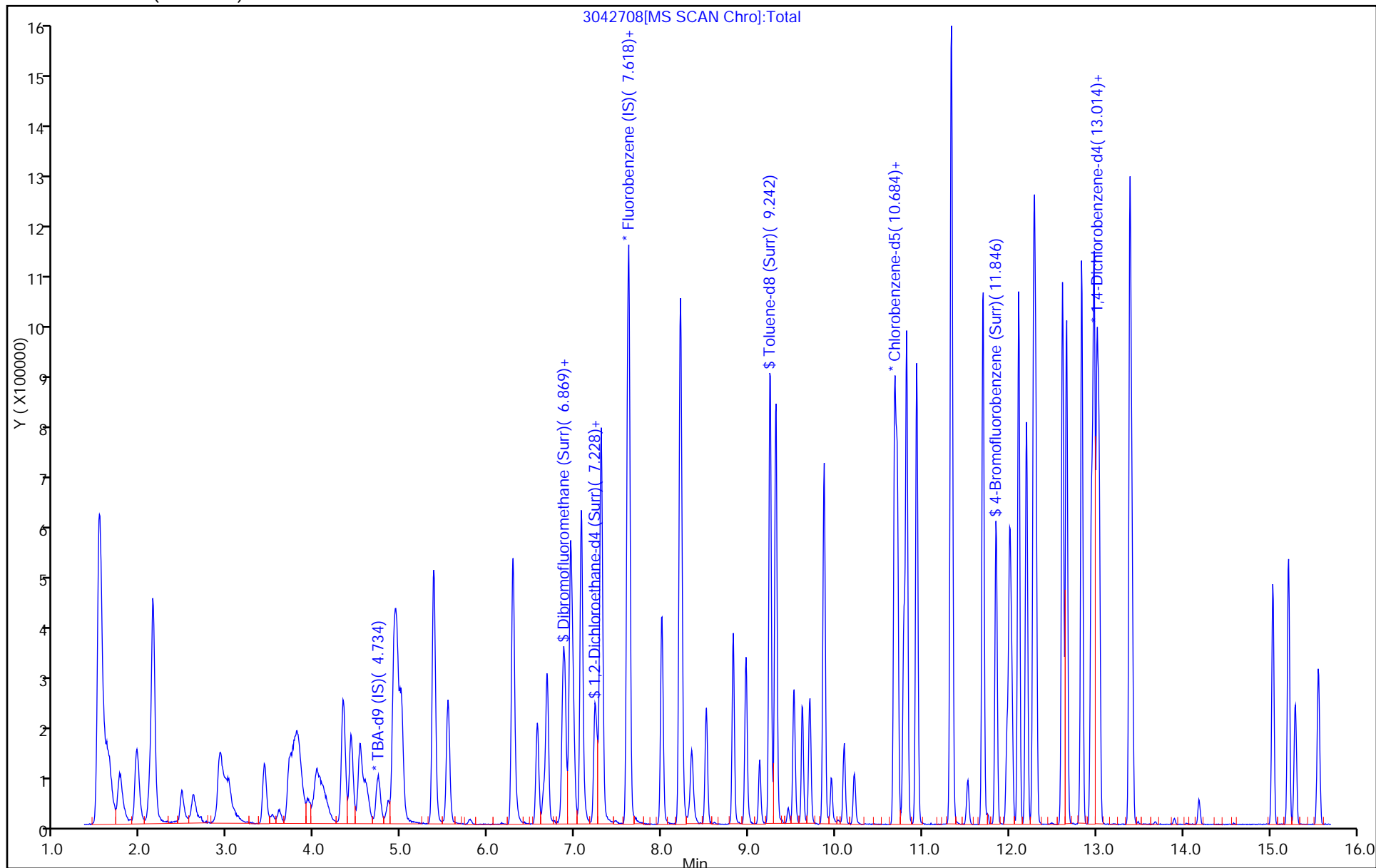
Dil. Factor: 1.0000

ALS Bottle#: 8

Method: MSVOA\_S\_CHHP3

Limit Group: VOA 8260C ICAL

Column: DB-624 (0.18 mm)



## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: CHHP3 Start Date: 03/23/2015 12:07Analysis Batch Number: 136245 End Date: 03/23/2015 17:14

| LAB SAMPLE ID     | CLIENT SAMPLE ID | DATE ANALYZED    | DILUTION<br>FACTOR | LAB FILE ID | COLUMN ID        |
|-------------------|------------------|------------------|--------------------|-------------|------------------|
| BFB 180-136245/1  |                  | 03/23/2015 12:07 | 1                  | 30323K01.D  | DB-624 0.18 (mm) |
| IC 180-136245/3   |                  | 03/23/2015 13:00 | 1                  | 30323K05.D  | DB-624 0.18 (mm) |
| IC 180-136245/4   |                  | 03/23/2015 13:26 | 1                  | 30323K06.D  | DB-624 0.18 (mm) |
| IC 180-136245/5   |                  | 03/23/2015 13:52 | 1                  | 30323K07.D  | DB-624 0.18 (mm) |
| IC 180-136245/6   |                  | 03/23/2015 14:19 | 1                  | 30323K08.D  | DB-624 0.18 (mm) |
| IC 180-136245/7   |                  | 03/23/2015 14:45 | 1                  | 30323K09.D  | DB-624 0.18 (mm) |
| IC 180-136245/8   |                  | 03/23/2015 15:11 | 1                  | 30323K10.D  | DB-624 0.18 (mm) |
| IC 180-136245/9   |                  | 03/23/2015 15:37 | 1                  | 30323K11.D  | DB-624 0.18 (mm) |
| ICV 180-136245/13 |                  | 03/23/2015 17:14 | 1                  |             | DB-624 0.18 (mm) |

## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: CHHP3 Start Date: 03/31/2015 07:47Analysis Batch Number: 137003 End Date: 03/31/2015 16:00

| LAB SAMPLE ID     | CLIENT SAMPLE ID | DATE ANALYZED    | DILUTION<br>FACTOR | LAB FILE ID | COLUMN ID        |
|-------------------|------------------|------------------|--------------------|-------------|------------------|
| BFB 180-137003/1  |                  | 03/31/2015 07:47 | 1                  | 3033101.D   | DB-624 0.18 (mm) |
| IC 180-137003/6   |                  | 03/31/2015 10:54 | 1                  | 3033107.D   | DB-624 0.18 (mm) |
| IC 180-137003/7   |                  | 03/31/2015 11:16 | 1                  | 3033108.D   | DB-624 0.18 (mm) |
| ICIS 180-137003/8 |                  | 03/31/2015 11:40 | 1                  | 3033109.D   | DB-624 0.18 (mm) |
| IC 180-137003/9   |                  | 03/31/2015 12:02 | 1                  | 3033110.D   | DB-624 0.18 (mm) |
| IC 180-137003/10  |                  | 03/31/2015 12:29 | 1                  | 3033111.D   | DB-624 0.18 (mm) |
| IC 180-137003/11  |                  | 03/31/2015 12:55 | 1                  | 3033112.D   | DB-624 0.18 (mm) |
| IC 180-137003/21  |                  | 03/31/2015 14:29 | 1                  | 3033116.D   | DB-624 0.18 (mm) |
| ICV 180-137003/17 |                  | 03/31/2015 16:00 | 1                  |             | DB-624 0.18 (mm) |

## GC/MS VOA ANALYSIS RUN LOG

Lab Name: TestAmerica PittsburghJob No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: CHHP3Start Date: 04/27/2015 05:56Analysis Batch Number: 139697End Date: 04/27/2015 17:13

| LAB SAMPLE ID      | CLIENT SAMPLE ID | DATE ANALYZED    | DILUTION<br>FACTOR | LAB FILE ID | COLUMN ID        |
|--------------------|------------------|------------------|--------------------|-------------|------------------|
| BFB 180-139697/1   |                  | 04/27/2015 05:56 | 1                  | 3042701.D   | DB-624 0.18 (mm) |
| CCVIS 180-139697/3 |                  | 04/27/2015 07:08 | 1                  | 3042703.D   | DB-624 0.18 (mm) |
| MB 180-139703/1-A  |                  | 04/27/2015 08:11 | 1                  | 3042705.D   | DB-624 0.18 (mm) |
| ZZZZZ              |                  | 04/27/2015 08:57 | 1                  |             | DB-624 0.18 (mm) |
| LCS 180-139703/2-A |                  | 04/27/2015 09:19 | 1                  | 3042708.D   | DB-624 0.18 (mm) |
| ZZZZZ              |                  | 04/27/2015 09:42 | 1                  |             | DB-624 0.18 (mm) |
| ZZZZZ              |                  | 04/27/2015 10:04 | 1                  |             | DB-624 0.18 (mm) |
| ZZZZZ              |                  | 04/27/2015 10:49 | 1                  |             | DB-624 0.18 (mm) |
| ZZZZZ              |                  | 04/27/2015 11:12 | 1                  |             | DB-624 0.18 (mm) |
| ZZZZZ              |                  | 04/27/2015 11:34 | 1                  |             | DB-624 0.18 (mm) |
| 180-43411-2        | F05-SD           | 04/27/2015 11:57 | 1                  | 3042715.D   | DB-624 0.18 (mm) |
| ZZZZZ              |                  | 04/27/2015 12:19 | 1                  |             | DB-624 0.18 (mm) |
| ZZZZZ              |                  | 04/27/2015 12:42 | 1                  |             | DB-624 0.18 (mm) |
| ZZZZZ              |                  | 04/27/2015 13:05 | 1                  |             | DB-624 0.18 (mm) |
| ZZZZZ              |                  | 04/27/2015 13:29 | 1                  |             | DB-624 0.18 (mm) |
| ZZZZZ              |                  | 04/27/2015 13:51 | 1                  |             | DB-624 0.18 (mm) |
| ZZZZZ              |                  | 04/27/2015 14:13 | 1                  |             | DB-624 0.18 (mm) |
| ZZZZZ              |                  | 04/27/2015 14:36 | 1                  |             | DB-624 0.18 (mm) |
| ZZZZZ              |                  | 04/27/2015 14:59 | 1                  |             | DB-624 0.18 (mm) |
| ZZZZZ              |                  | 04/27/2015 15:21 | 1                  |             | DB-624 0.18 (mm) |
| ZZZZZ              |                  | 04/27/2015 15:43 | 1                  |             | DB-624 0.18 (mm) |
| ZZZZZ              |                  | 04/27/2015 16:06 | 1                  |             | DB-624 0.18 (mm) |
| ZZZZZ              |                  | 04/27/2015 16:28 | 1                  |             | DB-624 0.18 (mm) |
| ZZZZZ              |                  | 04/27/2015 16:50 | 1                  |             | DB-624 0.18 (mm) |
| ZZZZZ              |                  | 04/27/2015 17:13 | 1                  |             | DB-624 0.18 (mm) |

## GC/MS VOA BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Batch Number: 139703 Batch Start Date: 04/27/15 05:33 Batch Analyst: Gordon, Kathy LBatch Method: 5030C Batch End Date: 04/27/15 08:20

| Lab Sample ID       | Client Sample ID | Method Chain | Basis | InitialAmount | FinalAmount |  |  |  |  |
|---------------------|------------------|--------------|-------|---------------|-------------|--|--|--|--|
| MB 180-139703/1     |                  | 5030C, 8260C |       | 5.00 g        | 5 mL        |  |  |  |  |
| LCS<br>180-139703/2 |                  | 5030C, 8260C |       | 5.00 g        | 5 mL        |  |  |  |  |
| 180-43411-B-2       | F05-SD           | 5030C, 8260C | T     | 5.0008 g      | 5 mL        |  |  |  |  |

| Batch Notes      |          |
|------------------|----------|
| Balance ID       | 14234771 |
| Blank Sand Lot # | 2CB0290  |

| Basis | Basis Description |
|-------|-------------------|
| T     | Total/NA          |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

# Method 8270D Low Level

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Semivolatile Organic Compounds  
(GC/MS) Low Level by Method 8270D

FORM II  
GC/MS SEMI VOA SURROGATE RECOVERY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Matrix: Sediment Level: Low  
GC Column (1): Rxi-5SilMS ID: 0.32 (mm)

| Client Sample ID | Lab Sample ID | 2FP # | PHL # | NBZ # | FBP # | TBP # | TPH # |
|------------------|---------------|-------|-------|-------|-------|-------|-------|
| F05-SD           | 180-43411-2   | 72    | 81    | 83    | 71    | 65    | 50    |

|                                   |                  |
|-----------------------------------|------------------|
|                                   | <u>QC LIMITS</u> |
| 2FP = 2-Fluorophenol (Surr)       | 34-103           |
| PHL = Phenol-d5 (Surr)            | 35-103           |
| NBZ = Nitrobenzene-d5 (Surr)      | 41-108           |
| FBP = 2-Fluorobiphenyl            | 38-103           |
| TBP = 2,4,6-Tribromophenol (Surr) | 20-113           |
| TPH = Terphenyl-d14 (Surr)        | 28-109           |

# Column to be used to flag recovery values



FORM II  
GC/MS SEMI VOA SURROGATE RECOVERY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Matrix: Sediment Level: Low

GC Column (1): Rxi-5SilMS ID: 0.32 (mm)

| Client Sample ID | Lab Sample ID | NBZ # | FBP # | TPH # |
|------------------|---------------|-------|-------|-------|
| DE01-SD          | 180-43411-1   | 75    | 75    | 71    |

NBZ = Nitrobenzene-d5 (Surr)  
FBP = 2-Fluorobiphenyl  
TPH = Terphenyl-d14 (Surr)

QC LIMITS  
41-108  
38-103  
28-109

# Column to be used to flag recovery values

FORM II 8270D LL

FORM V  
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK  
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: F0324DF1.D DFTPP Injection Date: 03/24/2015  
 Instrument ID: CH722 DFTPP Injection Time: 23:16  
 Analysis Batch No.: 136451

| M/E | ION ABUNDANCE CRITERIA              | % RELATIVE ABUNDANCE |
|-----|-------------------------------------|----------------------|
| 51  | 30.0 - 60.0 % of mass 198           | 36.3                 |
| 68  | Less than 2.0 % of mass 69          | 0.0 (0.0)1           |
| 69  | Mass 69 relative abundance          | 44.6                 |
| 70  | Less than 2.0 % of mass 69          | 0.0 (0.0)1           |
| 127 | 40.0 - 60.0 % of mass 198           | 51.7                 |
| 197 | Less than 1.0 % of mass 198         | 0.0                  |
| 198 | Base Peak, 100 % relative abundance | 100.0                |
| 199 | 5.0- 9.0 % of mass 198              | 7.2                  |
| 275 | 10.0 - 30.0 % of mass 198           | 29.7                 |
| 365 | Greater than 1.0 % of mass 198      | 3.0                  |
| 441 | Present but less than mass 443      | 16.0 (82.1)3         |
| 442 | Greater than 40.0 % of mass 198     | 100.6                |
| 443 | 17.0 - 23.0 % of mass 442           | 19.5 (19.4)2         |

1-Value is % mass 69                      2-Value is % mass 442                      3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

| CLIENT SAMPLE ID | LAB SAMPLE ID     | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|------------------|-------------------|-------------|---------------|---------------|
|                  | IC 180-136451/2   | F03240C1.D  | 03/24/2015    | 23:35         |
|                  | IC 180-136451/3   | F03240C2.D  | 03/25/2015    | 00:04         |
|                  | IC 180-136451/4   | F03240C3.D  | 03/25/2015    | 00:33         |
|                  | ICIS 180-136451/5 | F03240C4.D  | 03/25/2015    | 01:02         |
|                  | IC 180-136451/6   | F03240C5.D  | 03/25/2015    | 01:31         |
|                  | IC 180-136451/7   | F03240C6.D  | 03/25/2015    | 02:00         |
|                  | IC 180-136451/8   | F03240C7.D  | 03/25/2015    | 02:28         |
|                  | IC 180-136451/9   | F03240C8.D  | 03/25/2015    | 02:57         |

FORM V  
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK  
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Lab File ID: F0511DF1.D DFTPP Injection Date: 05/12/2015  
 Instrument ID: CH722 DFTPP Injection Time: 04:33  
 Analysis Batch No.: 141206

| M/E | ION ABUNDANCE CRITERIA              | % RELATIVE ABUNDANCE |
|-----|-------------------------------------|----------------------|
| 51  | 30.0 - 60.0 % of mass 198           | 34.7                 |
| 68  | Less than 2.0 % of mass 69          | 0.0 (0.0)1           |
| 69  | Mass 69 relative abundance          | 39.6                 |
| 70  | Less than 2.0 % of mass 69          | 0.0 (0.0)1           |
| 127 | 40.0 - 60.0 % of mass 198           | 47.3                 |
| 197 | Less than 1.0 % of mass 198         | 0.0                  |
| 198 | Base Peak, 100 % relative abundance | 100.0                |
| 199 | 5.0- 9.0 % of mass 198              | 7.0                  |
| 275 | 10.0 - 30.0 % of mass 198           | 27.8                 |
| 365 | Greater than 1.0 % of mass 198      | 3.1                  |
| 441 | Present but less than mass 443      | 14.2 (82.4)3         |
| 442 | Greater than 40.0 % of mass 198     | 88.7                 |
| 443 | 17.0 - 23.0 % of mass 442           | 17.3 (19.4)2         |

1-Value is % mass 69                      2-Value is % mass 442                      3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

| CLIENT SAMPLE ID | LAB SAMPLE ID      | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|------------------|--------------------|-------------|---------------|---------------|
|                  | CCVIS 180-141206/2 | F05110C1.D  | 05/12/2015    | 04:49         |
| DE01-SD          | 180-43411-1        | F0511015.D  | 05/12/2015    | 12:12         |
| F05-SD           | 180-43411-2        | F0511016.D  | 05/12/2015    | 12:39         |

FORM VIII  
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVIS 180-141206/2 Date Analyzed: 05/12/2015 04:49  
 Instrument ID: CH722 GC Column: Rxi-5SilMS ID: 0.32 (mm)  
 Lab File ID (Standard): F05110C1.D Heated Purge: (Y/N) N  
 Calibration ID: 22787

|                | DCB              |      | NPT    |      | ANT    |      |
|----------------|------------------|------|--------|------|--------|------|
|                | AREA #           | RT # | AREA # | RT # | AREA # | RT # |
| 12/24 HOUR STD | 61485            | 5.86 | 248834 | 7.13 | 138820 | 8.83 |
| UPPER LIMIT    | 122970           | 6.36 | 497668 | 7.63 | 277640 | 9.33 |
| LOWER LIMIT    | 30743            | 5.36 | 124417 | 6.63 | 69410  | 8.33 |
| LAB SAMPLE ID  | CLIENT SAMPLE ID |      |        |      |        |      |
| 180-43411-1    | DE01-SD          |      | 46827  | 5.84 | 179658 | 7.12 |
| 180-43411-2    | F05-SD           |      | 37942  | 5.83 | 157866 | 7.10 |
|                |                  |      |        |      | 105059 | 8.81 |
|                |                  |      |        |      | 102051 | 8.81 |

DCB = 1,4-Dichlorobenzene-d4

NPT = Naphthalene-d8

ANT = Acenaphthene-d10

Area Limit = 50%-200% of internal standard area

RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits

FORM VIII  
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Sample No.: CCVIS 180-141206/2 Date Analyzed: 05/12/2015 04:49  
Instrument ID: CH722 GC Column: Rxi-5SilMS ID: 0.32 (mm)  
Lab File ID (Standard): F05110C1.D Heated Purge: (Y/N) N  
Calibration ID: 22787

|                | PHN              |        | CRY    |        | PRY    |              |
|----------------|------------------|--------|--------|--------|--------|--------------|
|                | AREA #           | RT #   | AREA # | RT #   | AREA # | RT #         |
| 12/24 HOUR STD | 226055           | 10.24  | 221948 | 13.80  | 205563 | 16.79        |
| UPPER LIMIT    | 452110           | 10.74  | 443896 | 14.30  | 411126 | 17.29        |
| LOWER LIMIT    | 113028           | 9.74   | 110974 | 13.30  | 102782 | 16.29        |
| LAB SAMPLE ID  | CLIENT SAMPLE ID |        |        |        |        |              |
| 180-43411-1    | DE01-SD          | 178754 | 10.24  | 176933 | 13.84  | 192439 16.87 |
| 180-43411-2    | F05-SD           | 189593 | 10.24  | 275781 | 13.88  | 385009 16.95 |

PHN = Phenanthrene-d10  
CRY = Chrysene-d12  
PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area  
RT Limit =  $\pm$  0.5 minutes of internal standard RT

# Column used to flag values outside QC limits

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

|   |   |
|---|---|
| Lab Name: <u>TestAmerica Pittsburgh</u> | Job No.: <u>180-43411-1</u>             |
| SDG No.: _____                          |   |
| Client Sample ID: <u>DE01-SD</u>        | Lab Sample ID: <u>180-43411-1</u>       |
| Matrix: <u>Sediment</u>                 | Lab File ID: <u>F0511015.D</u>          |
| Analysis Method: <u>8270D LL</u>        | Date Collected: <u>04/23/2015 13:00</u> |
| Extract. Method: <u>3541</u>            | Date Extracted: <u>05/04/2015 03:00</u> |
| Sample wt/vol: <u>30.1(g)</u>           | Date Analyzed: <u>05/12/2015 12:12</u>  |
| Con. Extract Vol.: <u>0.5(mL)</u>       | Dilution Factor: <u>5</u>               |
| Injection Volume: <u>2(uL)</u>          | Level: (low/med) <u>Low</u>             |
| % Moisture: <u>27.8</u>                 | GPC Cleanup: (Y/N) <u>N</u>             |
| Analysis Batch No.: <u>141206</u>       | Units: <u>ug/Kg</u>                     |

| CAS NO.  | COMPOUND NAME               | RESULT | Q | RL  | MDL |
|----------|-----------------------------|--------|---|-----|-----|
| 120-12-7 | Anthracene                  | ND     |   | 23  | 2.3 |
| 56-55-3  | Benzo[a]anthracene          | ND     |   | 23  | 2.9 |
| 205-99-2 | Benzo[b]fluoranthene        | ND     |   | 23  | 3.6 |
| 207-08-9 | Benzo[k]fluoranthene        | ND     |   | 23  | 4.7 |
| 191-24-2 | Benzo[g,h,i]perylene        | ND     |   | 23  | 2.3 |
| 50-32-8  | Benzo[a]pyrene              | ND     |   | 23  | 2.3 |
| 218-01-9 | Chrysene                    | ND     |   | 23  | 2.7 |
| 53-70-3  | Dibenz(a,h)anthracene       | ND     |   | 23  | 2.6 |
| 206-44-0 | Fluoranthene                | 7.2    | J | 23  | 2.5 |
| 86-73-7  | Fluorene                    | ND     |   | 23  | 3.0 |
| 193-39-5 | Indeno[1,2,3-cd]pyrene      | ND     |   | 23  | 2.4 |
| 85-01-8  | Phenanthrene                | ND     |   | 23  | 3.7 |
| 129-00-0 | Pyrene                      | 6.5    | J | 23  | 2.3 |
| 83-32-9  | Acenaphthene                | ND     |   | 23  | 2.2 |
| 208-96-8 | Acenaphthylene              | ND     |   | 23  | 2.6 |
| 91-20-3  | Naphthalene                 | ND     |   | 23  | 2.0 |
| 117-81-7 | Bis(2-ethylhexyl) phthalate | ND     |   | 230 | 19  |

| CAS NO.   | SURROGATE              | %REC | Q | LIMITS |
|-----------|------------------------|------|---|--------|
| 4165-60-0 | Nitrobenzene-d5 (Surr) | 75   |   | 41-108 |
| 321-60-8  | 2-Fluorobiphenyl       | 75   |   | 38-103 |
| 1718-51-0 | Terphenyl-d14 (Surr)   | 71   |   | 28-109 |

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511015.D  
 Lims ID: 180-43411-A-1-B Lab Sample ID: 180-43411-1  
 Client ID: DE01-SD  
 Sample Type: Client  
 Inject. Date: 12-May-2015 12:12:30 ALS Bottle#: 18 Worklist Smp#: 18  
 Injection Vol: 2.0 ul Dil. Factor: 5.0000  
 Sample Info: 180-0006870-018  
 Misc. Info.: 180-43411-A-1-B  
 Operator ID: 007062 Instrument ID: CH722  
 Method: \\PITCHROM\ChromData\CH722\20150512-6870.b\BNA\_CH722.m  
 Limit Group: BNA 8270D ICAL  
 Last Update: 12-May-2015 14:28:56 Calib Date: 25-Mar-2015 02:57:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C8.D  
 Column 1 : Rxi-5SiIMS ( 0.32 mm) Det: MS SCAN  
 Process Host: XAWRK019

First Level Reviewer: bachas

Date: 12-May-2015 14:12:17

| Compound                       | Sig | RT<br>(min.) | Adj RT<br>(min.) | Dlt RT<br>(min.) | Q  | Response | OnCol Amt<br>ng | Flags |
|--------------------------------|-----|--------------|------------------|------------------|----|----------|-----------------|-------|
| * 1 1,4-Dichlorobenzene-d4     | 152 | 5.839        | 5.860            | -0.021           | 94 | 46827    | 8.00            |       |
| * 2 Naphthalene-d8             | 136 | 7.116        | 7.132            | -0.016           | 99 | 179658   | 8.00            |       |
| * 3 Acenaphthene-d10           | 164 | 8.809        | 8.825            | -0.016           | 91 | 105059   | 8.00            |       |
| * 4 Phenanthrene-d10           | 188 | 10.236       | 10.236           | 0.000            | 97 | 178754   | 8.00            |       |
| * 5 Chrysene-d12               | 240 | 13.841       | 13.804           | 0.037            | 96 | 176933   | 8.00            |       |
| * 6 Perylene-d12               | 264 | 16.865       | 16.785           | 0.080            | 96 | 192439   | 8.00            |       |
| \$ 9 Nitrobenzene-d5           | 82  | 6.395        | 6.416            | -0.021           | 86 | 42986    | 5.99            |       |
| \$ 10 2-Fluorobiphenyl         | 172 | 8.157        | 8.173            | -0.016           | 99 | 105405   | 6.01            |       |
| \$ 12 Terphenyl-d14            | 244 | 12.063       | 12.047           | 0.016            | 99 | 120252   | 5.70            |       |
| 56 Naphthalene                 | 128 |              | 7.153            |                  |    |          | ND              |       |
| 85 Acenaphthylene              | 152 |              | 8.686            |                  |    |          | ND              |       |
| 87 Acenaphthene                | 153 |              | 8.852            |                  |    |          | ND              |       |
| 103 Fluorene                   | 166 |              | 9.343            |                  |    |          | ND              |       |
| 120 Phenanthrene               | 178 |              | 10.257           |                  |    |          | ND              |       |
| 123 Anthracene                 | 178 |              | 10.305           |                  |    |          | ND              |       |
| 133 Fluoranthene               | 202 | 11.560       | 11.550           | 0.010            | 90 | 3047     | 0.1243          |       |
| 135 Pyrene                     | 202 | 11.865       | 11.849           | 0.016            | 95 | 3436     | 0.1129          |       |
| 144 Benzo[a]anthracene         | 228 |              | 13.783           |                  |    |          | ND              |       |
| 146 Chrysene                   | 228 |              | 13.852           |                  |    |          | ND              |       |
| 147 Bis(2-ethylhexyl) phthalat | 149 |              | 13.858           |                  |    |          | ND              |       |
| 154 Benzo[b]fluoranthene       | 252 |              | 15.978           |                  |    |          | ND              |       |
| 155 Benzo[k]fluoranthene       | 252 |              | 16.032           |                  |    |          | ND              |       |
| 157 Benzo[a]pyrene             | 252 |              | 16.667           |                  |    |          | ND              |       |
| 162 Indeno[1,2,3-cd]pyrene     | 276 |              | 19.045           |                  |    |          | ND              |       |
| 161 Dibenz(a,h)anthracene      | 278 |              | 19.093           |                  |    |          | ND              |       |
| 160 Benzo[g,h,i]perylene       | 276 |              | 19.643           |                  |    |          | ND              |       |

**Reagents:**

SVTAPITINTRNi\_00008

Amount Added: 1.00

Units: uL

Run Reagent



Report Date: 12-May-2015 14:31:11

Chrom Revision: 2.2 09-Apr-2015 10:05:40

TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511015.D

Injection Date: 12-May-2015 12:12:30

Instrument ID: CH722

Operator ID: 007062

Lims ID: 180-43411-A-1-B

Lab Sample ID: 180-43411-1

Worklist Smp#: 18

Client ID: DE01-SD

Injection Vol: 2.0 ul

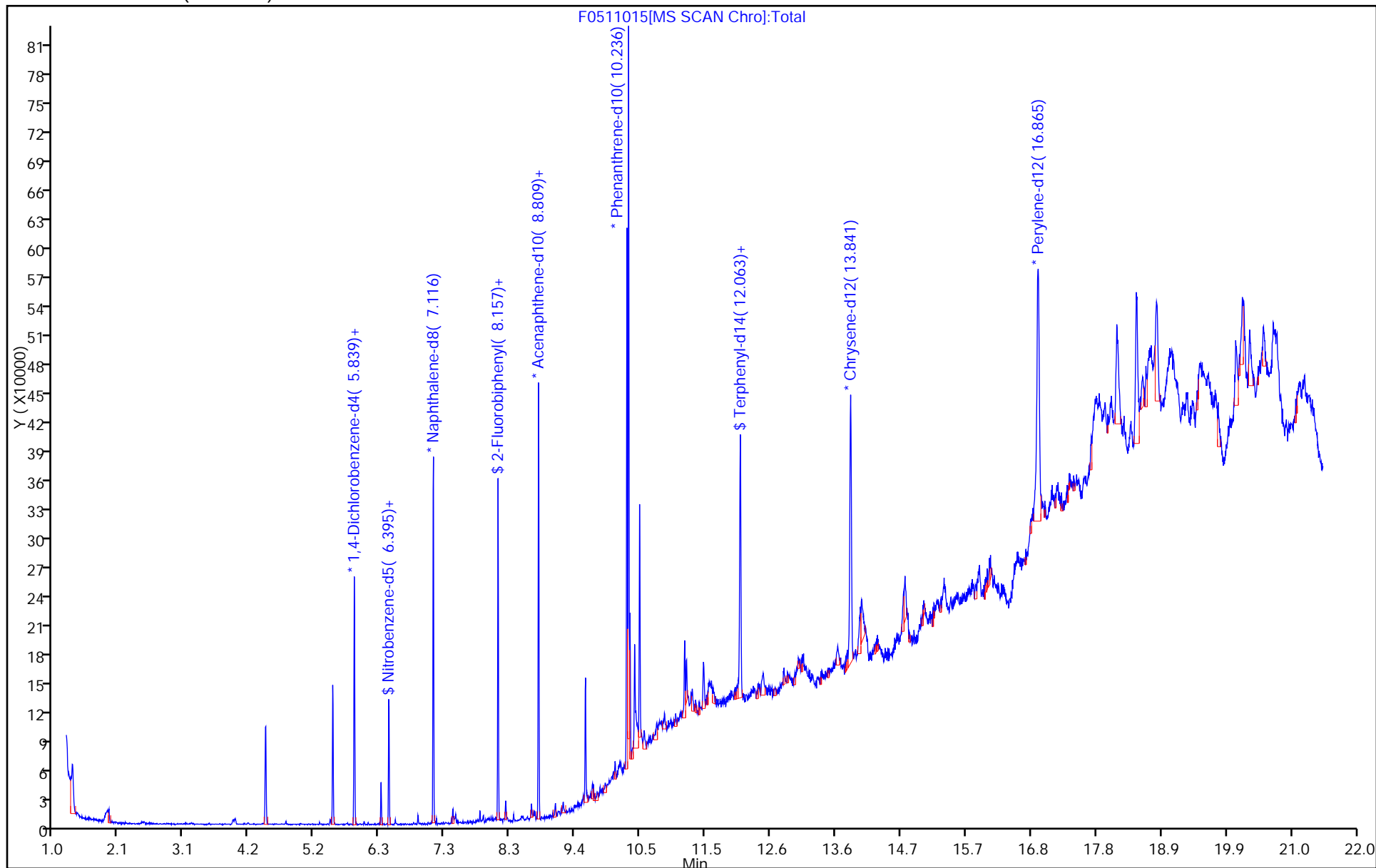
Dil. Factor: 5.0000

ALS Bottle#: 18

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511015.D

Injection Date: 12-May-2015 12:12:30

Instrument ID: CH722

Lims ID: 180-43411-A-1-B

Lab Sample ID: 180-43411-1

Client ID: DE01-SD

Operator ID: 007062

ALS Bottle#: 18

Worklist Smp#: 18

Injection Vol: 2.0 ul

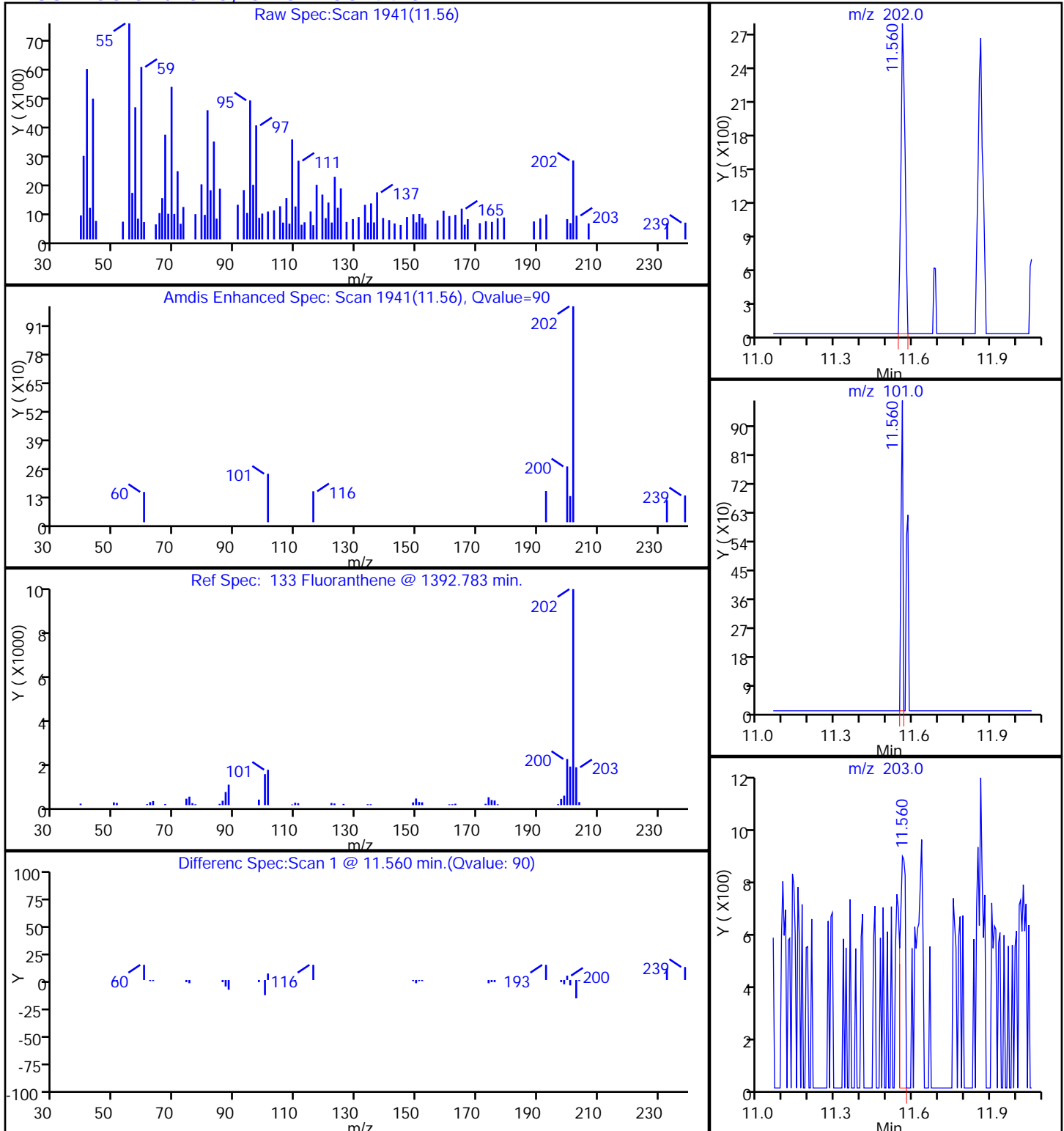
Dil. Factor: 5.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

**133 Fluoranthene, CAS: 206-44-0**

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511015.D

Injection Date: 12-May-2015 12:12:30

Instrument ID: CH722

Lims ID: 180-43411-A-1-B

Lab Sample ID: 180-43411-1

Client ID: DE01-SD

Operator ID: 007062

ALS Bottle#: 18

Worklist Smp#: 18

Injection Vol: 2.0 ul

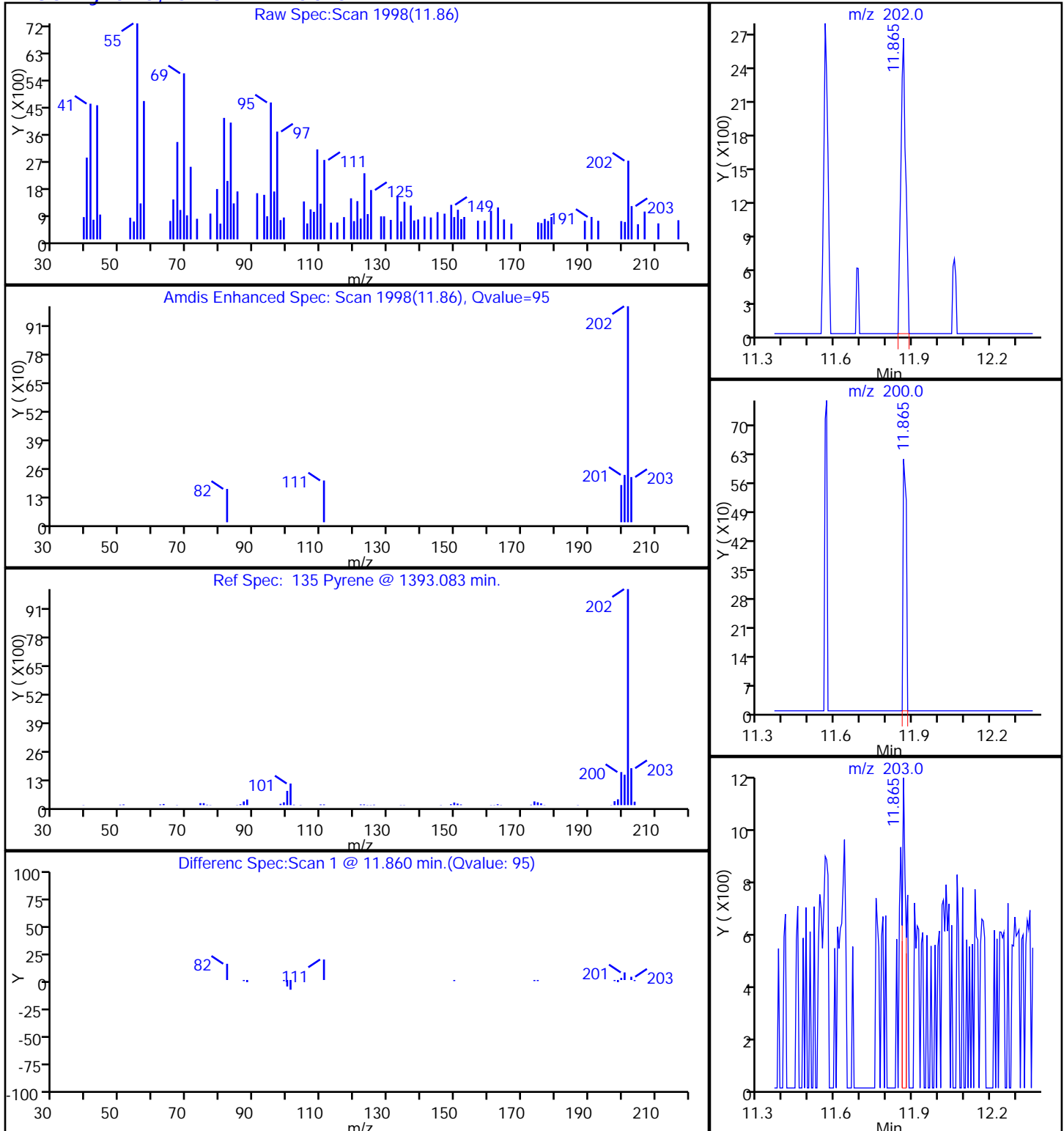
Dil. Factor: 5.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

**135 Pyrene, CAS: 129-00-0**

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

|   |   |
|---|---|
| Lab Name: <u>TestAmerica Pittsburgh</u> | Job No.: <u>180-43411-1</u>             |
| SDG No.: _____                          |   |
| Client Sample ID: <u>F05-SD</u>         | Lab Sample ID: <u>180-43411-2</u>       |
| Matrix: <u>Sediment</u>                 | Lab File ID: <u>F0511016.D</u>          |
| Analysis Method: <u>8270D LL</u>        | Date Collected: <u>04/23/2015 16:00</u> |
| Extract. Method: <u>3541</u>            | Date Extracted: <u>05/04/2015 03:00</u> |
| Sample wt/vol: <u>30.0(g)</u>           | Date Analyzed: <u>05/12/2015 12:39</u>  |
| Con. Extract Vol.: <u>0.5(mL)</u>       | Dilution Factor: <u>5</u>               |
| Injection Volume: <u>2(uL)</u>          | Level: (low/med) <u>Low</u>             |
| % Moisture: <u>28.7</u>                 | GPC Cleanup: (Y/N) <u>N</u>             |
| Analysis Batch No.: <u>141206</u>       | Units: <u>ug/Kg</u>                     |

| CAS NO.   | COMPOUND NAME                        | RESULT | Q | RL   | MDL |
|-----------|--------------------------------------|--------|---|------|-----|
| 83-32-9   | Acenaphthene                         | ND     |   | 23   | 2.2 |
| 208-96-8  | Acenaphthylene                       | 110    |   | 23   | 2.7 |
| 120-12-7  | Anthracene                           | 62     |   | 23   | 2.3 |
| 92-87-5   | Benzidine                            | ND     |   | 2300 | 490 |
| 56-55-3   | Benzo[a]anthracene                   | 320    |   | 23   | 2.9 |
| 205-99-2  | Benzo[b]fluoranthene                 | 370    |   | 23   | 3.7 |
| 207-08-9  | Benzo[k]fluoranthene                 | 160    |   | 23   | 4.7 |
| 65-85-0   | Benzoic acid                         | ND     |   | 600  | 48  |
| 191-24-2  | Benzo[g,h,i]perylene                 | 500    |   | 23   | 2.3 |
| 50-32-8   | Benzo[a]pyrene                       | 400    |   | 23   | 2.3 |
| 111-91-1  | Bis(2-chloroethoxy)methane           | ND     |   | 120  | 7.7 |
| 111-44-4  | Bis(2-chloroethyl)ether              | ND     |   | 23   | 3.1 |
| 117-81-7  | Bis(2-ethylhexyl) phthalate          | 790    |   | 230  | 19  |
| 108-60-1  | 2,2'-oxybis[1-chloropropane]         | ND     |   | 23   | 2.5 |
| 101-55-3  | 4-Bromophenyl phenyl ether           | ND     |   | 120  | 10  |
| 7005-72-3 | 4-Chlorophenyl phenyl ether          | ND     |   | 120  | 13  |
| 91-58-7   | 2-Chloronaphthalene                  | ND     |   | 23   | 2.4 |
| 85-68-7   | Butyl benzyl phthalate               | ND     |   | 120  | 16  |
| 218-01-9  | Chrysene                             | 280    |   | 23   | 2.8 |
| 53-70-3   | Dibenz(a,h)anthracene                | 45     |   | 23   | 2.6 |
| 84-74-2   | Di-n-butyl phthalate                 | ND     |   | 120  | 15  |
| 117-84-0  | Di-n-octyl phthalate                 | ND     |   | 120  | 12  |
| 84-66-2   | Diethyl phthalate                    | ND     |   | 120  | 13  |
| 131-11-3  | Dimethyl phthalate                   | ND     |   | 120  | 13  |
| 91-94-1   | 3,3'-Dichlorobenzidine               | ND     |   | 120  | 12  |
| 121-14-2  | 2,4-Dinitrotoluene                   | ND     |   | 120  | 9.4 |
| 606-20-2  | 2,6-Dinitrotoluene                   | ND     |   | 120  | 12  |
| 95-57-8   | 2-Chlorophenol                       | ND     |   | 120  | 9.6 |
| 120-83-2  | 2,4-Dichlorophenol                   | ND     |   | 23   | 2.3 |
| 105-67-9  | 2,4-Dimethylphenol                   | ND     |   | 120  | 18  |
| 51-28-5   | 2,4-Dinitrophenol                    | ND     |   | 600  | 140 |
| 88-75-5   | 2-Nitrophenol                        | ND     |   | 120  | 13  |
| 88-06-2   | 2,4,6-Trichlorophenol                | ND     |   | 120  | 18  |
| 122-66-7  | 1,2-Diphenylhydrazine(as Azobenzene) | ND     |   | 120  | 15  |

FORM I  
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

|   |   |
|---|---|
| Lab Name: <u>TestAmerica Pittsburgh</u> | Job No.: <u>180-43411-1</u>             |
| SDG No.: _____                          |   |
| Client Sample ID: <u>F05-SD</u>         | Lab Sample ID: <u>180-43411-2</u>       |
| Matrix: <u>Sediment</u>                 | Lab File ID: <u>F0511016.D</u>          |
| Analysis Method: <u>8270D LL</u>        | Date Collected: <u>04/23/2015 16:00</u> |
| Extract. Method: <u>3541</u>            | Date Extracted: <u>05/04/2015 03:00</u> |
| Sample wt/vol: <u>30.0(g)</u>           | Date Analyzed: <u>05/12/2015 12:39</u>  |
| Con. Extract Vol.: <u>0.5(mL)</u>       | Dilution Factor: <u>5</u>               |
| Injection Volume: <u>2(uL)</u>          | Level: (low/med) <u>Low</u>             |
| % Moisture: <u>28.7</u>                 | GPC Cleanup: (Y/N) <u>N</u>             |
| Analysis Batch No.: <u>141206</u>       | Units: <u>ug/Kg</u>                     |

| CAS NO.  | COMPOUND NAME              | RESULT | Q | RL  | MDL |
|----------|----------------------------|--------|---|-----|-----|
| 120-82-1 | 1,2,4-Trichlorobenzene     | ND     |   | 120 | 6.5 |
| 59-50-7  | 4-Chloro-3-methylphenol    | ND     |   | 120 | 11  |
| 100-02-7 | 4-Nitrophenol              | ND     |   | 600 | 43  |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | ND     |   | 600 | 47  |
| 206-44-0 | Fluoranthene               | 1400   |   | 23  | 2.5 |
| 86-73-7  | Fluorene                   | ND     |   | 23  | 3.1 |
| 118-74-1 | Hexachlorobenzene          | ND     |   | 23  | 2.5 |
| 87-68-3  | Hexachlorobutadiene        | ND     |   | 23  | 2.6 |
| 77-47-4  | Hexachlorocyclopentadiene  | ND     |   | 120 | 13  |
| 67-72-1  | Hexachloroethane           | ND     |   | 120 | 8.4 |
| 193-39-5 | Indeno[1,2,3-cd]pyrene     | 310    |   | 23  | 2.4 |
| 78-59-1  | Isophorone                 | ND     |   | 120 | 8.8 |
| 91-20-3  | Naphthalene                | 37     |   | 23  | 2.0 |
| 98-95-3  | Nitrobenzene               | ND     |   | 230 | 9.7 |
| 621-64-7 | N-Nitrosodi-n-propylamine  | ND     |   | 23  | 2.7 |
| 62-75-9  | N-Nitrosodimethylamine     | ND     |   | 120 | 10  |
| 86-30-6  | N-Nitrosodiphenylamine     | ND     |   | 120 | 11  |
| 85-01-8  | Phenanthrene               | 37     |   | 23  | 3.7 |
| 129-00-0 | Pyrene                     | 690    |   | 23  | 2.4 |
| 87-86-5  | Pentachlorophenol          | ND     |   | 120 | 10  |
| 108-95-2 | Phenol                     | 20     | J | 23  | 2.8 |

| CAS NO.   | SURROGATE                   | %REC | Q | LIMITS |
|-----------|-----------------------------|------|---|--------|
| 118-79-6  | 2,4,6-Tribromophenol (Surr) | 65   |   | 20-113 |
| 321-60-8  | 2-Fluorobiphenyl            | 71   |   | 38-103 |
| 367-12-4  | 2-Fluorophenol (Surr)       | 72   |   | 34-103 |
| 4165-60-0 | Nitrobenzene-d5 (Surr)      | 83   |   | 41-108 |
| 4165-62-2 | Phenol-d5 (Surr)            | 81   |   | 35-103 |
| 1718-51-0 | Terphenyl-d14 (Surr)        | 50   |   | 28-109 |

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511016.D  
 Lims ID: 180-43411-A-2-I Lab Sample ID: 180-43411-2  
 Client ID: F05-SD  
 Sample Type: Client  
 Inject. Date: 12-May-2015 12:39:30 ALS Bottle#: 19 Worklist Smp#: 19  
 Injection Vol: 2.0 ul Dil. Factor: 5.0000  
 Sample Info: 180-0006870-019  
 Misc. Info.: 180-43411-A-2-I  
 Operator ID: 007062 Instrument ID: CH722  
 Method: \\PITCHROM\ChromData\CH722\20150512-6870.b\BNA\_CH722.m  
 Limit Group: BNA 8270D ICAL  
 Last Update: 12-May-2015 14:28:56 Calib Date: 25-Mar-2015 02:57:30  
 Integrator: RTE ID Type: RT Order ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C8.D  
 Column 1 : Rxi-5SiIMS ( 0.32 mm) Det: MS SCAN  
 Process Host: XAWRK019

First Level Reviewer: bachas

Date: 12-May-2015 14:18:19

| Compound                      | Sig | RT (min.) | Adj RT (min.) | Dlt RT (min.) | Q  | Response | OnCol Amt ng | Flags |
|-------------------------------|-----|-----------|---------------|---------------|----|----------|--------------|-------|
| * 1 1,4-Dichlorobenzene-d4    | 152 | 5.825     | 5.860         | -0.035        | 89 | 37942    | 8.00         |       |
| * 2 Naphthalene-d8            | 136 | 7.102     | 7.132         | -0.030        | 98 | 157866   | 8.00         |       |
| * 3 Acenaphthene-d10          | 164 | 8.806     | 8.825         | -0.019        | 88 | 102051   | 8.00         |       |
| * 4 Phenanthrene-d10          | 188 | 10.238    | 10.236        | 0.002         | 90 | 189593   | 8.00         |       |
| * 5 Chrysene-d12              | 240 | 13.881    | 13.804        | 0.077         | 86 | 275781   | 8.00         |       |
| * 6 Perylene-d12              | 264 | 16.953    | 16.785        | 0.168         | 80 | 385009   | 8.00         |       |
| \$ 7 2-Fluorophenol           | 112 | 4.388     | 4.429         | -0.041        | 74 | 29523    | 5.78         |       |
| \$ 8 Phenol-d5                | 99  | 5.478     | 5.508         | -0.030        | 96 | 44447    | 6.49         |       |
| \$ 9 Nitrobenzene-d5          | 82  | 6.381     | 6.416         | -0.035        | 80 | 41701    | 6.62         |       |
| \$ 10 2-Fluorobiphenyl        | 172 | 8.149     | 8.173         | -0.024        | 87 | 97271    | 5.71         |       |
| \$ 11 2,4,6-Tribromophenol    | 330 | 9.565     | 9.573         | -0.008        | 66 | 13899    | 5.23         |       |
| \$ 12 Terphenyl-d14           | 244 | 12.081    | 12.047        | 0.034         | 70 | 130883   | 3.98         |       |
| 14 N-Nitrosodimethylamine     | 74  |           | 1.854         |               |    |          | ND           |       |
| 26 Phenol                     | 94  | 5.489     | 5.524         | -0.035        | 12 | 2551     | 0.3359       |       |
| 29 Bis(2-chloroethyl)ether    | 93  |           | 5.593         |               |    |          | ND           |       |
| 30 2-Chlorophenol             | 128 |           | 5.641         |               |    |          | ND           |       |
| 38 2,2'-oxybis[1-chloropropan | 45  |           | 6.159         |               |    |          | ND           |       |
| 41 N-Nitrosodi-n-propylamine  | 70  |           | 6.277         |               |    |          | ND           |       |
| 43 Hexachloroethane           | 117 |           | 6.379         |               |    |          | ND           |       |
| 44 Nitrobenzene               | 77  |           | 6.437         |               |    |          | ND           |       |
| 46 Isophorone                 | 82  |           | 6.678         |               |    |          | ND           |       |
| 47 2-Nitrophenol              | 139 |           | 6.758         |               |    |          | ND           |       |
| 48 2,4-Dimethylphenol         | 107 |           | 6.811         |               |    |          | ND           |       |
| 49 Benzoic acid               | 122 |           | 6.875         |               |    |          | ND           |       |
| 50 Bis(2-chloroethoxy)methane | 93  |           | 6.897         |               |    |          | ND           |       |
| 52 2,4-Dichlorophenol         | 162 |           | 6.998         |               |    |          | ND           |       |
| 53 1,2,4-Trichlorobenzene     | 180 |           | 7.078         |               |    |          | ND           |       |
| 56 Naphthalene                | 128 | 7.124     | 7.153         | -0.029        | 44 | 12959    | 0.6387       |       |
| 61 Hexachlorobutadiene        | 225 |           | 7.287         |               |    |          | ND           |       |
| 63 4-Chloro-3-methylphenol    | 107 |           | 7.677         |               |    |          | ND           |       |
| 69 Hexachlorocyclopentadiene  | 237 |           | 7.987         |               |    |          | ND           |       |

| Compound                       | Sig | RT (min.) | Adj RT (min.) | Dlt RT (min.) | Q  | Response | OnCol Amt ng | Flags |
|--------------------------------|-----|-----------|---------------|---------------|----|----------|--------------|-------|
| 71 2,4,6-Trichlorophenol       | 196 |           | 8.093         |               |    |          | ND           |       |
| 78 2-Chloronaphthalene         | 162 |           | 8.291         |               |    |          | ND           |       |
| 82 Dimethyl phthalate          | 163 |           | 8.547         |               |    |          | ND           |       |
| 84 2,6-Dinitrotoluene          | 165 |           | 8.606         |               |    |          | ND           |       |
| 85 Acenaphthylene              | 152 | 8.673     | 8.686         | -0.013        | 90 | 41470    | 1.80         |       |
| 87 Acenaphthene                | 153 |           | 8.852         |               |    |          | ND           |       |
| 88 2,4-Dinitrophenol           | 184 |           | 8.863         |               |    |          | ND           |       |
| 89 4-Nitrophenol               | 109 |           | 8.921         |               |    |          | ND           |       |
| 92 2,4-Dinitrotoluene          | 165 |           | 8.991         |               |    |          | ND           |       |
| 98 Diethyl phthalate           | 149 |           | 9.215         |               |    |          | ND           |       |
| 101 4-Chlorophenyl phenyl ethe | 204 |           | 9.333         |               |    |          | ND           |       |
| 103 Fluorene                   | 166 |           | 9.343         |               |    |          | ND           |       |
| 104 4,6-Dinitro-2-methylphenol | 198 |           | 9.375         |               |    |          | ND           |       |
| 106 N-Nitrosodiphenylamine     | 169 |           | 9.440         |               |    |          | ND           |       |
| 108 1,2-Diphenylhydrazine      | 77  |           | 9.482         |               |    |          | ND           |       |
| 109 4-Bromophenyl phenyl ether | 248 |           | 9.797         |               |    |          | ND           |       |
| 110 Hexachlorobenzene          | 284 |           | 9.878         |               |    |          | ND           |       |
| 115 Pentachlorophenol          | 266 |           | 10.054        |               |    |          | ND           |       |
| 120 Phenanthrene               | 178 | 10.259    | 10.257        | 0.002         | 32 | 17111    | 0.6366       |       |
| 123 Anthracene                 | 178 | 10.307    | 10.305        | 0.002         | 65 | 28272    | 1.06         |       |
| 128 Di-n-butyl phthalate       | 149 |           | 10.786        |               |    |          | ND           |       |
| 133 Fluoranthene               | 202 | 11.600    | 11.550        | 0.050         | 98 | 608527   | 23.4         |       |
| 134 Benzidine                  | 184 |           | 11.699        |               |    |          | ND           |       |
| 135 Pyrene                     | 202 | 11.883    | 11.849        | 0.034         | 96 | 561990   | 11.8         |       |
| 138 Butyl benzyl phthalate     | 149 |           | 12.789        |               |    |          | ND           |       |
| 143 3,3'-Dichlorobenzidine     | 252 |           | 13.735        |               |    |          | ND           |       |
| 144 Benzo[a]anthracene         | 228 | 13.865    | 13.783        | 0.082         | 82 | 208361   | 5.51         |       |
| 146 Chrysene                   | 228 | 13.935    | 13.852        | 0.083         | 50 | 175006   | 4.74         |       |
| 147 Bis(2-ethylhexyl) phthalat | 149 | 13.945    | 13.858        | 0.087         | 95 | 345068   | 13.5         |       |
| 152 Di-n-octyl phthalate       | 149 |           | 15.214        |               |    |          | ND           |       |
| 154 Benzo[b]fluoranthene       | 252 | 16.136    | 15.978        | 0.158         | 94 | 386066   | 6.27         | M     |
| 155 Benzo[k]fluoranthene       | 252 | 16.168    | 16.032        | 0.136         | 26 | 161605   | 2.68         | M     |
| 157 Benzo[a]pyrene             | 252 | 16.836    | 16.667        | 0.169         | 58 | 369328   | 6.87         |       |
| 162 Indeno[1,2,3-cd]pyrene     | 276 | 19.282    | 19.045        | 0.237         | 82 | 321926   | 5.34         | M     |
| 161 Dibenz(a,h)anthracene      | 278 | 19.320    | 19.093        | 0.227         | 1  | 39128    | 0.7756       | M     |
| 160 Benzo[g,h,i]perylene       | 276 | 19.897    | 19.643        | 0.254         | 86 | 431265   | 8.63         |       |

### QC Flag Legend

Review Flags

M - Manually Integrated

### Reagents:

SVTAPITINTRNi\_00008

Amount Added: 1.00

Units: uL

Run Reagent

Report Date: 12-May-2015 14:31:13

Chrom Revision: 2.2 09-Apr-2015 10:05:40

TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511016.D

Injection Date: 12-May-2015 12:39:30

Instrument ID: CH722

Operator ID: 007062

Lims ID: 180-43411-A-2-I

Lab Sample ID: 180-43411-2

Worklist Smp#: 19

Client ID: F05-SD

Injection Vol: 2.0 ul

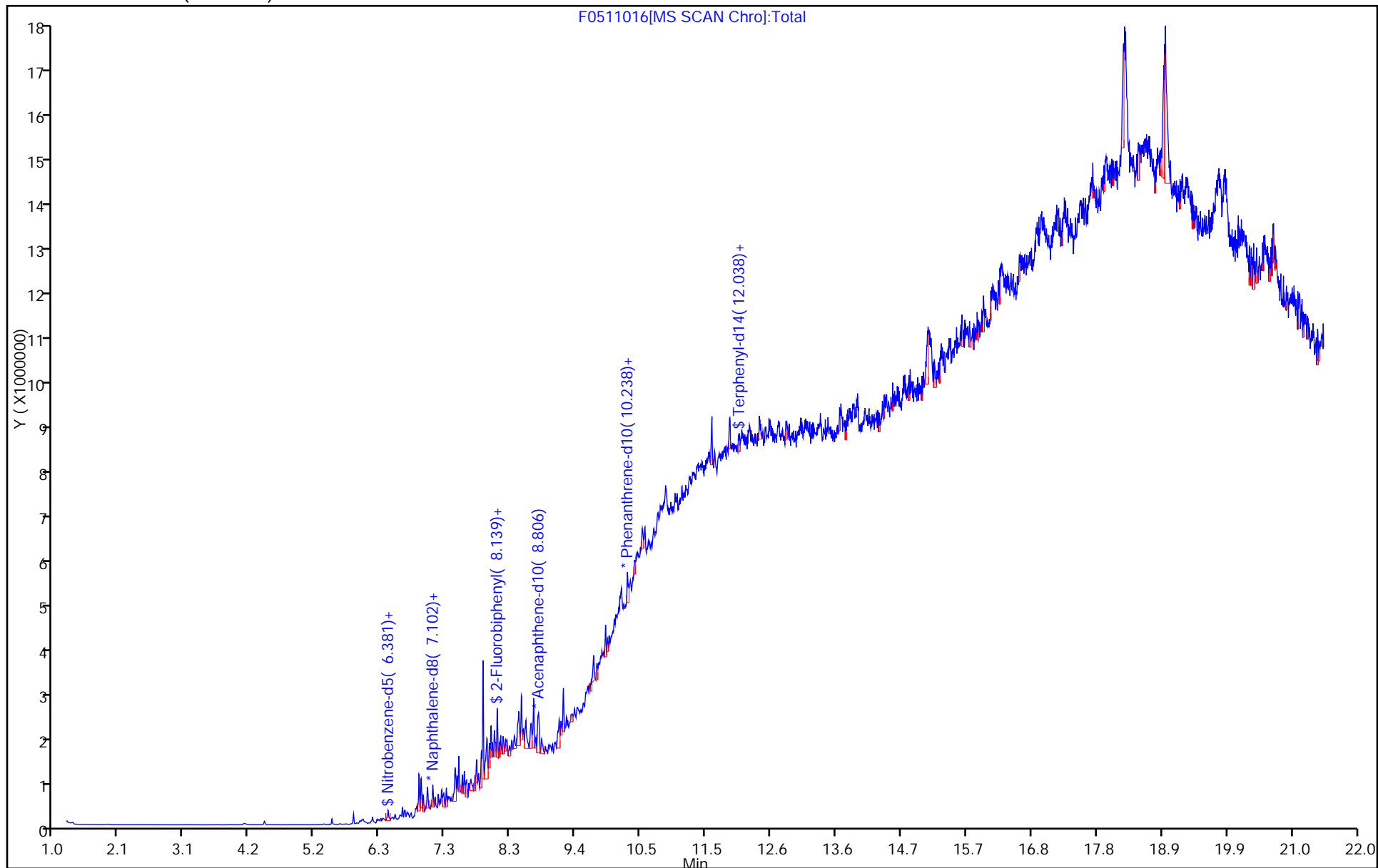
Dil. Factor: 5.0000

ALS Bottle#: 19

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)





## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511016.D

Injection Date: 12-May-2015 12:39:30

Instrument ID: CH722

Lims ID: 180-43411-A-2-I

Lab Sample ID: 180-43411-2

Client ID: F05-SD

Operator ID: 007062

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

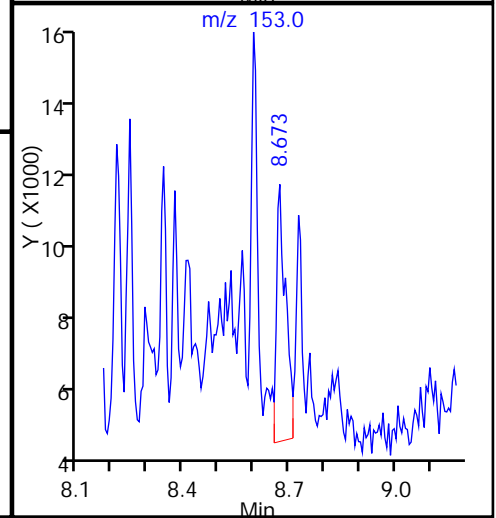
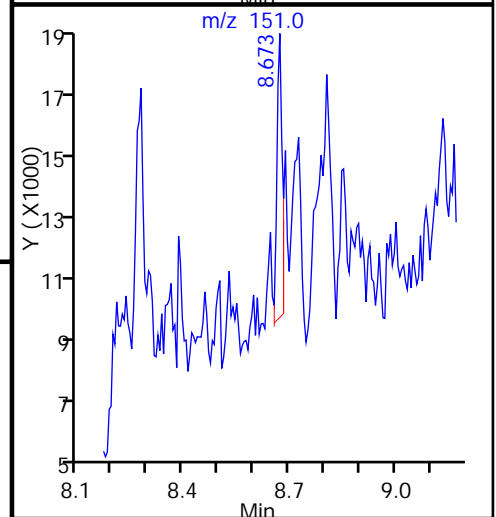
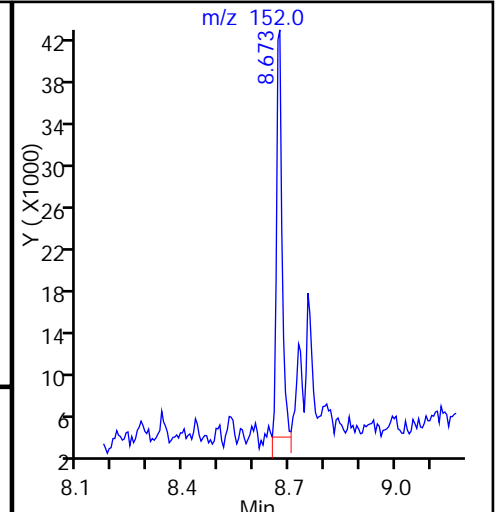
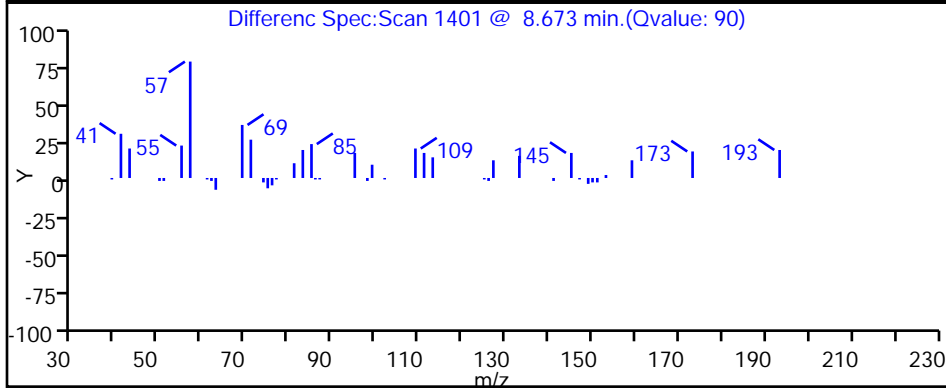
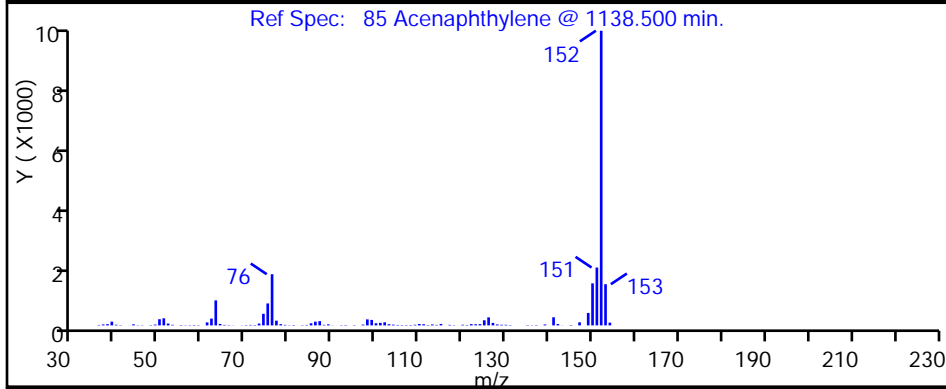
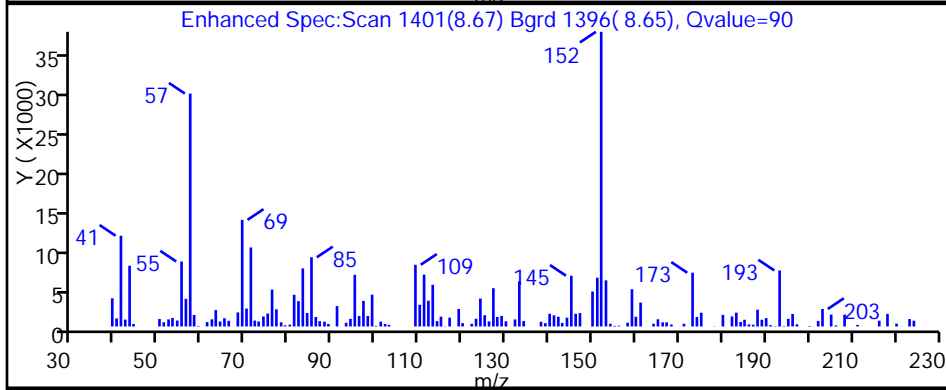
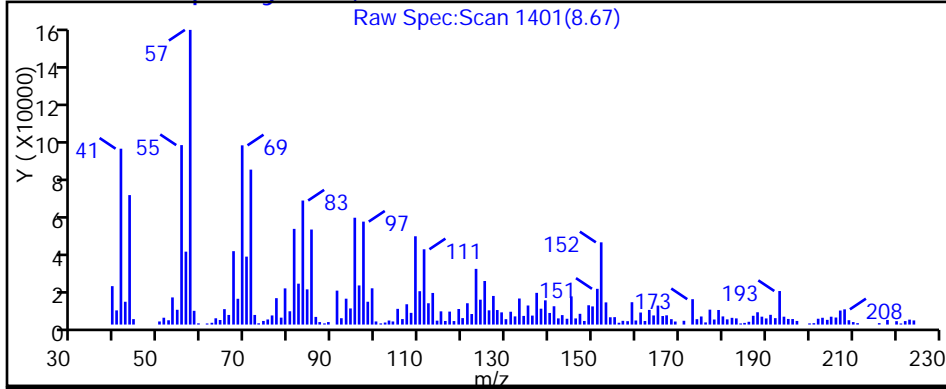
Dil. Factor: 5.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

**85 Acenaphthylene, CAS: 208-96-8**

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511016.D

Injection Date: 12-May-2015 12:39:30

Instrument ID: CH722

Lims ID: 180-43411-A-2-I

Lab Sample ID: 180-43411-2

Client ID: F05-SD

Operator ID: 007062

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

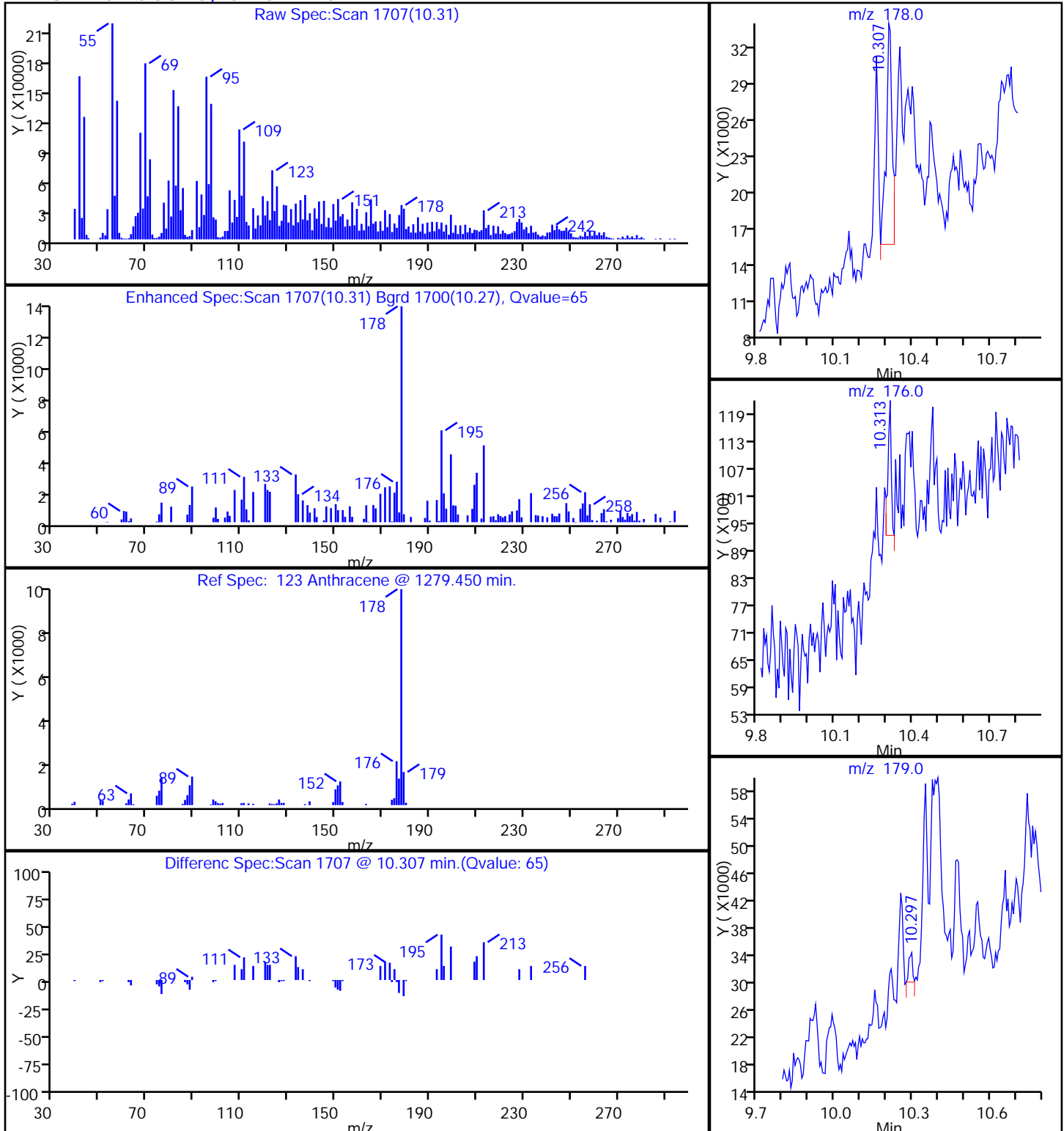
Dil. Factor: 5.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

**123 Anthracene, CAS: 120-12-7**

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511016.D

Injection Date: 12-May-2015 12:39:30

Instrument ID: CH722

Lims ID: 180-43411-A-2-I

Lab Sample ID: 180-43411-2

Client ID: F05-SD

Operator ID: 007062

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

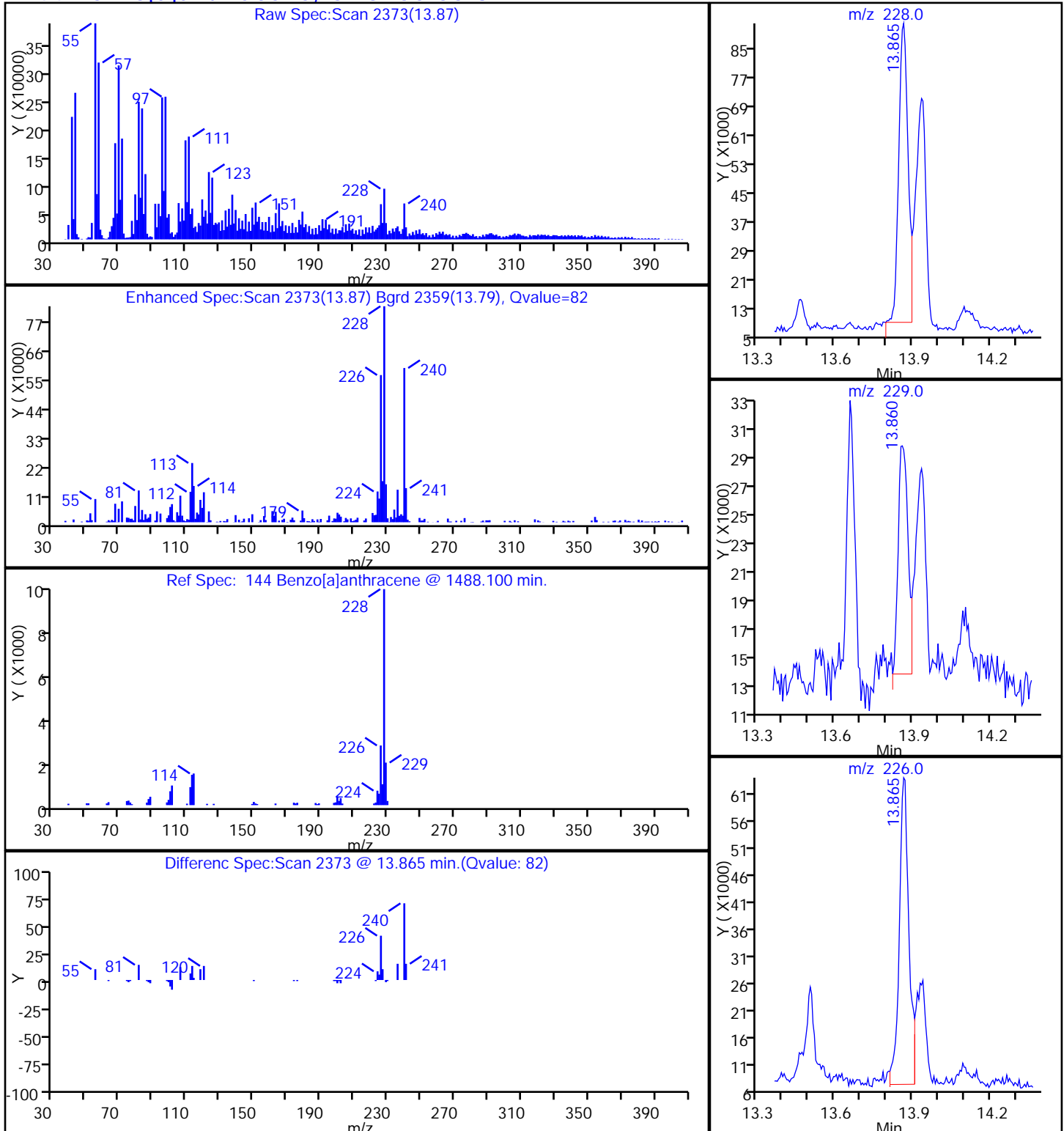
Dil. Factor: 5.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

**144 Benzo[a]anthracene, CAS: 56-55-3**

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511016.D

Injection Date: 12-May-2015 12:39:30

Instrument ID: CH722

Lims ID: 180-43411-A-2-I

Lab Sample ID: 180-43411-2

Client ID: F05-SD

Operator ID: 007062

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

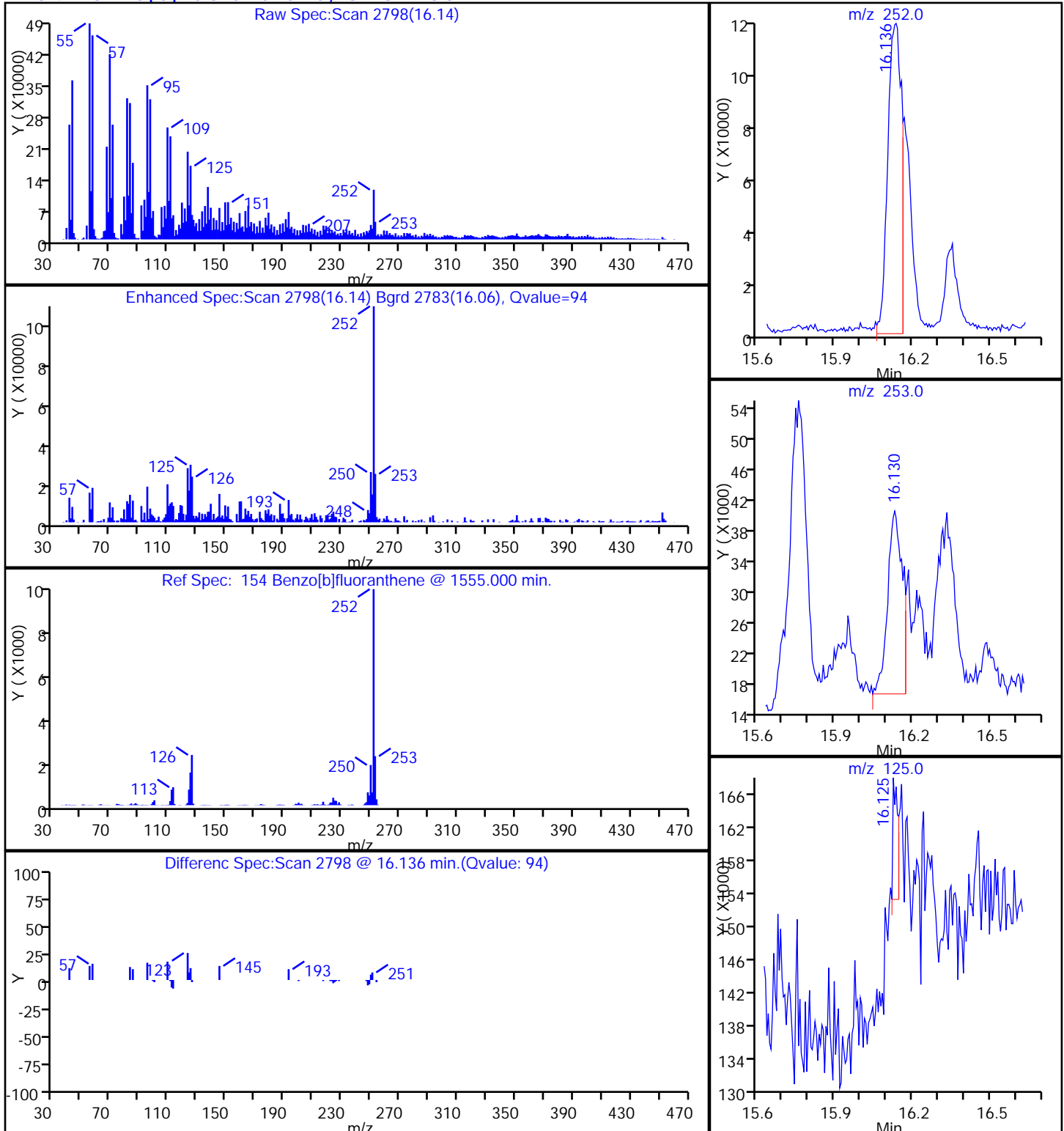
Dil. Factor: 5.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

**154 Benzo[b]fluoranthene, CAS: 205-99-2**

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511016.D

Injection Date: 12-May-2015 12:39:30

Instrument ID: CH722

Lims ID: 180-43411-A-2-I

Lab Sample ID: 180-43411-2

Client ID: F05-SD

Operator ID: 007062

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

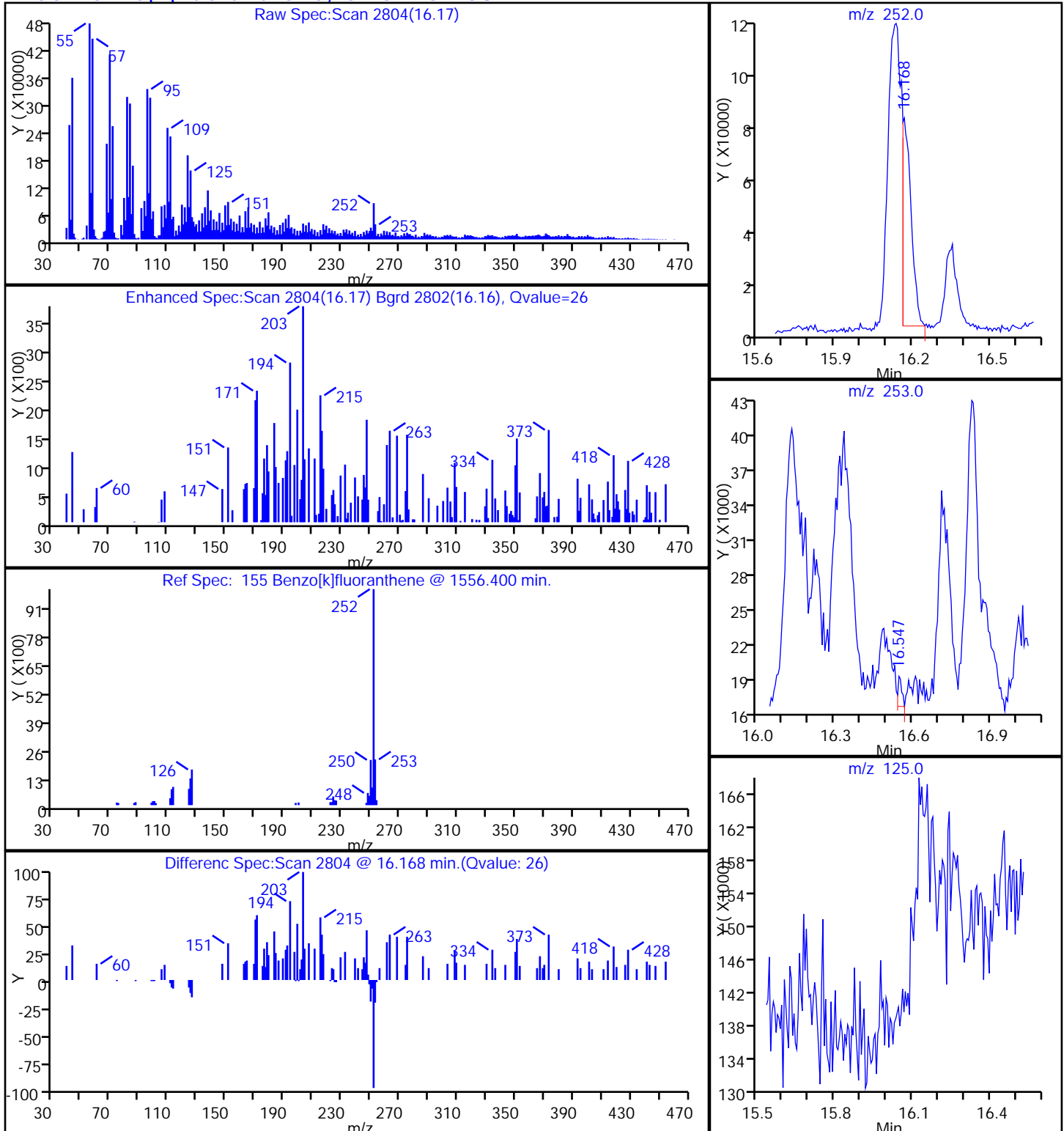
Dil. Factor: 5.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

**155 Benzo[k]fluoranthene, CAS: 207-08-9**

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511016.D

Injection Date: 12-May-2015 12:39:30

Instrument ID: CH722

Lims ID: 180-43411-A-2-I

Lab Sample ID: 180-43411-2

Client ID: F05-SD

Operator ID: 007062

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

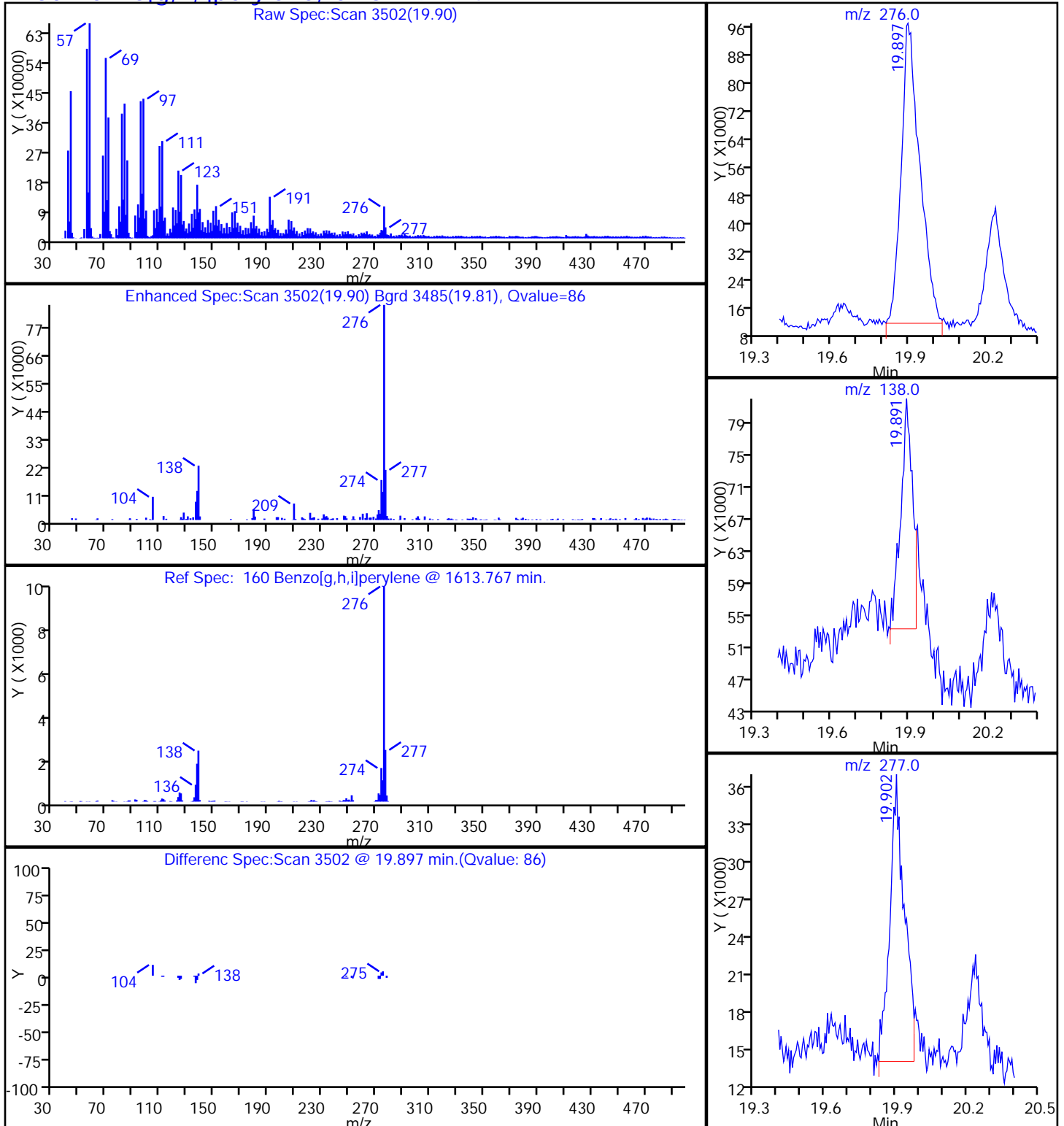
Dil. Factor: 5.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

**160 Benzo[g,h,i]perylene, CAS: 191-24-2**

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511016.D

Injection Date: 12-May-2015 12:39:30

Instrument ID: CH722

Lims ID: 180-43411-A-2-I

Lab Sample ID: 180-43411-2

Client ID: F05-SD

Operator ID: 007062

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

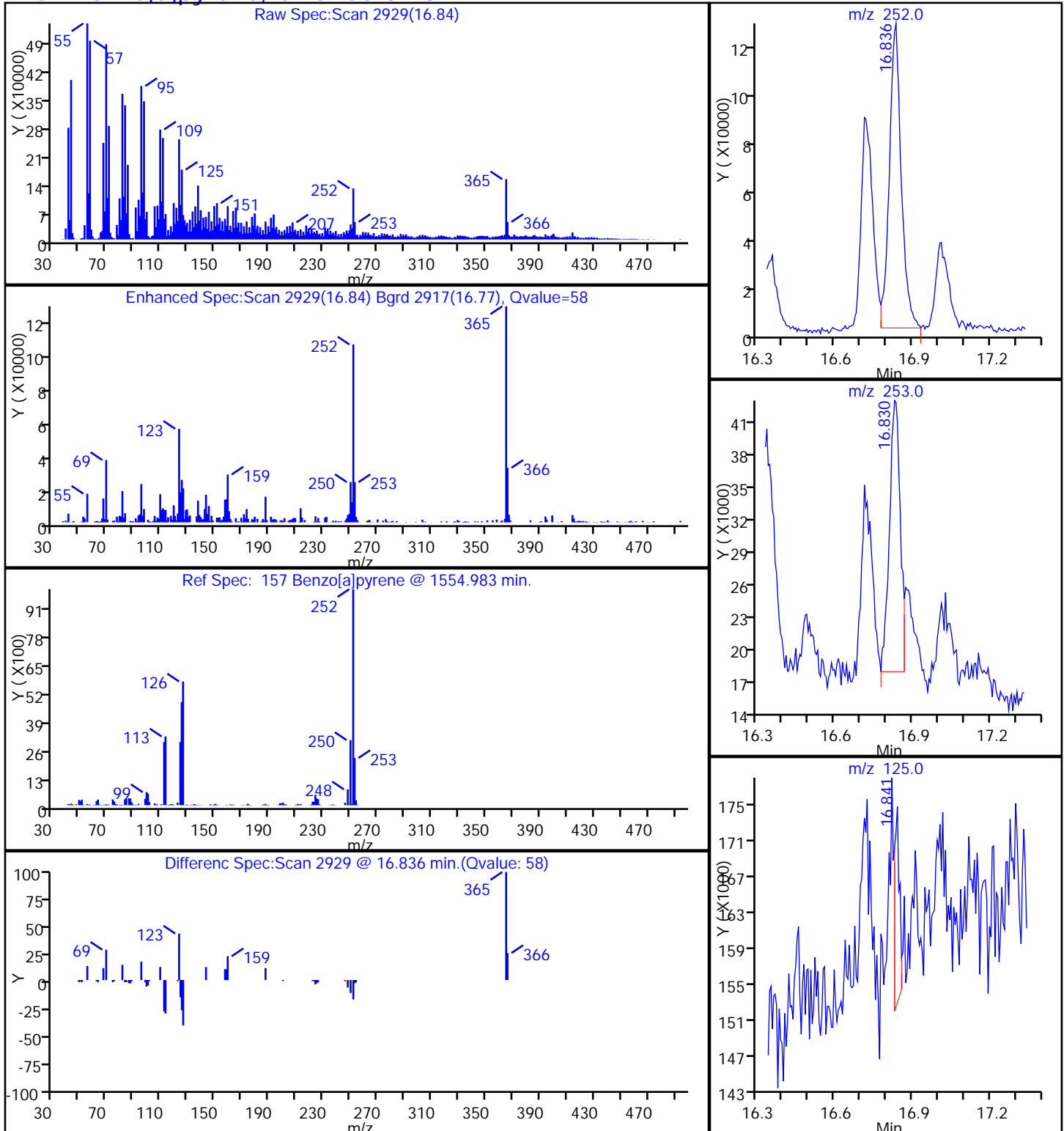
Dil. Factor: 5.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

**157 Benzo[a]pyrene, CAS: 50-32-8**

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511016.D

Injection Date: 12-May-2015 12:39:30

Instrument ID: CH722

Lims ID: 180-43411-A-2-I

Lab Sample ID: 180-43411-2

Client ID: F05-SD

Operator ID: 007062

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

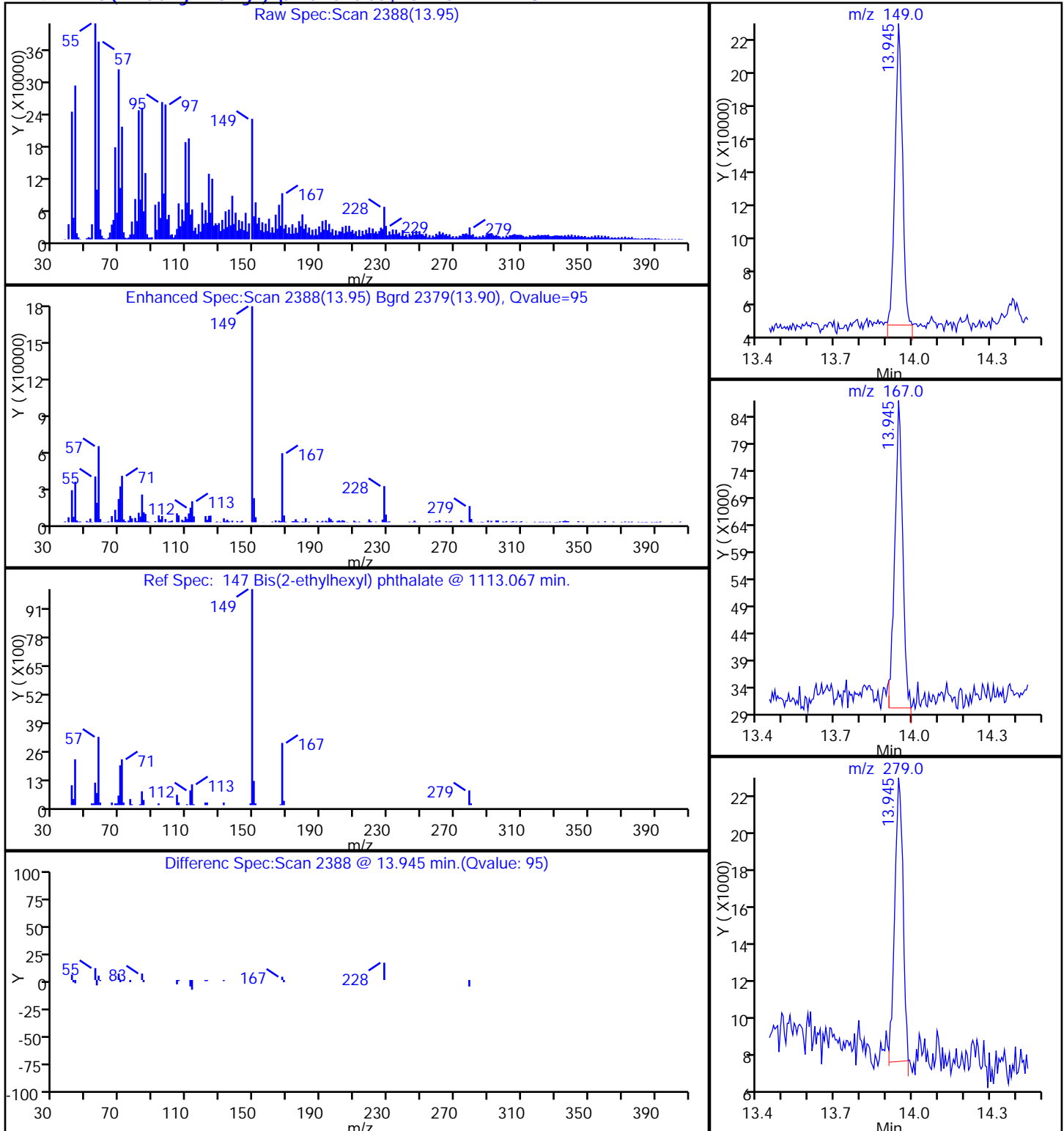
Dil. Factor: 5.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

**147 Bis(2-ethylhexyl) phthalate, CAS: 117-81-7**



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511016.D

Injection Date: 12-May-2015 12:39:30

Instrument ID: CH722

Lims ID: 180-43411-A-2-I

Lab Sample ID: 180-43411-2

Client ID: F05-SD

Operator ID: 007062

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

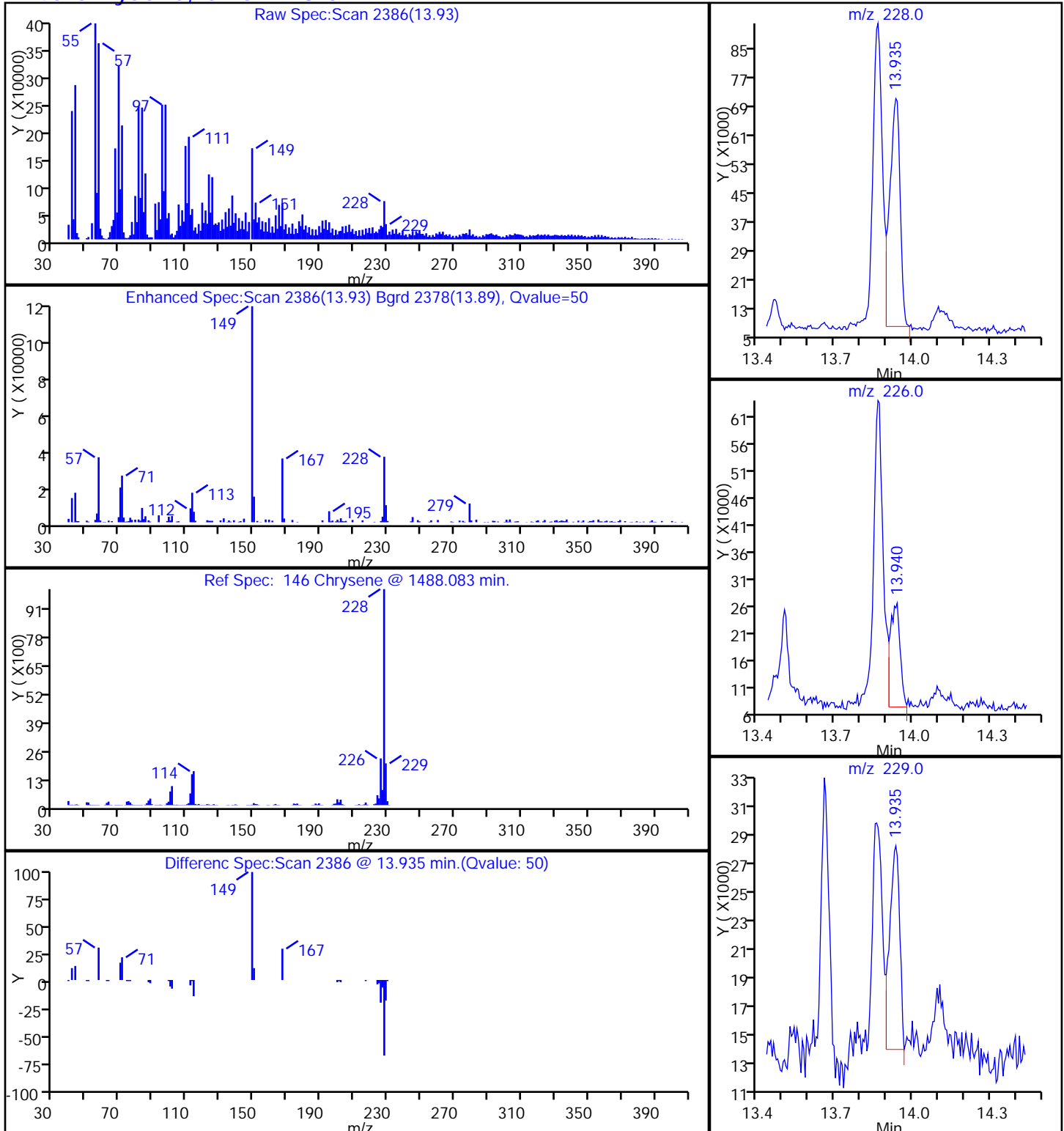
Dil. Factor: 5.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

**146 Chrysene, CAS: 218-01-9**

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511016.D

Injection Date: 12-May-2015 12:39:30

Instrument ID: CH722

Lims ID: 180-43411-A-2-I

Lab Sample ID: 180-43411-2

Client ID: F05-SD

Operator ID: 007062

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

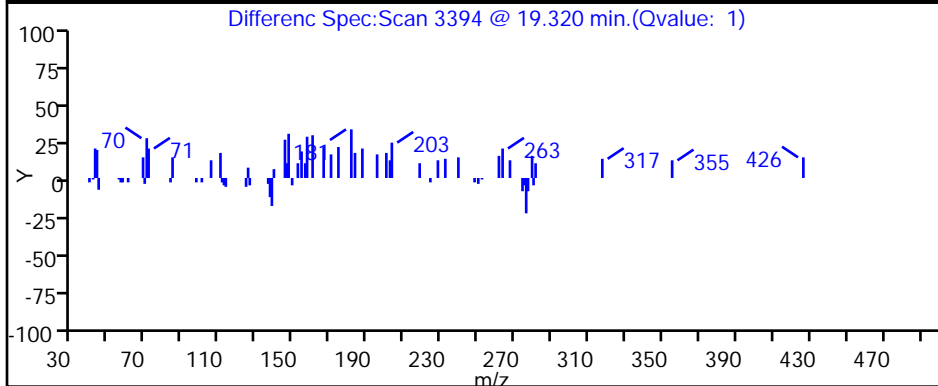
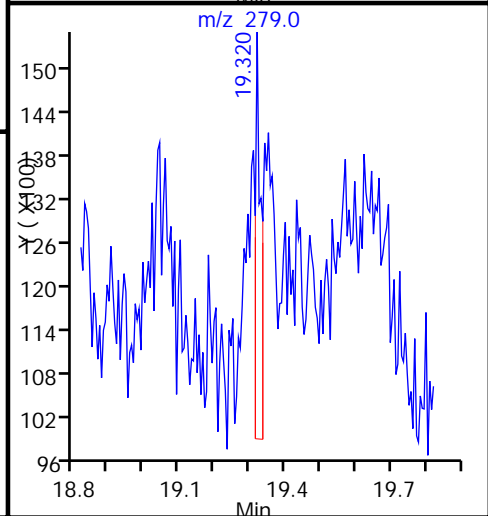
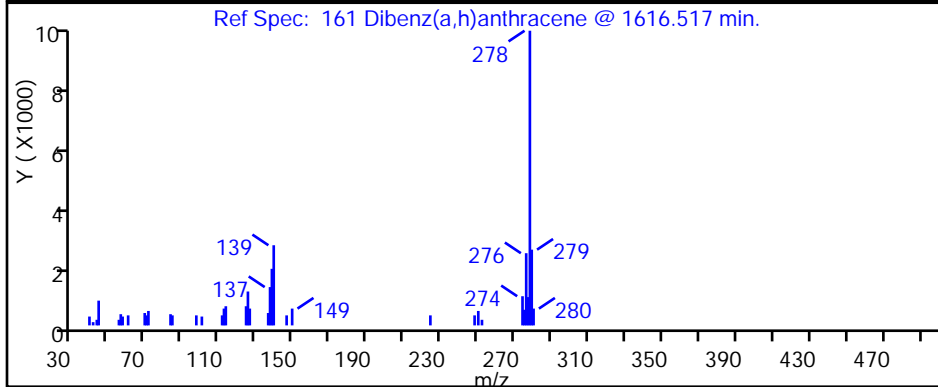
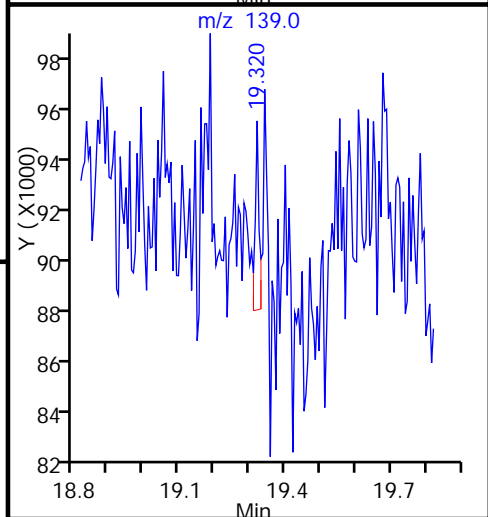
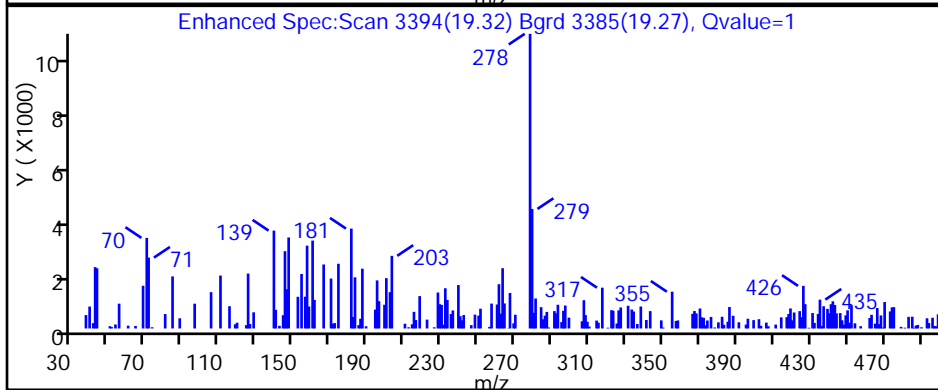
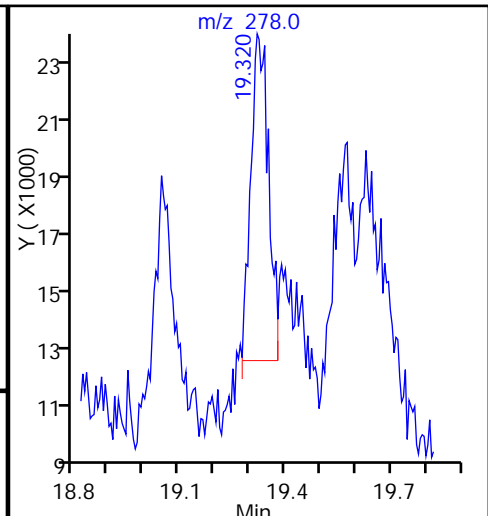
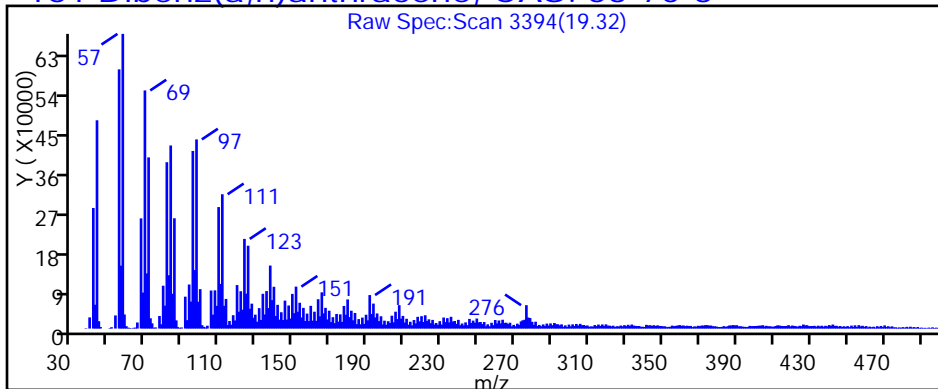
Dil. Factor: 5.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

**161 Dibenz(a,h)anthracene, CAS: 53-70-3**

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511016.D

Injection Date: 12-May-2015 12:39:30

Instrument ID: CH722

Lims ID: 180-43411-A-2-I

Lab Sample ID: 180-43411-2

Client ID: F05-SD

Operator ID: 007062

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

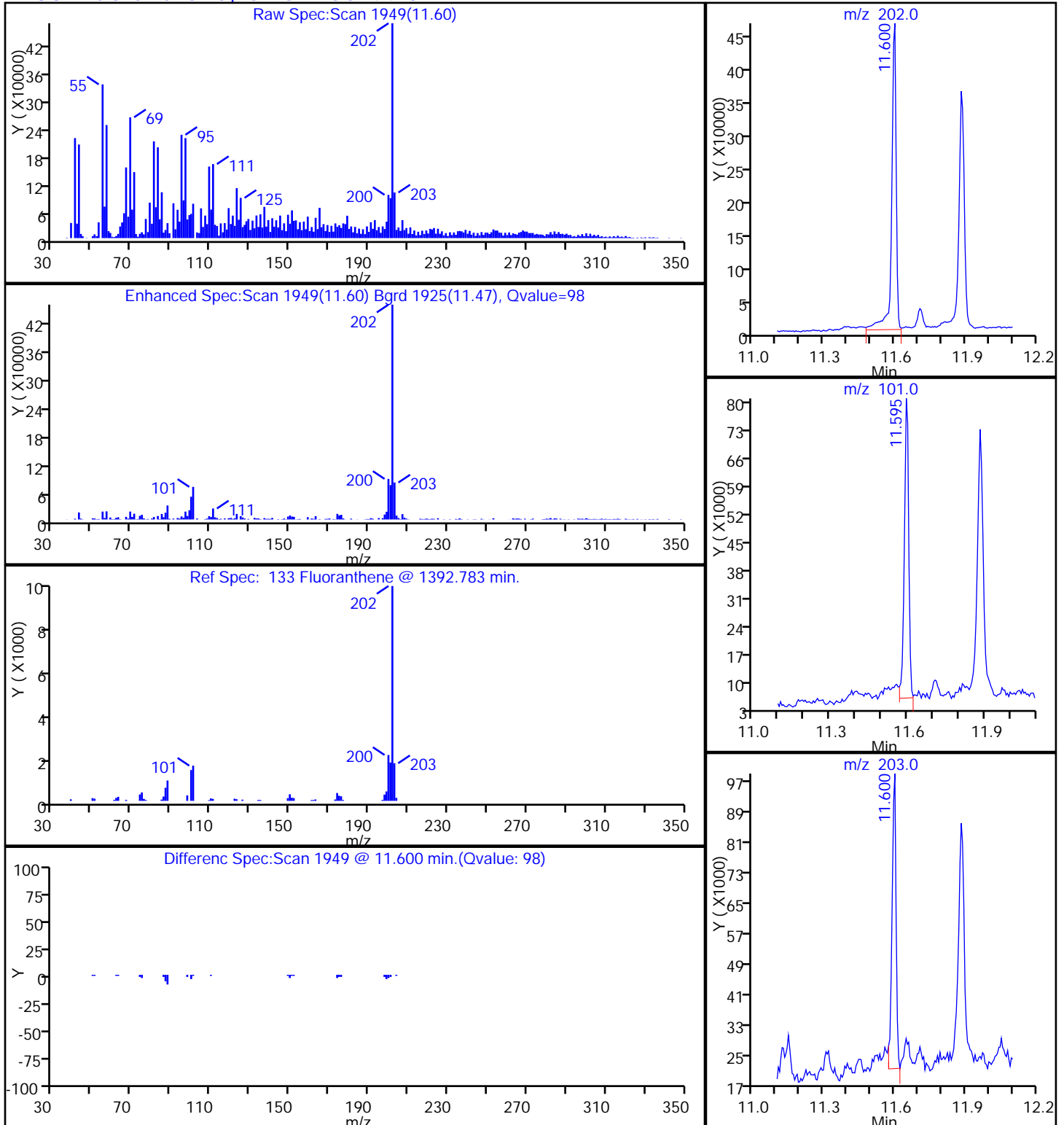
Dil. Factor: 5.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

**133 Fluoranthene, CAS: 206-44-0**

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511016.D

Injection Date: 12-May-2015 12:39:30

Instrument ID: CH722

Lims ID: 180-43411-A-2-I

Lab Sample ID: 180-43411-2

Client ID: F05-SD

Operator ID: 007062

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

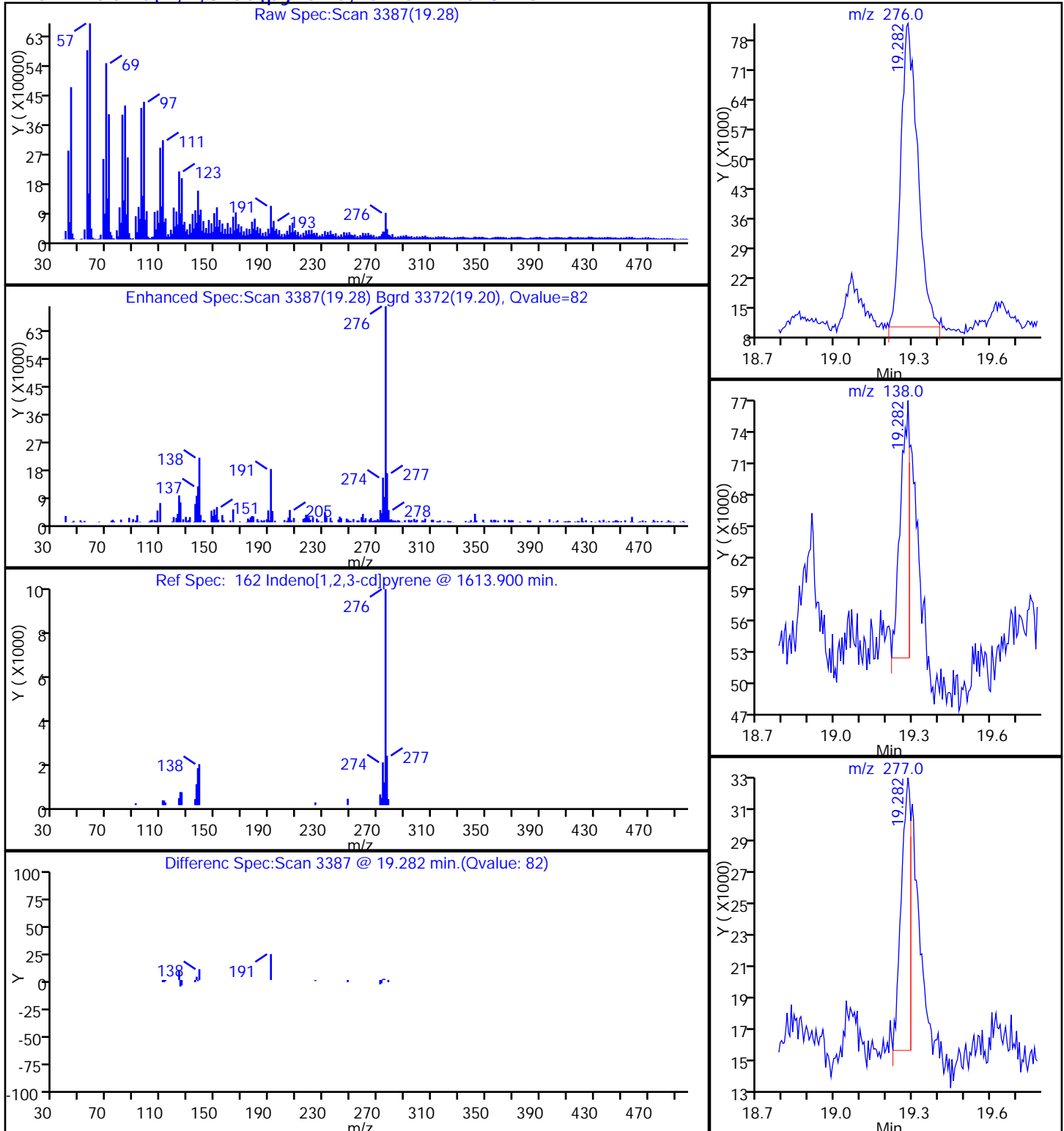
Dil. Factor: 5.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

**162 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5**

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511016.D

Injection Date: 12-May-2015 12:39:30

Instrument ID: CH722

Lims ID: 180-43411-A-2-I

Lab Sample ID: 180-43411-2

Client ID: F05-SD

Operator ID: 007062

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

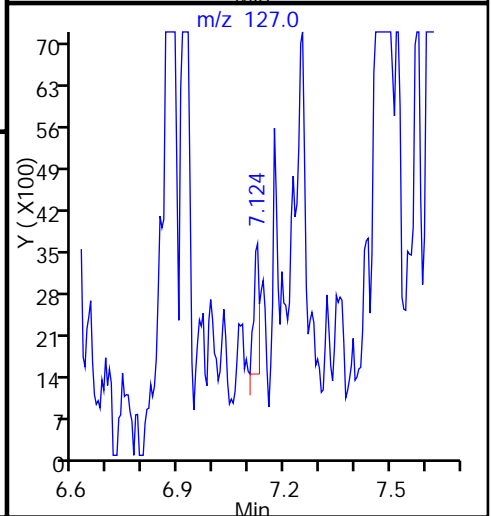
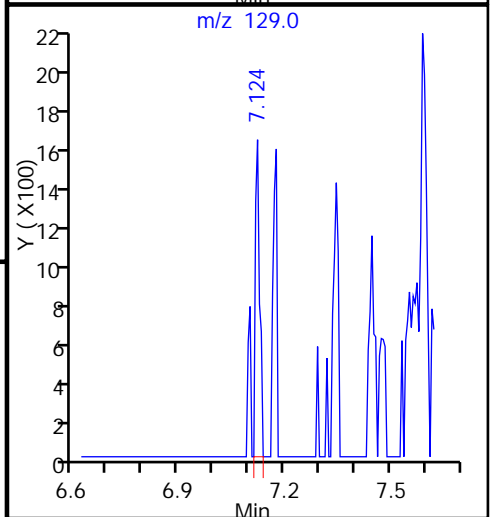
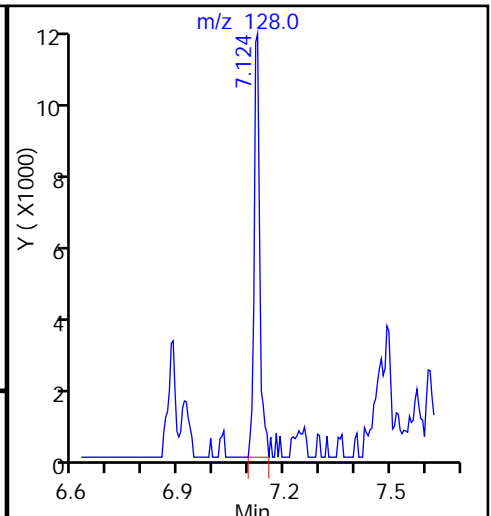
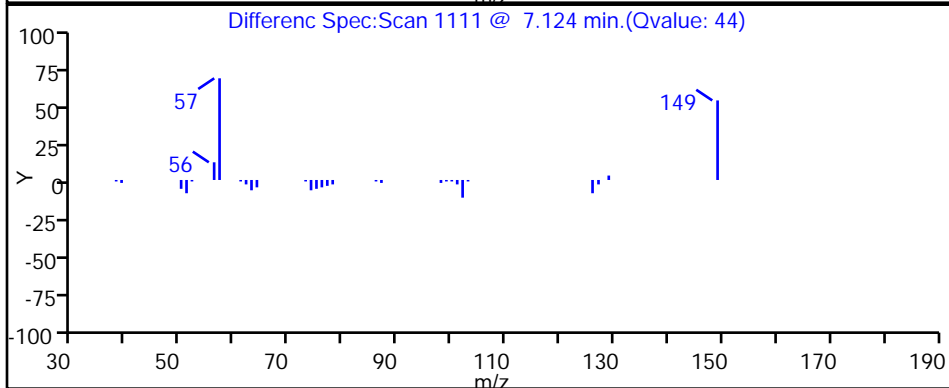
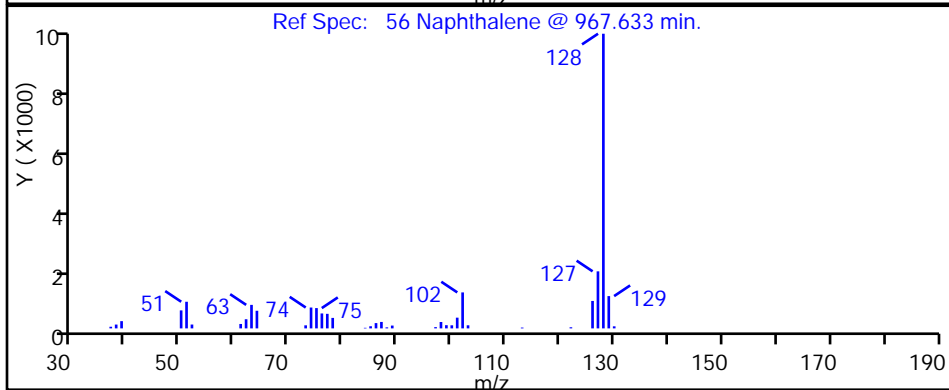
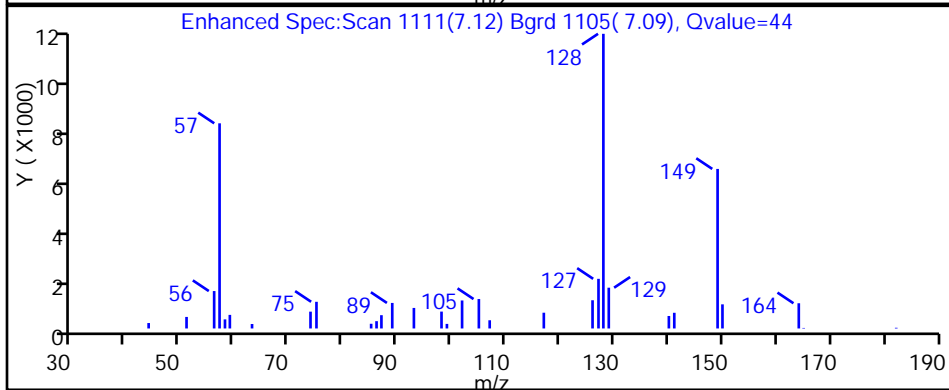
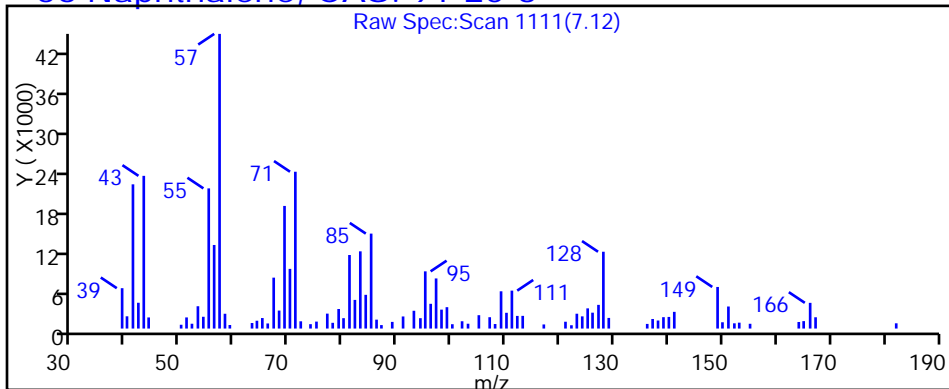
Dil. Factor: 5.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

**56 Naphthalene, CAS: 91-20-3**

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511016.D

Injection Date: 12-May-2015 12:39:30

Instrument ID: CH722

Lims ID: 180-43411-A-2-I

Lab Sample ID: 180-43411-2

Client ID: F05-SD

Operator ID: 007062

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

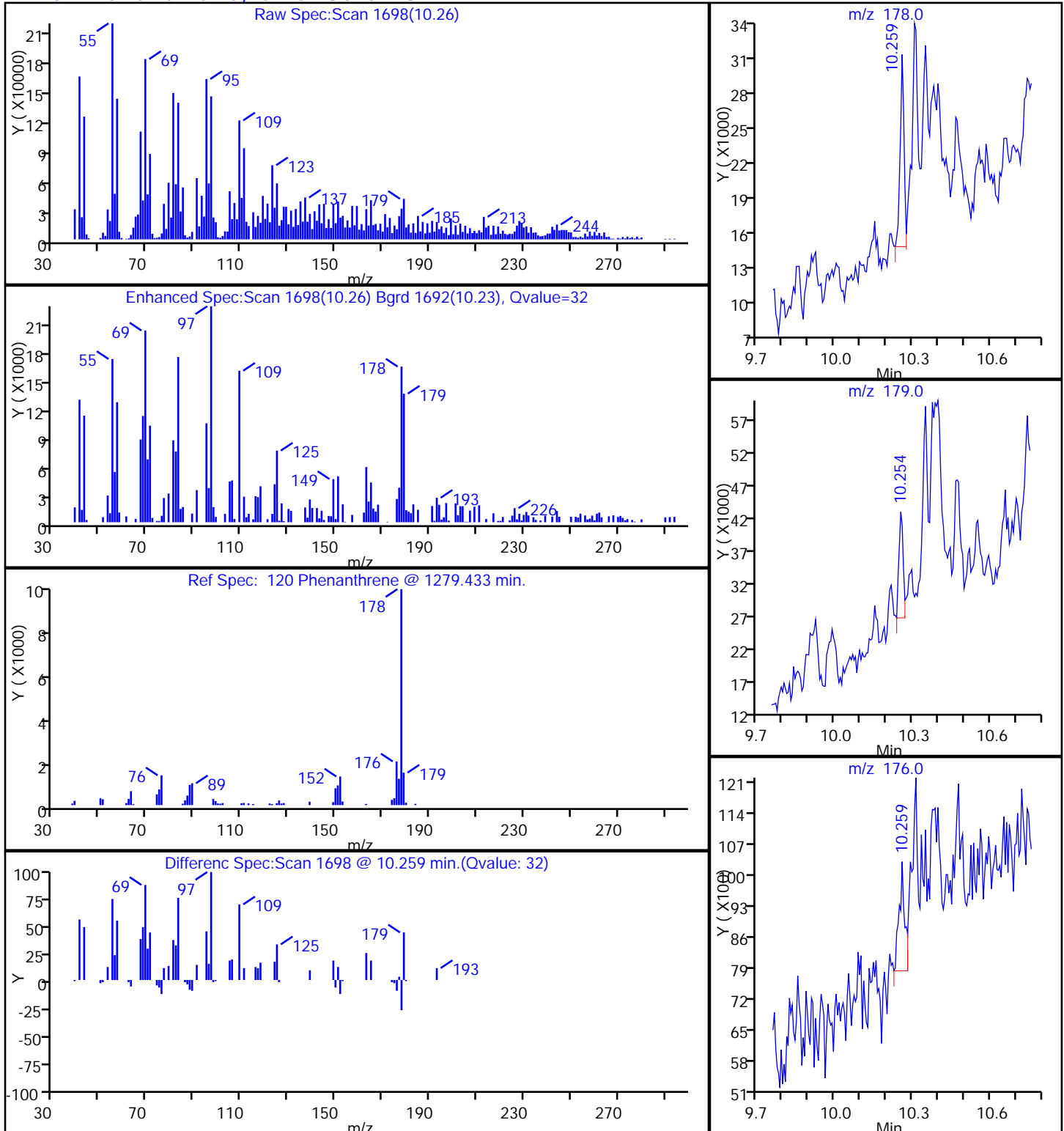
Dil. Factor: 5.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

**120 Phenanthrene, CAS: 85-01-8**

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511016.D

Injection Date: 12-May-2015 12:39:30

Instrument ID: CH722

Lims ID: 180-43411-A-2-I

Lab Sample ID: 180-43411-2

Client ID: F05-SD

Operator ID: 007062

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

Dil. Factor: 5.0000

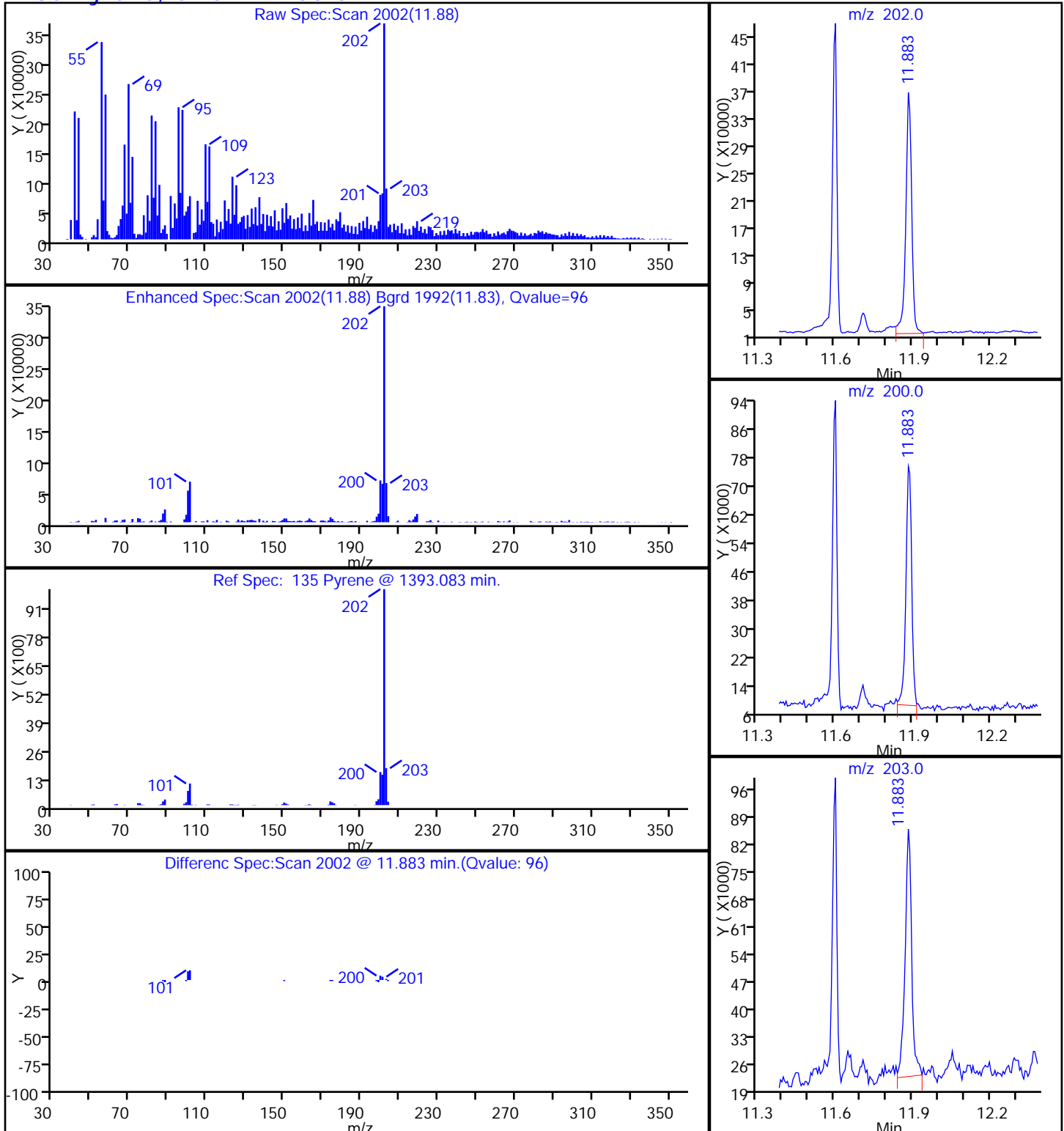
Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

## 135 Pyrene, CAS: 129-00-0



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511016.D

Injection Date: 12-May-2015 12:39:30

Instrument ID: CH722

Lims ID: 180-43411-A-2-I

Lab Sample ID: 180-43411-2

Client ID: F05-SD

Operator ID: 007062

ALS Bottle#: 19

Worklist Smp#: 19

Injection Vol: 2.0 ul

Dil. Factor: 5.0000

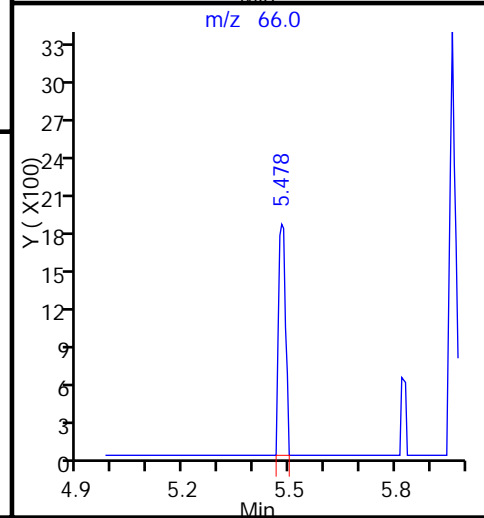
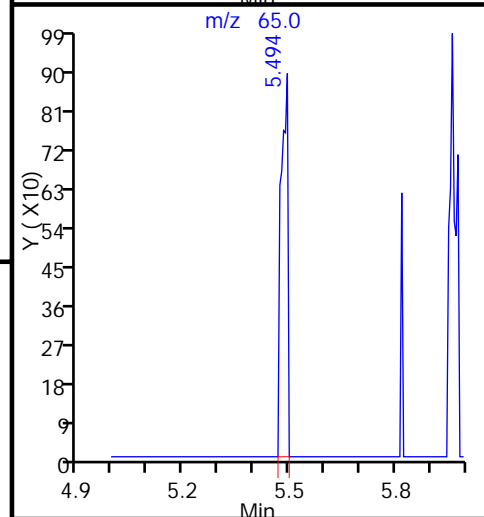
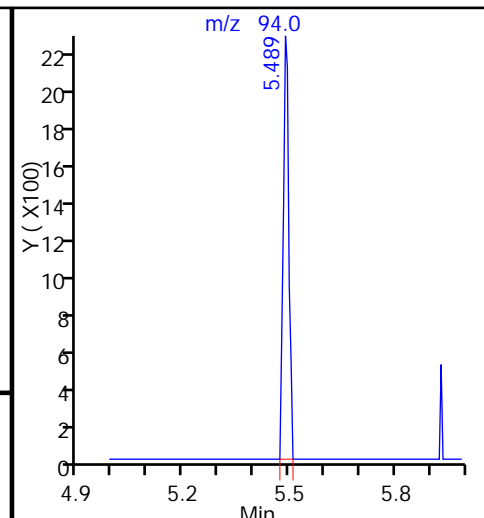
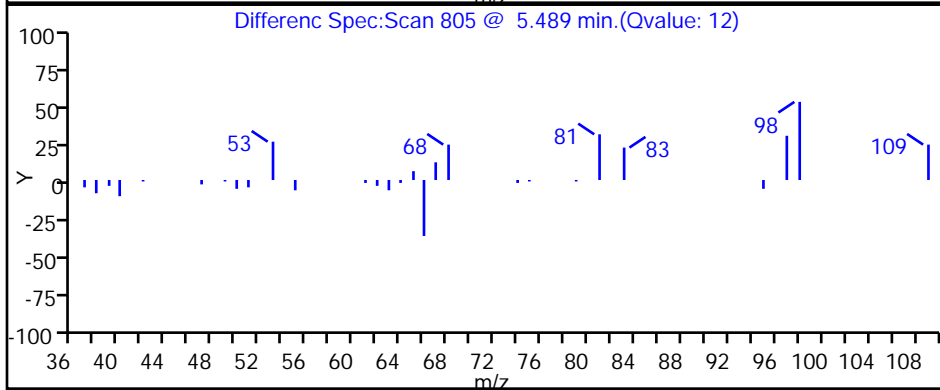
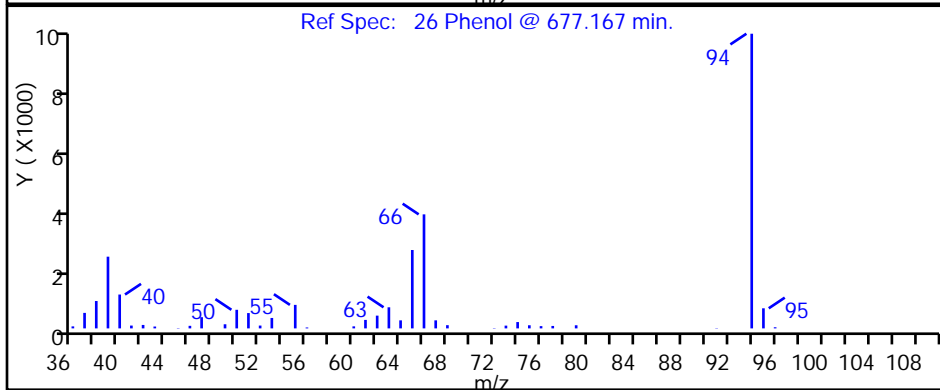
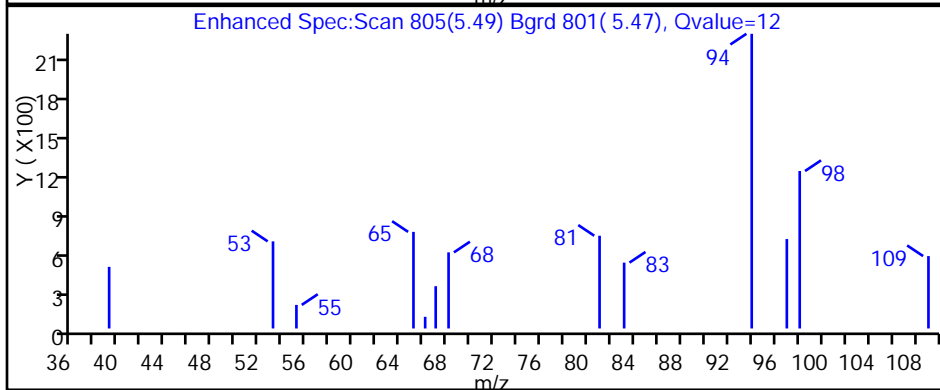
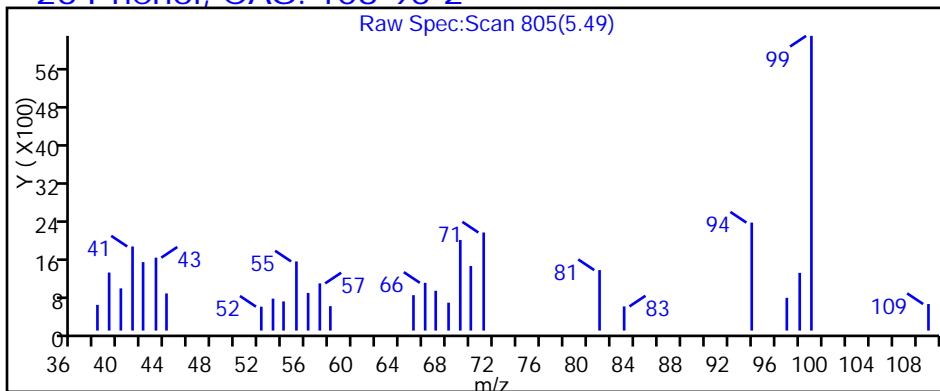
Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

## 26 Phenol, CAS: 108-95-2





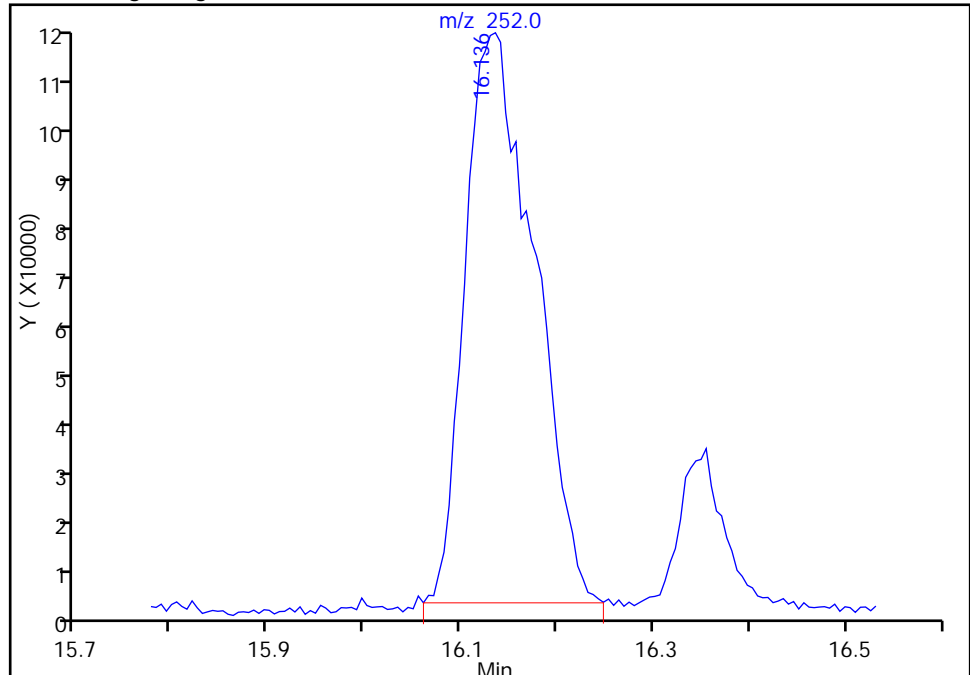
## TestAmerica Pittsburgh

|                 |   |                |                |
|-----------------|---|----------------|----------------|
| Data File:      | \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511016.D |                |                |
| Injection Date: | 12-May-2015 12:39:30                                  | Instrument ID: | CH722          |
| Lims ID:        | 180-43411-A-2-I                                       | Lab Sample ID: | 180-43411-2    |
| Client ID:      | F05-SD  |                |                |
| Operator ID:    | 007062  | ALS Bottle#:   | 19             |
| Injection Vol:  | 2.0 ul  | Dil. Factor:   | 5.0000         |
| Method:         | BNA_CH722   | Limit Group:   | BNA 8270D ICAL |
| Column:         | Rxi-5SilMS (0.32 mm)                                  | Detector:      | MS SCAN        |
|                 |   | Worklist Smp#: | 19             |

## 154 Benzo[b]fluoranthene, CAS: 205-99-2

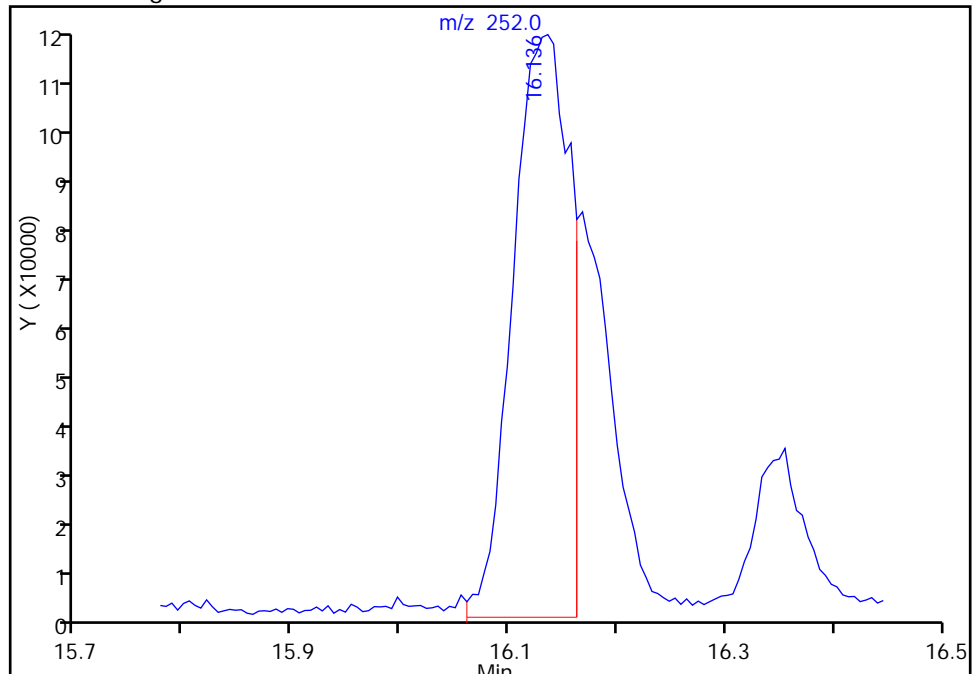
RT: 16.14  
Area: 507915  
Amount: 8.243997  
Amount Units: ng

## Processing Integration Results



RT: 16.14  
Area: 386066  
Amount: 6.266259  
Amount Units: ng

## Manual Integration Results



Reviewer: bachas, 12-May-2015 14:18:19  
Audit Action: Manually Integrated  
Audit Reason: Baseline

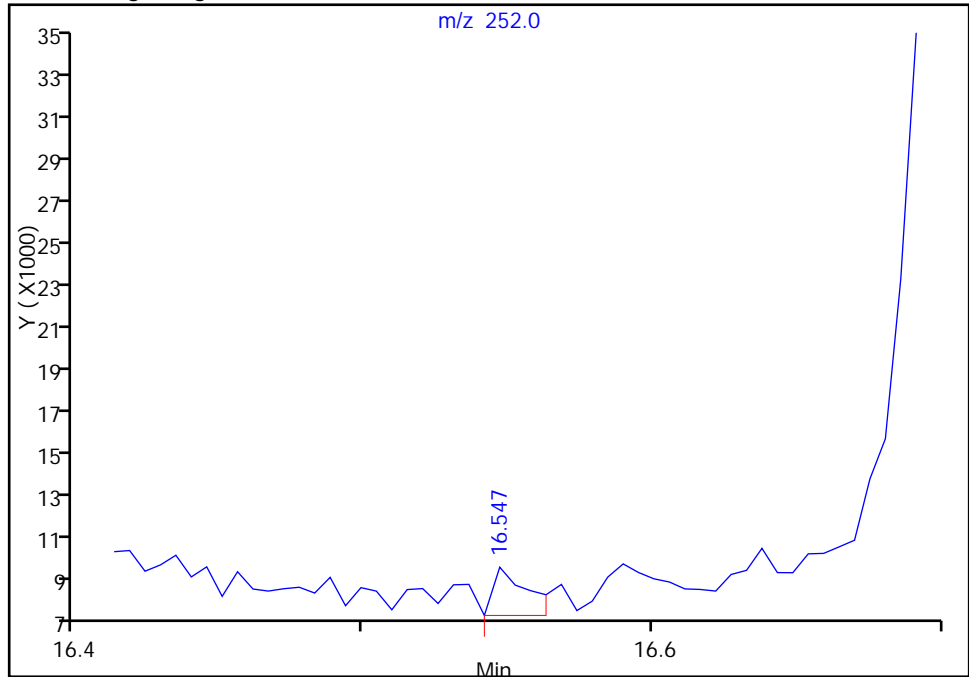
## TestAmerica Pittsburgh

|                 |   |                |                |
|-----------------|---|----------------|----------------|
| Data File:      | \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511016.D |                |                |
| Injection Date: | 12-May-2015 12:39:30                                  | Instrument ID: | CH722          |
| Lims ID:        | 180-43411-A-2-I                                       | Lab Sample ID: | 180-43411-2    |
| Client ID:      | F05-SD  |                |                |
| Operator ID:    | 007062  | ALS Bottle#:   | 19             |
| Injection Vol:  | 2.0 ul  | Dil. Factor:   | 5.0000         |
| Method:         | BNA_CH722   | Limit Group:   | BNA 8270D ICAL |
| Column:         | Rxi-5SilMS (0.32 mm)                                  | Detector:      | MS SCAN        |
|                 |   | Worklist Smp#: | 19             |

## 155 Benzo[k]fluoranthene, CAS: 207-08-9

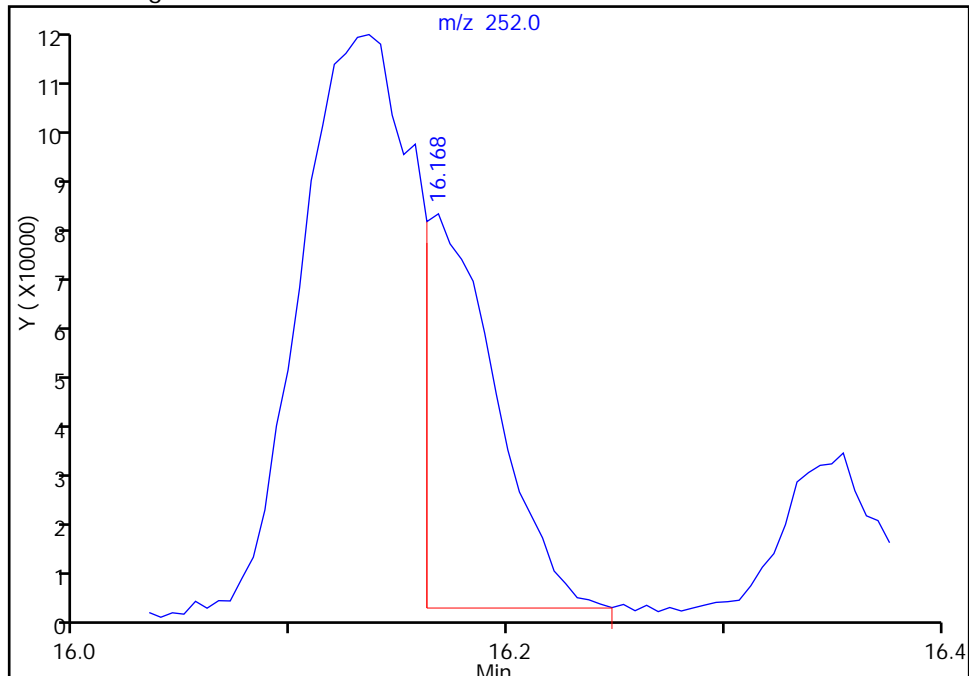
RT: 16.55  
Area: 1788  
Amount: 0.029621  
Amount Units: ng

## Processing Integration Results



RT: 16.17  
Area: 161605  
Amount: 2.677196  
Amount Units: ng

## Manual Integration Results



Reviewer: bachas, 12-May-2015 14:18:19  
Audit Action: Manually Integrated  
Audit Reason: Baseline

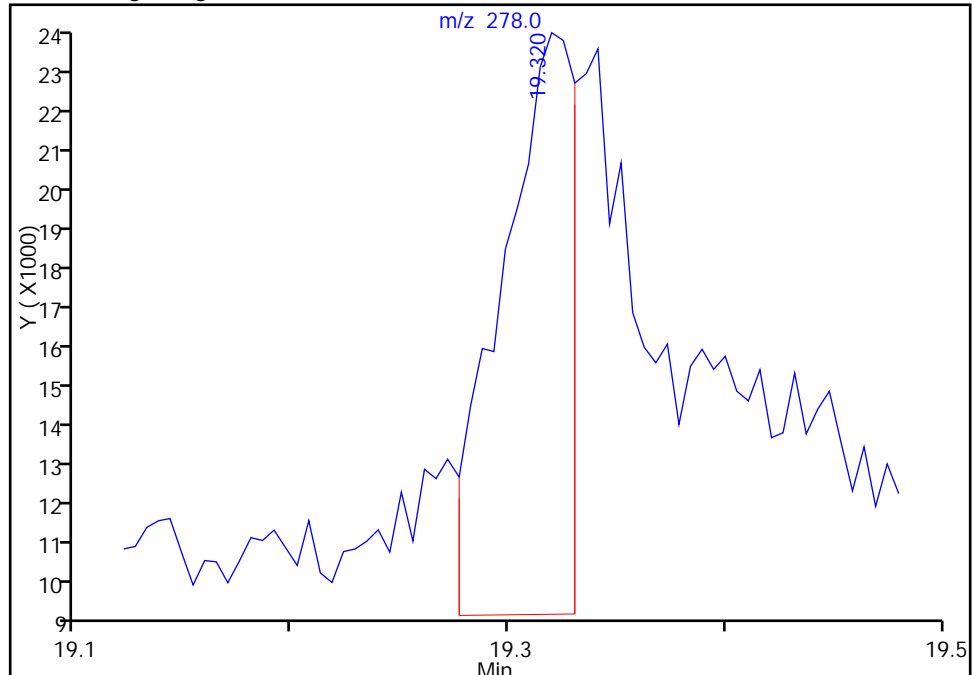
## TestAmerica Pittsburgh

|                 |   |                |                |
|-----------------|---|----------------|----------------|
| Data File:      | \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511016.D |                |                |
| Injection Date: | 12-May-2015 12:39:30                                  | Instrument ID: | CH722          |
| Lims ID:        | 180-43411-A-2-I                                       | Lab Sample ID: | 180-43411-2    |
| Client ID:      | F05-SD  |                |                |
| Operator ID:    | 007062  | ALS Bottle#:   | 19             |
| Injection Vol:  | 2.0 ul  | Dil. Factor:   | 5.0000         |
| Method:         | BNA_CH722   | Limit Group:   | BNA 8270D ICAL |
| Column:         | Rxi-5SilMS (0.32 mm)                                  | Detector:      | MS SCAN        |
|                 |   | Worklist Smp#: | 19             |

**161 Dibenz(a,h)anthracene, CAS: 53-70-3**

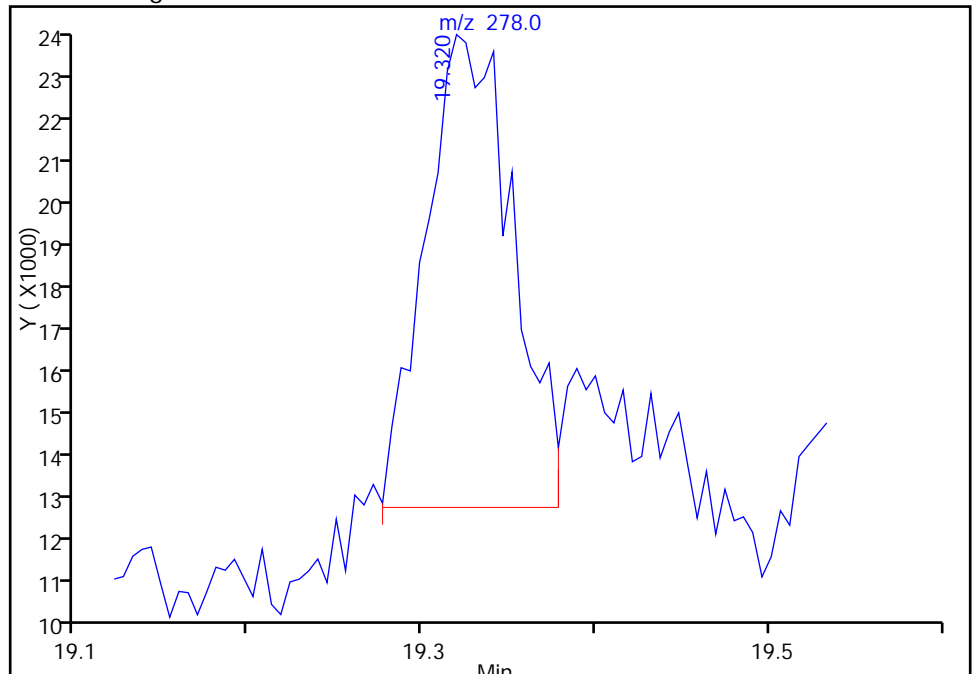
RT: 19.32  
Area: 34671  
Amount: 0.687224  
Amount Units: ng

## Processing Integration Results



RT: 19.32  
Area: 39128  
Amount: 0.775567  
Amount Units: ng

## Manual Integration Results



Reviewer: bachas, 12-May-2015 14:18:19  
Audit Action: Manually Integrated  
Audit Reason: Baseline

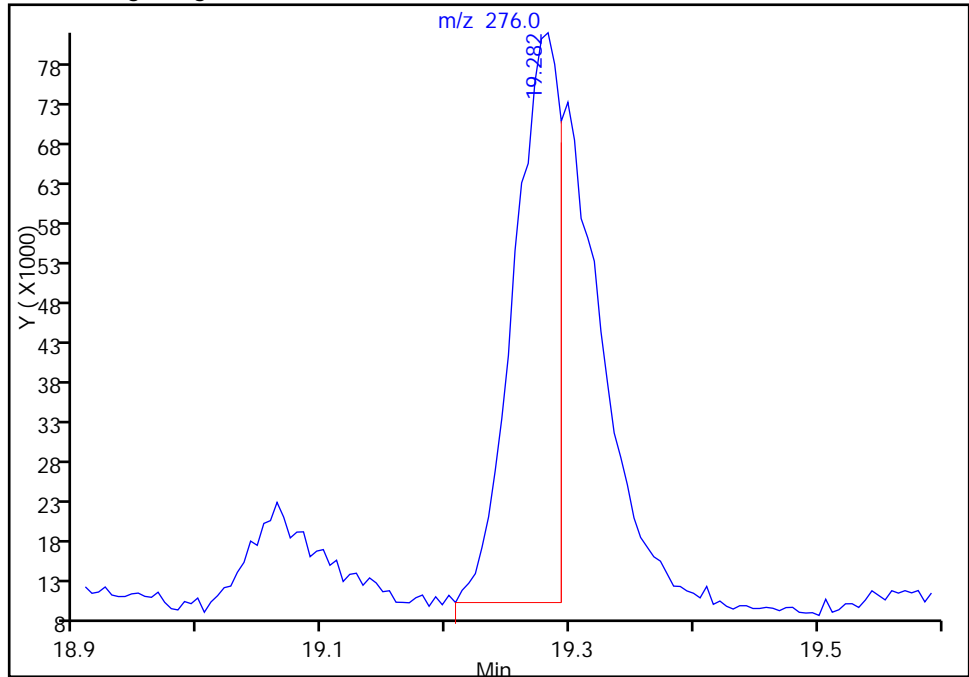
## TestAmerica Pittsburgh

|                 |   |                |                |
|-----------------|---|----------------|----------------|
| Data File:      | \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511016.D |                |                |
| Injection Date: | 12-May-2015 12:39:30                                  | Instrument ID: | CH722          |
| Lims ID:        | 180-43411-A-2-I                                       | Lab Sample ID: | 180-43411-2    |
| Client ID:      | F05-SD  |                |                |
| Operator ID:    | 007062  | ALS Bottle#:   | 19             |
| Injection Vol:  | 2.0 ul  | Dil. Factor:   | 5.0000         |
| Method:         | BNA_CH722   | Limit Group:   | BNA 8270D ICAL |
| Column:         | Rxi-5SilMS (0.32 mm)                                  | Detector:      | MS SCAN        |
|                 |   | Worklist Smp#: | 19             |

## 162 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

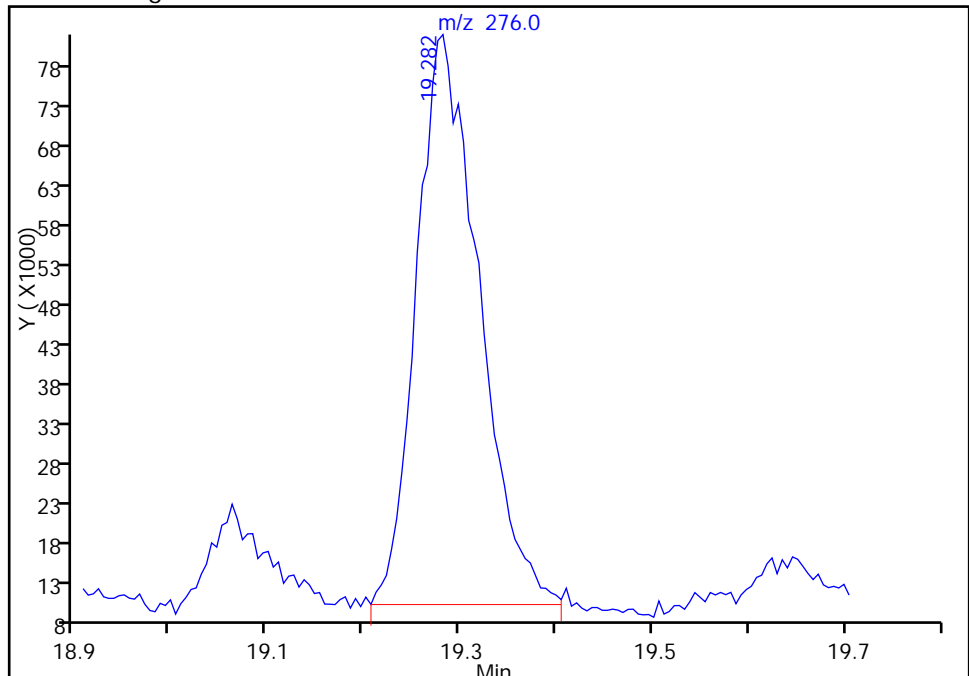
## Processing Integration Results

RT: 19.28  
Area: 186786  
Amount: 3.096279  
Amount Units: ng



## Manual Integration Results

RT: 19.28  
Area: 321926  
Amount: 5.336442  
Amount Units: ng



Reviewer: bachas, 12-May-2015 14:18:19  
Audit Action: Manually Integrated  
Audit Reason: Baseline

FORM VI  
GC/MS SEMI VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 136451

SDG No.: \_\_\_\_\_

Instrument ID: CH722 GC Column: Rxi-5SilMS ID: 0.32 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/24/2015 23:35 Calibration End Date: 03/25/2015 02:57 Calibration ID: 22787

Calibration Files:

|         |                   |              |
|---------|-------------------|--------------|
| LEVEL:  | LAB SAMPLE ID:    | LAB FILE ID: |
| Level 1 | IC 180-136451/2   | F03240C1.D   |
| Level 2 | IC 180-136451/3   | F03240C2.D   |
| Level 3 | IC 180-136451/4   | F03240C3.D   |
| Level 4 | ICIS 180-136451/5 | F03240C4.D   |
| Level 5 | IC 180-136451/6   | F03240C5.D   |
| Level 6 | IC 180-136451/7   | F03240C6.D   |
| Level 7 | IC 180-136451/8   | F03240C7.D   |
| Level 8 | IC 180-136451/9   | F03240C8.D   |

| ANALYTE                 | RRF              |                  |                  |        |        | CURVE TYPE | COEFFICIENT |        |    | # | MIN RRF | %RSD | # | MAX %RSD | R^2 OR COD | # | MIN R^2 OR COD |
|-------------------------|------------------|------------------|------------------|--------|--------|------------|-------------|--------|----|---|---------|------|---|----------|------------|---|----------------|
|                         | LVL 1            | LVL 2            | LVL 3            | LVL 4  | LVL 5  |            | B           | M1     | M2 |   |         |      |   |          |            |   |                |
|                         | LVL 6            | LVL 7            | LVL 8            |        |        |            |             |        |    |   |         |      |   |          |            |   |                |
| 1,4-Dioxane             | 0.4842<br>0.4142 | 0.4329<br>0.4107 | 0.4197<br>0.4134 | 0.3790 | 0.4343 | Ave        |             | 0.4235 |    |   | 0.0100  | 7.0  |   | 20.0     |            |   |                |
| N-Nitrosodimethylamine  | 0.3938<br>0.6106 | 0.5418<br>0.6093 | 0.5485<br>0.6104 | 0.5590 | 0.6161 | Ave        |             | 0.5612 |    |   | 0.0100  | 13.3 |   | 20.0     |            |   |                |
| Pyridine                | ++++<br>1.0634   | 0.8537<br>1.0496 | 0.9863<br>0.9828 | 0.9370 | 1.1073 | Ave        |             | 0.9971 |    |   | 0.0100  | 8.6  |   | 20.0     |            |   |                |
| Methyl methanesulfonate | 0.4836<br>0.5604 | 0.5447<br>0.5375 | 0.5530<br>0.5374 | 0.5446 | 0.5858 | Ave        |             | 0.5434 |    |   | 0.0100  | 5.3  |   | 20.0     |            |   |                |
| Benzaldehyde            | 0.5832<br>0.8798 | 0.6154<br>0.7973 | 0.6451<br>0.7446 | 0.8497 | 0.9194 | Ave        |             | 0.7543 |    |   | 0.0100  | 17.0 |   | 20.0     |            |   |                |
| Phenol                  | 1.5216<br>1.6375 | 1.6353<br>1.5481 | 1.6437<br>1.5024 | 1.6080 | 1.7127 | Ave        |             | 1.6012 |    |   | 0.8000  | 4.5  |   | 20.0     |            |   |                |
| Aniline                 | 1.6884<br>1.8970 | 1.8028<br>1.8211 | 1.8491<br>1.4659 | 1.8314 | 2.0281 | Ave        |             | 1.7980 |    |   | 0.0100  | 9.1  |   | 20.0     |            |   |                |
| Bis(2-chloroethyl)ether | 1.1607<br>1.1880 | 1.2005<br>1.1524 | 1.1869<br>1.1358 | 1.1380 | 1.2227 | Ave        |             | 1.1731 |    |   | 0.7000  | 2.7  |   | 20.0     |            |   |                |
| 2-Chlorophenol          | 1.2835<br>1.3764 | 1.3095<br>1.3454 | 1.3682<br>1.3202 | 1.3206 | 1.4367 | Ave        |             | 1.3451 |    |   | 0.8000  | 3.6  |   | 20.0     |            |   |                |
| n-Decane                | 1.0334<br>1.0682 | 1.1081<br>1.0580 | 1.1180<br>1.0264 | 1.0615 | 1.1222 | Ave        |             | 1.0745 |    |   |         | 3.5  |   | 20.0     |            |   |                |
| 1,3-Dichlorobenzene     | 1.6572<br>1.5610 | 1.5788<br>1.5306 | 1.6241<br>1.4934 | 1.5348 | 1.6063 | Ave        |             | 1.5733 |    |   | 0.0100  | 3.4  |   | 20.0     |            |   |                |
| 1,4-Dichlorobenzene     | 1.6051<br>1.6000 | 1.6073<br>1.5217 | 1.6362<br>1.5044 | 1.5489 | 1.6428 | Ave        |             | 1.5833 |    |   | 0.0100  | 3.3  |   | 20.0     |            |   |                |
| Benzyl alcohol          | 0.6962<br>0.8288 | 0.7362<br>0.8082 | 0.7476<br>0.8103 | 0.7629 | 0.8511 | Ave        |             | 0.7802 |    |   | 0.0100  | 6.8  |   | 20.0     |            |   |                |
| 1,2-Dichlorobenzene     | 1.5044<br>1.5134 | 1.5064<br>1.4620 | 1.5628<br>1.4413 | 1.4560 | 1.5750 | Ave        |             | 1.5027 |    |   | 0.0100  | 3.2  |   | 20.0     |            |   |                |

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
GC/MS SEMI VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 136451  
SDG No.: \_\_\_\_\_  
Instrument ID: CH722 GC Column: Rxi-5SilMS ID: 0.32 (mm) Heated Purge: (Y/N) N  
Calibration Start Date: 03/24/2015 23:35 Calibration End Date: 03/25/2015 02:57 Calibration ID: 22787

| ANALYTE                      | RRF              |                  |                  |        |        | CURVE<br>TYPE | COEFFICIENT |        |    | # | MIN RRF | %RSD | # | MAX<br>%RSD | R^2<br>OR COD | # | MIN R^2<br>OR COD |
|------------------------------|------------------|------------------|------------------|--------|--------|---------------|-------------|--------|----|---|---------|------|---|-------------|---------------|---|-------------------|
|                              | LVL 1<br>LVL 6   | LVL 2<br>LVL 7   | LVL 3<br>LVL 8   | LVL 4  | LVL 5  |               | B           | M1     | M2 |   |         |      |   |             |               |   |                   |
| Indene                       | 2.1660<br>2.1882 | 2.2003<br>2.1166 | 2.2342<br>2.0829 | 2.1329 | 2.3034 | Ave           |             | 2.1781 |    |   | 0.0100  | 3.2  |   | 20.0        |               |   |                   |
| 2-Methylphenol               | 1.0336<br>1.1787 | 1.1579<br>1.1184 | 1.1726<br>1.1059 | 1.1479 | 1.2316 | Ave           |             | 1.1433 |    |   | 0.7000  | 5.1  |   | 20.0        |               |   |                   |
| 2,2'-oxybis[1-chloropropane] | 1.3058<br>1.4173 | 1.5127<br>1.3534 | 1.4804<br>1.3238 | 1.3785 | 1.4787 | Ave           |             | 1.4063 |    |   | 0.0100  | 5.6  |   | 20.0        |               |   |                   |
| N-Nitrosopyrrolidine         | 0.3935<br>0.5674 | 0.4560<br>0.5549 | 0.5023<br>0.5614 | 0.4896 | 0.5670 | Ave           |             | 0.5115 |    |   | 0.0100  | 12.4 |   | 20.0        |               |   |                   |
| Acetophenone                 | 1.8195<br>1.7742 | 1.8081<br>1.6792 | 1.7873<br>1.6675 | 1.7332 | 1.8828 | Ave           |             | 1.7690 |    |   | 0.0100  | 4.1  |   | 20.0        |               |   |                   |
| N-Nitrosodi-n-propylamine    | 0.8076<br>0.9035 | 0.9286<br>0.8597 | 0.9149<br>0.8357 | 0.8744 | 0.9386 | Ave           |             | 0.8829 |    |   | 0.5000  | 5.3  |   | 20.0        |               |   |                   |
| Methylphenol, 3 & 4          | 1.0703<br>1.2445 | 1.2202<br>1.1815 | 1.2555<br>1.1384 | 1.2271 | 1.3175 | Ave           |             | 1.2069 |    |   | 0.6000  | 6.3  |   | 20.0        |               |   |                   |
| Hexachloroethane             | 0.4954<br>0.5888 | 0.5432<br>0.5773 | 0.5926<br>0.5737 | 0.5585 | 0.6141 | Ave           |             | 0.5680 |    |   | 0.3000  | 6.4  |   | 20.0        |               |   |                   |
| Nitrobenzene                 | 0.2745<br>0.3190 | 0.3310<br>0.3207 | 0.3288<br>0.3170 | 0.3094 | 0.3268 | Ave           |             | 0.3159 |    |   | 0.2000  | 5.7  |   | 20.0        |               |   |                   |
| Isophorone                   | 0.4897<br>0.5770 | 0.5484<br>0.5689 | 0.5569<br>0.5582 | 0.5490 | 0.5776 | Ave           |             | 0.5532 |    |   | 0.4000  | 5.1  |   | 20.0        |               |   |                   |
| 2-Nitrophenol                | 0.1339<br>0.1991 | 0.1648<br>0.1952 | 0.1742<br>0.1940 | 0.1802 | 0.1956 | Ave           |             | 0.1796 |    |   | 0.1000  | 12.3 |   | 20.0        |               |   |                   |
| 2,4-Dimethylphenol           | 0.2957<br>0.3247 | 0.3235<br>0.3165 | 0.3323<br>0.2740 | 0.3068 | 0.3275 | Ave           |             | 0.3126 |    |   | 0.2000  | 6.3  |   | 20.0        |               |   |                   |
| Benzoic acid                 | +++++<br>0.1793  | +++++<br>0.1846  | +++++<br>0.1932  | 0.0933 | 0.1541 | Lin2          | -1.118      | 0.2066 |    |   | 0.0100  |      |   |             | 1.0000        |   | 0.9900            |
| Bis(2-chloroethoxy)methane   | 0.3269<br>0.3710 | 0.3629<br>0.3685 | 0.3773<br>0.3567 | 0.3502 | 0.3716 | Ave           |             | 0.3606 |    |   | 0.3000  | 4.5  |   | 20.0        |               |   |                   |
| 2,4-Dichlorophenol           | 0.2416<br>0.2901 | 0.2715<br>0.2853 | 0.2882<br>0.2791 | 0.2735 | 0.2892 | Ave           |             | 0.2773 |    |   | 0.2000  | 5.8  |   | 20.0        |               |   |                   |
| 1,2,4-Trichlorobenzene       | 0.3295<br>0.3301 | 0.3412<br>0.3259 | 0.3466<br>0.3159 | 0.3209 | 0.3310 | Ave           |             | 0.3301 |    |   | 0.0100  | 3.0  |   | 20.0        |               |   |                   |
| Naphthalene                  | 1.0386<br>1.0201 | 1.0852<br>0.9986 | 1.0678<br>0.9743 | 1.0041 | 1.0366 | Ave           |             | 1.0282 |    |   | 0.7000  | 3.6  |   | 20.0        |               |   |                   |
| 4-Chloroaniline              | 0.3344<br>0.4318 | 0.3901<br>0.4175 | 0.4023<br>0.3739 | 0.4031 | 0.4307 | Ave           |             | 0.3980 |    |   | 0.0100  | 8.1  |   | 20.0        |               |   |                   |
| 2,6-Dichlorophenol           | 0.2481<br>0.2858 | 0.2763<br>0.2721 | 0.2809<br>0.2676 | 0.2719 | 0.2862 | Ave           |             | 0.2736 |    |   | 0.0100  | 4.5  |   | 20.0        |               |   |                   |
| Hexachlorobutadiene          | 0.1852<br>0.1830 | 0.1892<br>0.1849 | 0.1896<br>0.1792 | 0.1773 | 0.1861 | Ave           |             | 0.1843 |    |   | 0.0100  | 2.4  |   | 20.0        |               |   |                   |

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
GC/MS SEMI VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 136451

SDG No.: \_\_\_\_\_

Instrument ID: CH722 GC Column: Rxi-5SilMS ID: 0.32 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/24/2015 23:35 Calibration End Date: 03/25/2015 02:57 Calibration ID: 22787

| ANALYTE                    | RRF              |                  |                  |        |        | CURVE<br>TYPE | COEFFICIENT |        |    | # | MIN RRF | %RSD | # | MAX<br>%RSD | R^2<br>OR COD | # | MIN R^2<br>OR COD |
|----------------------------|------------------|------------------|------------------|--------|--------|---------------|-------------|--------|----|---|---------|------|---|-------------|---------------|---|-------------------|
|                            | LVL 1<br>LVL 6   | LVL 2<br>LVL 7   | LVL 3<br>LVL 8   | LVL 4  | LVL 5  |               | B           | M1     | M2 |   |         |      |   |             |               |   |                   |
| Caprolactam                | ++++<br>0.0998   | ++++<br>0.0990   | 0.0767<br>0.0963 | 0.0884 | 0.0969 | Ave           |             | 0.0928 |    |   | 0.0100  | 9.6  |   | 20.0        |               |   |                   |
| 4-Chloro-3-methylphenol    | 0.2140<br>0.3000 | 0.2583<br>0.2917 | 0.2698<br>0.2881 | 0.2740 | 0.2914 | Ave           |             | 0.2734 |    |   | 0.2000  | 10.1 |   | 20.0        |               |   |                   |
| 2-Methylnaphthalene        | 0.6850<br>0.7337 | 0.7397<br>0.7188 | 0.7293<br>0.6905 | 0.7061 | 0.7406 | Ave           |             | 0.7180 |    |   | 0.4000  | 3.0  |   | 20.0        |               |   |                   |
| 1-Methylnaphthalene        | 0.6436<br>0.6748 | 0.6698<br>0.6691 | 0.6911<br>0.6428 | 0.6456 | 0.6927 | Ave           |             | 0.6662 |    |   | 0.0100  | 3.1  |   | 20.0        |               |   |                   |
| Hexachlorocyclopentadiene  | 0.3118<br>0.3980 | 0.3297<br>0.3988 | 0.3509<br>++++   | 0.3466 | 0.3905 | Ave           |             | 0.3609 |    |   | 0.0500  | 9.7  |   | 20.0        |               |   |                   |
| 1,2,4,5-Tetrachlorobenzene | 0.6460<br>0.5538 | 0.5999<br>0.5509 | 0.6091<br>0.5313 | 0.5564 | 0.5812 | Ave           |             | 0.5786 |    |   | 0.0100  | 6.5  |   | 20.0        |               |   |                   |
| 2,4,6-Trichlorophenol      | 0.2485<br>0.3742 | 0.3368<br>0.3777 | 0.3611<br>0.3585 | 0.3532 | 0.3719 | Ave           |             | 0.3477 |    |   | 0.2000  | 12.1 |   | 20.0        |               |   |                   |
| 2,4,5-Trichlorophenol      | 0.2625<br>0.3831 | 0.3336<br>0.3901 | 0.3606<br>0.3715 | 0.3681 | 0.4023 | Ave           |             | 0.3590 |    |   | 0.2000  | 12.3 |   | 20.0        |               |   |                   |
| 1,1'-Biphenyl              | 1.4558<br>1.4580 | 1.5118<br>1.4590 | 1.5320<br>1.4167 | 1.4246 | 1.5044 | Ave           |             | 1.4703 |    |   | 0.0100  | 2.8  |   | 20.0        |               |   |                   |
| 2-Chloronaphthalene        | 1.2237<br>1.2593 | 1.2188<br>1.1901 | 1.3106<br>1.2068 | 1.2123 | 1.2697 | Ave           |             | 1.2364 |    |   | 0.8000  | 3.2  |   | 20.0        |               |   |                   |
| 2-Nitroaniline             | ++++<br>0.3187   | 0.2474<br>0.3263 | 0.2837<br>0.3131 | 0.2883 | 0.3111 | Ave           |             | 0.2984 |    |   | 0.0100  | 9.2  |   | 20.0        |               |   |                   |
| Dimethyl phthalate         | 1.1352<br>1.2340 | 1.2247<br>1.2382 | 1.2890<br>1.1671 | 1.2394 | 1.2968 | Ave           |             | 1.2280 |    |   | 0.0100  | 4.5  |   | 20.0        |               |   |                   |
| 1,3-Dinitrobenzene         | ++++<br>0.2132   | 0.1654<br>0.2172 | 0.1806<br>0.2109 | 0.1957 | 0.2089 | Ave           |             | 0.1988 |    |   | 0.0100  | 9.7  |   | 20.0        |               |   |                   |
| 2,6-Dinitrotoluene         | 0.1863<br>0.2981 | 0.2816<br>0.3048 | 0.2829<br>0.2899 | 0.2894 | 0.3099 | Ave           |             | 0.2804 |    |   | 0.2000  | 14.0 |   | 20.0        |               |   |                   |
| Acenaphthylene             | 1.7100<br>1.8540 | 1.7795<br>1.8590 | 1.8677<br>1.7234 | 1.7800 | 1.8864 | Ave           |             | 1.8075 |    |   | 0.9000  | 3.8  |   | 20.0        |               |   |                   |
| 3-Nitroaniline             | ++++<br>0.3094   | 0.2427<br>0.3160 | 0.2668<br>0.2994 | 0.2817 | 0.2998 | Ave           |             | 0.2880 |    |   | 0.0100  | 9.0  |   | 20.0        |               |   |                   |
| Acenaphthene               | 1.2705<br>1.2276 | 1.1970<br>1.2004 | 1.2704<br>1.1561 | 1.2002 | 1.2676 | Ave           |             | 1.2237 |    |   | 0.9000  | 3.5  |   | 20.0        |               |   |                   |
| 2,4-Dinitrophenol          | ++++<br>0.1743   | ++++<br>0.1912   | ++++<br>0.1875   | 0.1145 | 0.1516 | Ave           |             | 0.1638 |    |   | 0.0100  | 19.3 |   | 20.0        |               |   |                   |
| 4-Nitrophenol              | ++++<br>0.1258   | 0.0677<br>0.1327 | 0.0885<br>0.1290 | 0.1006 | 0.1218 | Lin2          | -0.259      | 0.1271 |    |   | 0.0100  |      |   |             | 0.9950        |   | 0.9900            |
| 2,4-Dinitrotoluene         | 0.2012<br>0.3931 | 0.3158<br>0.3847 | 0.3481<br>0.3705 | 0.3711 | 0.4037 | Ave           |             | 0.3485 |    |   | 0.2000  | 18.8 |   | 20.0        |               |   |                   |

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
GC/MS SEMI VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 136451  
SDG No.: \_\_\_\_\_  
Instrument ID: CH722 GC Column: Rxi-5SilMS ID: 0.32 (mm) Heated Purge: (Y/N) N  
Calibration Start Date: 03/24/2015 23:35 Calibration End Date: 03/25/2015 02:57 Calibration ID: 22787

| ANALYTE                              | RRF              |                  |                  |        |        | CURVE<br>TYPE | COEFFICIENT |        |    | # | MIN RRF | %RSD | # | MAX<br>%RSD | R^2<br>OR COD | # | MIN R^2<br>OR COD |
|--------------------------------------|------------------|------------------|------------------|--------|--------|---------------|-------------|--------|----|---|---------|------|---|-------------|---------------|---|-------------------|
|                                      | LVL 1<br>LVL 6   | LVL 2<br>LVL 7   | LVL 3<br>LVL 8   | LVL 4  | LVL 5  |               | B           | M1     | M2 |   |         |      |   |             |               |   |                   |
| Dibenzofuran                         | 1.6227<br>1.5843 | 1.5844<br>1.6055 | 1.5899<br>1.5267 | 1.5697 | 1.6574 | Ave           |             | 1.5926 |    |   | 0.8000  | 2.4  |   | 20.0        |               |   |                   |
| 2,3,5,6-Tetrachlorophenol            | ++++<br>0.3378   | 0.2557<br>0.3387 | 0.2860<br>0.3258 | 0.3074 | 0.3332 | Ave           |             | 0.3121 |    |   | 0.0100  | 10.0 |   | 20.0        |               |   |                   |
| 2,3,4,6-Tetrachlorophenol            | 0.2043<br>0.3173 | 0.2587<br>0.3200 | 0.3024<br>0.3105 | 0.2943 | 0.3267 | Ave           |             | 0.2918 |    |   | 0.0100  | 14.1 |   | 20.0        |               |   |                   |
| 2-Naphthylamine                      | 0.7143<br>1.0132 | 0.8670<br>0.9694 | 0.9761<br>++++   | 1.0202 | 1.0923 | Ave           |             | 0.9504 |    |   | 0.0100  | 13.1 |   | 20.0        |               |   |                   |
| Diethyl phthalate                    | 1.1144<br>1.2012 | 1.2089<br>1.2253 | 1.2706<br>1.1526 | 1.2537 | 1.2849 | Ave           |             | 1.2140 |    |   | 0.0100  | 4.8  |   | 20.0        |               |   |                   |
| Hexadecane                           | ++++<br>0.4780   | 0.4679<br>0.4590 | 0.4487<br>0.4555 | 0.4486 | 0.4712 | Ave           |             | 0.4613 |    |   |         | 2.5  |   | 20.0        |               |   |                   |
| 4-Chlorophenyl phenyl ether          | 0.5752<br>0.6507 | 0.6302<br>0.6585 | 0.6227<br>0.6297 | 0.6247 | 0.6487 | Ave           |             | 0.6301 |    |   | 0.4000  | 4.1  |   | 20.0        |               |   |                   |
| Fluorene                             | 1.1986<br>1.2605 | 1.2384<br>1.2795 | 1.2729<br>1.2149 | 1.2785 | 1.3467 | Ave           |             | 1.2612 |    |   | 0.9000  | 3.6  |   | 20.0        |               |   |                   |
| 4-Nitroaniline                       | ++++<br>0.2782   | 0.1999<br>0.3003 | 0.2449<br>0.2730 | 0.2531 | 0.2834 | Ave           |             | 0.2618 |    |   | 0.0100  | 12.6 |   | 20.0        |               |   |                   |
| 4,6-Dinitro-2-methylphenol           | ++++<br>0.1502   | ++++<br>0.1515   | 0.1012<br>0.1515 | 0.1259 | 0.1428 | Ave           |             | 0.1372 |    |   | 0.0100  | 14.7 |   | 20.0        |               |   |                   |
| N-Nitrosodiphenylamine               | 0.5527<br>0.6066 | 0.6155<br>0.5917 | 0.6159<br>0.5994 | 0.5909 | 0.6085 | Ave           |             | 0.5976 |    |   | 0.0100  | 3.4  |   | 20.0        |               |   |                   |
| 1,2-Diphenylhydrazine(as Azobenzene) | 0.6367<br>0.7531 | 0.7181<br>0.7326 | 0.7279<br>0.7468 | 0.7203 | 0.7270 | Ave           |             | 0.7203 |    |   | 0.0100  | 5.0  |   | 20.0        |               |   |                   |
| 4-Bromophenyl phenyl ether           | 0.1921<br>0.2306 | 0.2166<br>0.2249 | 0.2232<br>0.2318 | 0.2140 | 0.2295 | Ave           |             | 0.2204 |    |   | 0.1000  | 5.9  |   | 20.0        |               |   |                   |
| Hexachlorobenzene                    | 0.2611<br>0.2532 | 0.2600<br>0.2490 | 0.2713<br>0.2506 | 0.2460 | 0.2433 | Ave           |             | 0.2543 |    |   | 0.1000  | 3.6  |   | 20.0        |               |   |                   |
| Atrazine                             | 0.1330<br>0.1724 | 0.1607<br>0.1675 | 0.1772<br>++++   | 0.1908 | 0.1794 | Ave           |             | 0.1687 |    |   | 0.0100  | 10.9 |   | 20.0        |               |   |                   |
| Pentachlorophenol                    | 0.2316<br>0.1737 | 0.1457<br>0.1686 | 0.1389<br>0.1704 | 0.1661 | 0.1673 | Ave           |             | 0.1703 |    |   | 0.0500  | 16.3 |   | 20.0        |               |   |                   |
| n-Octadecane                         | 1.3679<br>2.0471 | 1.6879<br>2.0046 | 1.7733<br>2.0180 | 1.8665 | 2.0288 | Ave           |             | 1.8492 |    |   |         | 12.7 |   | 20.0        |               |   |                   |
| Phenanthrene                         | 1.1517<br>1.1437 | 1.1567<br>1.0939 | 1.1738<br>1.1132 | 1.1154 | 1.1243 | Ave           |             | 1.1341 |    |   | 0.7000  | 2.4  |   | 20.0        |               |   |                   |
| Anthracene                           | 1.0206<br>1.1826 | 1.1111<br>1.1404 | 1.1804<br>1.1146 | 1.1239 | 1.1561 | Ave           |             | 1.1287 |    |   | 0.7000  | 4.6  |   | 20.0        |               |   |                   |
| Carbazole                            | 0.8183<br>0.9774 | 0.9212<br>0.9658 | 0.9831<br>0.9679 | 0.9525 | 0.9810 | Ave           |             | 0.9459 |    |   | 0.0100  | 5.8  |   | 20.0        |               |   |                   |

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.



FORM VI  
GC/MS SEMI VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 136451  
SDG No.: \_\_\_\_\_  
Instrument ID: CH722 GC Column: Rxi-5SilMS ID: 0.32 (mm) Heated Purge: (Y/N) N  
Calibration Start Date: 03/24/2015 23:35 Calibration End Date: 03/25/2015 02:57 Calibration ID: 22787

| ANALYTE                        | RRF              |                  |                  |        |        | CURVE<br>TYPE | COEFFICIENT |        |    | # | MIN RRF | %RSD | # | MAX<br>%RSD | R^2<br>OR COD | # | MIN R^2<br>OR COD |
|--------------------------------|------------------|------------------|------------------|--------|--------|---------------|-------------|--------|----|---|---------|------|---|-------------|---------------|---|-------------------|
|                                | LVL 1<br>LVL 6   | LVL 2<br>LVL 7   | LVL 3<br>LVL 8   | LVL 4  | LVL 5  |               | B           | M1     | M2 |   |         |      |   |             |               |   |                   |
| Di-n-butyl phthalate           | 1.0067<br>1.2562 | 1.1520<br>1.2613 | 1.2365<br>1.2490 | 1.2209 | 1.2723 | Ave           |             | 1.2069 |    |   | 0.0100  | 7.4  |   | 20.0        |               |   |                   |
| Fluoranthene                   | 1.0151<br>1.0900 | 1.0658<br>1.1185 | 1.1332<br>1.0937 | 1.1166 | 1.1425 | Ave           |             | 1.0969 |    |   | 0.6000  | 3.8  |   | 20.0        |               |   |                   |
| Benzidine                      | ++++<br>0.3895   | 0.1782<br>0.4017 | 0.1790<br>++++   | 0.2970 | 0.3836 | Lin1          | -0.648      | 0.4065 |    |   | 0.0100  |      |   |             | 0.9960        |   | 0.9900            |
| Pyrene                         | 1.2507<br>1.4067 | 1.4483<br>1.4071 | 1.3635<br>1.3215 | 1.3656 | 1.4463 | Ave           |             | 1.3762 |    |   | 0.6000  | 4.8  |   | 20.0        |               |   |                   |
| Butyl benzyl phthalate         | 0.4171<br>0.5933 | 0.4486<br>0.6072 | 0.4724<br>0.5670 | 0.5394 | 0.5914 | Ave           |             | 0.5295 |    |   | 0.0100  | 13.9 |   | 20.0        |               |   |                   |
| 3,3'-Dichlorobenzidine         | ++++<br>0.3886   | 0.2296<br>0.4148 | 0.2569<br>0.3853 | 0.3106 | 0.3716 | Lin2          | -0.363      | 0.3863 |    |   | 0.0100  |      |   |             | 0.9920        |   | 0.9900            |
| Benzo[a]anthracene             | 1.0056<br>1.1302 | 1.0418<br>1.1673 | 1.0967<br>1.1013 | 1.0727 | 1.1569 | Ave           |             | 1.0966 |    |   | 0.8000  | 5.1  |   | 20.0        |               |   |                   |
| Bis(2-ethylhexyl) phthalate    | ++++<br>0.7980   | 0.5798<br>0.8068 | 0.6294<br>0.7980 | 0.7500 | 0.8191 | Ave           |             | 0.7402 |    |   | 0.0100  | 13.0 |   | 20.0        |               |   |                   |
| Chrysene                       | 0.9632<br>1.0876 | 1.0820<br>1.1308 | 1.0925<br>1.0185 | 1.0710 | 1.1255 | Ave           |             | 1.0714 |    |   | 0.7000  | 5.2  |   | 20.0        |               |   |                   |
| Di-n-octyl phthalate           | ++++<br>1.5862   | 0.8127<br>1.6356 | 0.9902<br>1.5957 | 1.2774 | 1.4679 | Lin2          | -1.708      | 1.5707 |    |   | 0.0100  |      |   |             | 0.9940        |   | 0.9900            |
| 7,12-Dimethylbenz(a)anthracene | ++++<br>0.6349   | 0.4612<br>0.6400 | 0.5313<br>0.6269 | 0.5321 | 0.6201 | Ave           |             | 0.5781 |    |   | 0.0100  | 12.1 |   | 20.0        |               |   |                   |
| Benzo[b]fluoranthene           | 1.1018<br>1.3635 | 1.1927<br>1.3232 | 1.3316<br>1.2965 | 1.2986 | 1.3337 | Ave           |             | 1.2802 |    |   | 0.7000  | 6.9  |   | 20.0        |               |   |                   |
| Benzo[k]fluoranthene           | 1.0699<br>1.3200 | 1.1944<br>1.3095 | 1.2761<br>1.2975 | 1.2460 | 1.3208 | Ave           |             | 1.2543 |    |   | 0.7000  | 6.9  |   | 20.0        |               |   |                   |
| Benzo[e]pyrene                 | 0.9000<br>1.2187 | 1.0700<br>1.2377 | 1.1895<br>1.1814 | 1.1498 | 1.2019 | Ave           |             | 1.1436 |    |   | 0.0100  | 9.7  |   | 20.0        |               |   |                   |
| Benzo[a]pyrene                 | 0.9404<br>1.2032 | 0.9803<br>1.2205 | 1.1253<br>1.1542 | 1.1210 | 1.1879 | Ave           |             | 1.1166 |    |   | 0.7000  | 9.2  |   | 20.0        |               |   |                   |
| Indeno[1,2,3-cd]pyrene         | 1.1239<br>1.3285 | 1.1761<br>1.3531 | 1.2603<br>1.3253 | 1.1790 | 1.2819 | Ave           |             | 1.2535 |    |   | 0.5000  | 6.7  |   | 20.0        |               |   |                   |
| Dibenz(a,h)anthracene          | 0.8912<br>1.1247 | 1.0203<br>1.1241 | 1.0469<br>1.1130 | 0.9932 | 1.0730 | Ave           |             | 1.0483 |    |   | 0.4000  | 7.6  |   | 20.0        |               |   |                   |
| Benzo[g,h,i]perylene           | 0.8788<br>1.1097 | 0.9748<br>1.1301 | 1.0430<br>1.1009 | 0.9988 | 1.0706 | Ave           |             | 1.0383 |    |   | 0.5000  | 8.1  |   | 20.0        |               |   |                   |
| 2-Fluorophenol (Surr)          | 0.9950<br>1.1219 | 1.0297<br>1.0979 | 1.0806<br>1.0905 | 1.0588 | 1.1478 | Ave           |             | 1.0778 |    |   |         | 4.6  |   | 20.0        |               |   |                   |
| Phenol-d5 (Surr)               | 1.3003<br>1.5021 | 1.4146<br>1.4486 | 1.4445<br>1.4441 | 1.4346 | 1.5600 | Ave           |             | 1.4436 |    |   |         | 5.1  |   | 20.0        |               |   |                   |

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
GC/MS SEMI VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 136451

SDG No.: \_\_\_\_\_

Instrument ID: CH722 GC Column: Rxi-5SilMS ID: 0.32 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/24/2015 23:35 Calibration End Date: 03/25/2015 02:57 Calibration ID: 22787

| ANALYTE                     | RRF              |                  |                  |        |        | CURVE<br>TYPE | COEFFICIENT |        |    | # | MIN RRF | %RSD | # | MAX<br>%RSD | R^2<br>OR COD | # | MIN R^2<br>OR COD |
|-----------------------------|------------------|------------------|------------------|--------|--------|---------------|-------------|--------|----|---|---------|------|---|-------------|---------------|---|-------------------|
|                             | LVL 1            | LVL 2            | LVL 3            | LVL 4  | LVL 5  |               | B           | M1     | M2 |   |         |      |   |             |               |   |                   |
|                             | LVL 6            | LVL 7            | LVL 8            |        |        |               |             |        |    |   |         |      |   |             |               |   |                   |
| Nitrobenzene-d5 (Surr)      | 0.2894<br>0.3262 | 0.3185<br>0.3270 | 0.3288<br>0.3267 | 0.3067 | 0.3320 | Ave           |             | 0.3194 |    |   |         | 4.5  |   | 20.0        |               |   |                   |
| 2-Fluorobiphenyl            | 1.3728<br>1.3144 | 1.3216<br>1.3225 | 1.3730<br>1.2785 | 1.2940 | 1.4018 | Ave           |             | 1.3348 |    |   |         | 3.2  |   | 20.0        |               |   |                   |
| 2,4,6-Tribromophenol (Surr) | 0.0421<br>0.1177 | 0.0945<br>0.1205 | 0.1042<br>0.1218 | 0.1068 | 0.1126 | Lin1          | -0.040      | 0.1199 |    |   | 0.0100  |      |   |             | 0.9990        |   | 0.9900            |
| Terphenyl-d14 (Surr)        | 0.8383<br>0.9959 | 0.9084<br>1.0262 | 0.9506<br>0.9591 | 0.9353 | 1.0151 | Ave           |             | 0.9536 |    |   |         | 6.5  |   | 20.0        |               |   |                   |

Note: The m1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI  
GC/MS SEMI VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 136451

SDG No.: \_\_\_\_\_

Instrument ID: CH722 GC Column: Rxi-5SilMS ID: 0.32 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/24/2015 23:35 Calibration End Date: 03/25/2015 02:57 Calibration ID: 22787

Calibration Files:

|         |                   |              |
|---------|-------------------|--------------|
| LEVEL:  | LAB SAMPLE ID:    | LAB FILE ID: |
| Level 1 | IC 180-136451/2   | F03240C1.D   |
| Level 2 | IC 180-136451/3   | F03240C2.D   |
| Level 3 | IC 180-136451/4   | F03240C3.D   |
| Level 4 | ICIS 180-136451/5 | F03240C4.D   |
| Level 5 | IC 180-136451/6   | F03240C5.D   |
| Level 6 | IC 180-136451/7   | F03240C6.D   |
| Level 7 | IC 180-136451/8   | F03240C7.D   |
| Level 8 | IC 180-136451/9   | F03240C8.D   |

| ANALYTE                 | IS<br>REF | CURVE<br>TYPE | RESPONSE       |                  |                  |        |        | CONCENTRATION (NG) |                |                |       |       |
|-------------------------|-----------|---------------|----------------|------------------|------------------|--------|--------|--------------------|----------------|----------------|-------|-------|
|                         |           |               | LVL 1<br>LVL 6 | LVL 2<br>LVL 7   | LVL 3<br>LVL 8   | LVL 4  | LVL 5  | LVL 1<br>LVL 6     | LVL 2<br>LVL 7 | LVL 3<br>LVL 8 | LVL 4 | LVL 5 |
| 1,4-Dioxane             | DCB       | Ave           | 1692<br>140586 | 7860<br>213806   | 14207<br>298777  | 34173  | 69973  | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| N-Nitrosodimethylamine  | DCB       | Ave           | 1376<br>207263 | 9837<br>317212   | 18565<br>441214  | 50393  | 99275  | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Pyridine                | DCB       | Ave           | ++++<br>360952 | 15501<br>546425  | 33383<br>710353  | 84471  | 178410 | ++++<br>40.0       | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Methyl methanesulfonate | DCB       | Ave           | 1690<br>190235 | 9890<br>279801   | 18719<br>388406  | 49098  | 94393  | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Benzaldehyde            | DCB       | Ave           | 2038<br>298636 | 11174<br>415084  | 21834<br>538202  | 76602  | 148143 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Phenol                  | DCB       | Ave           | 5317<br>555839 | 29692<br>805922  | 55635<br>1085895 | 144972 | 275964 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Aniline                 | DCB       | Ave           | 5900<br>643910 | 32734<br>948048  | 62587<br>1059532 | 165108 | 326780 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Bis(2-chloroethyl)ether | DCB       | Ave           | 4056<br>403245 | 21798<br>599928  | 40172<br>820940  | 102599 | 197013 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 2-Chlorophenol          | DCB       | Ave           | 4485<br>467207 | 23776<br>700415  | 46311<br>954189  | 119062 | 231492 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| n-Decane                | DCB       | Ave           | 3611<br>362583 | 20120<br>550788  | 37842<br>741836  | 95701  | 180819 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 1,3-Dichlorobenzene     | DCB       | Ave           | 5791<br>529871 | 28667<br>796817  | 54972<br>1079353 | 138372 | 258812 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 1,4-Dichlorobenzene     | DCB       | Ave           | 5609<br>543108 | 29184<br>792180  | 55382<br>1087326 | 139645 | 264695 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Benzyl alcohol          | DCB       | Ave           | 2433<br>281321 | 13368<br>420762  | 25306<br>585631  | 68777  | 137137 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 1,2-Dichlorobenzene     | DCB       | Ave           | 5257<br>513715 | 27352<br>761109  | 52898<br>1041740 | 131269 | 253769 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Indene                  | DCB       | Ave           | 7569<br>742766 | 39951<br>1101907 | 75623<br>1505427 | 192295 | 371142 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |

FORM VI  
GC/MS SEMI VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 136451

SDG No.: \_\_\_\_\_

Instrument ID: CH722 GC Column: Rxi-5SilMS ID: 0.32 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/24/2015 23:35 Calibration End Date: 03/25/2015 02:57 Calibration ID: 22787

| ANALYTE                      | IS REF | CURVE TYPE | RESPONSE         |                  |                   |        |        | CONCENTRATION (NG) |                |                |       |       |
|------------------------------|--------|------------|------------------|------------------|-------------------|--------|--------|--------------------|----------------|----------------|-------|-------|
|                              |        |            | LVL 1<br>LVL 6   | LVL 2<br>LVL 7   | LVL 3<br>LVL 8    | LVL 4  | LVL 5  | LVL 1<br>LVL 6     | LVL 2<br>LVL 7 | LVL 3<br>LVL 8 | LVL 4 | LVL 5 |
| 2-Methylphenol               | DCB    | Ave        | 3612<br>400088   | 21024<br>582240  | 39691<br>799282   | 103485 | 198434 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 2,2'-oxybis[1-chloropropane] | DCB    | Ave        | 4563<br>481087   | 27466<br>704556  | 50108<br>956822   | 124278 | 238263 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| N-Nitrosopyrrolidine         | DCB    | Ave        | 1375<br>192584   | 8279<br>288891   | 17002<br>405799   | 44141  | 91351  | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Acetophenone                 | DCB    | Ave        | 6358<br>602232   | 32830<br>874207  | 60497<br>1205183  | 156260 | 303373 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| N-Nitrosodi-n-propylamine    | DCB    | Ave        | 2822<br>306686   | 16860<br>447569  | 30968<br>604053   | 78829  | 151232 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Methylphenol, 3 & 4          | DCB    | Ave        | 3740<br>422446   | 22155<br>615077  | 42496<br>822831   | 110627 | 212290 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Hexachloroethane             | DCB    | Ave        | 1731<br>199855   | 9863<br>300540   | 20059<br>414685   | 50350  | 98949  | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Nitrobenzene                 | NPT    | Ave        | 3881<br>454009   | 24241<br>685234  | 43989<br>955309   | 113742 | 223691 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Isophorone                   | NPT    | Ave        | 6923<br>821248   | 40154<br>1215604 | 74503<br>1682270  | 201822 | 395311 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 2-Nitrophenol                | NPT    | Ave        | 1893<br>283407   | 12070<br>417102  | 23303<br>584617   | 66253  | 133871 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 2,4-Dimethylphenol           | NPT    | Ave        | 4180<br>462059   | 23689<br>676249  | 44446<br>825740   | 112780 | 224140 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Benzoic acid                 | NPT    | Lin2       | +++++<br>255134  | +++++<br>394513  | +++++<br>582396   | 34309  | 105483 | +++++<br>40.0      | +++++<br>60.0  | +++++<br>80.0  | 10.0  | 20.0  |
| Bis(2-chloroethoxy)methane   | NPT    | Ave        | 4622<br>528023   | 26576<br>787459  | 50474<br>1074994  | 128726 | 254333 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 2,4-Dichlorophenol           | NPT    | Ave        | 3416<br>412925   | 19882<br>609695  | 38548<br>841286   | 100528 | 197914 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 1,2,4-Trichlorobenzene       | NPT    | Ave        | 4658<br>469824   | 24984<br>696462  | 46359<br>951953   | 117956 | 226536 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Naphthalene                  | NPT    | Ave        | 14684<br>1451784 | 79462<br>2133707 | 142842<br>2936567 | 369150 | 709463 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 4-Chloroaniline              | NPT    | Ave        | 4727<br>614579   | 28564<br>892127  | 53810<br>1126956  | 148176 | 294778 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 2,6-Dichlorophenol           | NPT    | Ave        | 3508<br>406698   | 20230<br>581407  | 37577<br>806673   | 99953  | 195870 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Hexachlorobutadiene          | NPT    | Ave        | 2619<br>260375   | 13857<br>395056  | 25365<br>540067   | 65185  | 127379 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Caprolactam                  | NPT    | Ave        | +++++<br>141997  | +++++<br>211470  | 10264<br>290177   | 32499  | 66351  | +++++<br>40.0      | +++++<br>60.0  | 4.00<br>80.0   | 10.0  | 20.0  |
| 4-Chloro-3-methylphenol      | NPT    | Ave        | 3025<br>426928   | 18915<br>623286  | 36093<br>868451   | 100727 | 199456 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |

FORM VI  
GC/MS SEMI VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 136451

SDG No.: \_\_\_\_\_

Instrument ID: CH722 GC Column: Rxi-5SilMS ID: 0.32 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/24/2015 23:35 Calibration End Date: 03/25/2015 02:57 Calibration ID: 22787

| ANALYTE                    | IS REF | CURVE TYPE | RESPONSE         |                  |                   |        |        | CONCENTRATION (NG) |                |                |       |       |
|----------------------------|--------|------------|------------------|------------------|-------------------|--------|--------|--------------------|----------------|----------------|-------|-------|
|                            |        |            | LVL 1<br>LVL 6   | LVL 2<br>LVL 7   | LVL 3<br>LVL 8    | LVL 4  | LVL 5  | LVL 1<br>LVL 6     | LVL 2<br>LVL 7 | LVL 3<br>LVL 8 | LVL 4 | LVL 5 |
| 2-Methylnaphthalene        | NPT    | Ave        | 9684<br>1044269  | 54168<br>1535839 | 97566<br>2081242  | 259575 | 506864 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 1-Methylnaphthalene        | NPT    | Ave        | 9099<br>960309   | 49047<br>1429764 | 92455<br>1937370  | 237343 | 474082 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Hexachlorocyclopentadiene  | ANT    | Ave        | 2434<br>335667   | 13835<br>491394  | 26631<br>+++++    | 73394  | 155412 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>+++++  | 10.0  | 20.0  |
| 1,2,4,5-Tetrachlorobenzene | ANT    | Ave        | 5043<br>467056   | 25172<br>678877  | 46227<br>943367   | 117840 | 231318 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 2,4,6-Trichlorophenol      | ANT    | Ave        | 1940<br>315604   | 14131<br>465496  | 27405<br>636625   | 74797  | 148021 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 2,4,5-Trichlorophenol      | ANT    | Ave        | 2049<br>323134   | 13998<br>480705  | 27363<br>659650   | 77952  | 160142 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 1,1'-Biphenyl              | ANT    | Ave        | 11365<br>1229644 | 63437<br>1798008 | 116264<br>2515750 | 301701 | 598805 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 2-Chloronaphthalene        | ANT    | Ave        | 9553<br>1062025  | 51145<br>1466587 | 99458<br>2142909  | 256735 | 505401 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 2-Nitroaniline             | ANT    | Ave        | +++++<br>268812  | 10381<br>402105  | 21529<br>555897   | 61063  | 123841 | +++++<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Dimethyl phthalate         | ANT    | Ave        | 8862<br>1040697  | 51393<br>1525852 | 97824<br>2072402  | 262470 | 516159 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 1,3-Dinitrobenzene         | ANT    | Ave        | +++++<br>179777  | 6941<br>267652   | 13702<br>374473   | 41447  | 83139  | +++++<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 2,6-Dinitrotoluene         | ANT    | Ave        | 1454<br>251431   | 11815<br>375627  | 21471<br>514747   | 61281  | 123366 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Acenaphthylene             | ANT    | Ave        | 13349<br>1563589 | 74670<br>2290941 | 141740<br>3060307 | 376973 | 750864 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 3-Nitroaniline             | ANT    | Ave        | +++++<br>260911  | 10186<br>389382  | 20245<br>531716   | 59667  | 119321 | +++++<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Acenaphthene               | ANT    | Ave        | 9918<br>1035298  | 50230<br>1479288 | 96412<br>2052986  | 254184 | 504543 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 2,4-Dinitrophenol          | ANT    | Ave        | +++++<br>293957  | +++++<br>471124  | +++++<br>665926   | 48501  | 120660 | +++++<br>80.0      | +++++<br>120   | +++++<br>160   | 20.0  | 40.0  |
| 4-Nitrophenol              | ANT    | Lin2       | +++++<br>212250  | 5678<br>327010   | 13431<br>458102   | 42616  | 96976  | +++++<br>80.0      | 4.00<br>120    | 8.00<br>160    | 20.0  | 40.0  |
| 2,4-Dinitrotoluene         | ANT    | Ave        | 1571<br>331563   | 13252<br>474116  | 26416<br>657876   | 78593  | 160672 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Dibenzofuran               | ANT    | Ave        | 12668<br>1336167 | 66485<br>1978554 | 120656<br>2710967 | 332433 | 659713 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 2,3,5,6-Tetrachlorophenol  | ANT    | Ave        | +++++<br>284919  | 10731<br>417408  | 21705<br>578454   | 65111  | 132614 | +++++<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 2,3,4,6-Tetrachlorophenol  | ANT    | Ave        | 1595<br>267599   | 10854<br>394323  | 22948<br>551433   | 62319  | 130022 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |

FORM VI  
GC/MS SEMI VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 136451

SDG No.: \_\_\_\_\_

Instrument ID: CH722 GC Column: Rxi-5SilMS ID: 0.32 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/24/2015 23:35 Calibration End Date: 03/25/2015 02:57 Calibration ID: 22787

| ANALYTE                               | IS REF | CURVE TYPE | RESPONSE         |                  |                   |        |        | CONCENTRATION (NG) |                |                |       |       |
|---------------------------------------|--------|------------|------------------|------------------|-------------------|--------|--------|--------------------|----------------|----------------|-------|-------|
|                                       |        |            | LVL 1<br>LVL 6   | LVL 2<br>LVL 7   | LVL 3<br>LVL 8    | LVL 4  | LVL 5  | LVL 1<br>LVL 6     | LVL 2<br>LVL 7 | LVL 3<br>LVL 8 | LVL 4 | LVL 5 |
| 2-Naphthylamine                       | ANT    | Ave        | 5576<br>854517   | 36382<br>1194637 | 74076<br>++++     | 216065 | 434789 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>++++   | 10.0  | 20.0  |
| Diethyl phthalate                     | ANT    | Ave        | 8700<br>1013085  | 50730<br>1509992 | 96424<br>2046650  | 265517 | 511446 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Hexadecane                            | NPT    | Ave        | ++++<br>680302   | 34266<br>980849  | 60026<br>1372714  | 164930 | 322513 | ++++<br>40.0       | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 4-Chlorophenyl phenyl ether           | ANT    | Ave        | 4490<br>548790   | 26446<br>811519  | 47258<br>1118259  | 132300 | 258200 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Fluorene                              | ANT    | Ave        | 9357<br>1063063  | 51966<br>1576735 | 96596<br>2157406  | 270755 | 536018 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 4-Nitroaniline                        | ANT    | Ave        | ++++<br>234632   | 8390<br>370006   | 18583<br>484741   | 53610  | 112808 | ++++<br>40.0       | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 4,6-Dinitro-2-methylphenol            | PHN    | Ave        | ++++<br>402659   | ++++<br>621514   | 23028<br>851941   | 84452  | 185501 | ++++<br>80.0       | ++++<br>120    | 8.00<br>160    | 20.0  | 40.0  |
| N-Nitrosodiphenylamine                | PHN    | Ave        | 6274<br>813190   | 38151<br>1213695 | 70062<br>1685576  | 198189 | 395322 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 1,2-Diphenylhydrazine (as Azobenzene) | PHN    | Ave        | 7227<br>1009578  | 44511<br>1502799 | 82808<br>2100199  | 241618 | 472285 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 4-Bromophenyl phenyl ether            | PHN    | Ave        | 2181<br>309187   | 13427<br>461441  | 25396<br>651992   | 71769  | 149112 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Hexachlorobenzene                     | PHN    | Ave        | 2964<br>339492   | 16114<br>510773  | 30864<br>704654   | 82512  | 158064 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Atrazine                              | PHN    | Ave        | 1510<br>231176   | 9963<br>343554   | 20156<br>++++     | 64007  | 116556 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>++++   | 10.0  | 20.0  |
| Pentachlorophenol                     | PHN    | Ave        | 5259<br>465784   | 18066<br>691901  | 31601<br>958115   | 111463 | 217389 | 0.800<br>80.0      | 4.00<br>120    | 8.00<br>160    | 20.0  | 40.0  |
| n-Octadecane                          | DCB    | Ave        | 4780<br>694854   | 30648<br>1043573 | 60022<br>1458518  | 168270 | 326887 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Phenanthrene                          | PHN    | Ave        | 13073<br>1533255 | 71696<br>2243899 | 133525<br>3130531 | 374124 | 730444 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Anthracene                            | PHN    | Ave        | 11585<br>1585388 | 68865<br>2339354 | 134272<br>3134403 | 376999 | 751092 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Carbazole                             | PHN    | Ave        | 9289<br>1310250  | 57094<br>1981179 | 111830<br>2721795 | 319499 | 637352 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Di-n-butyl phthalate                  | PHN    | Ave        | 11427<br>1684032 | 71404<br>2587357 | 140664<br>3512394 | 409520 | 826609 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Fluoranthene                          | PHN    | Ave        | 11523<br>1461215 | 66057<br>2294423 | 128908<br>3075595 | 374556 | 742239 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Benzidine                             | CRY    | Lin1       | ++++<br>420509   | 8502<br>645823   | 17025<br>++++     | 83011  | 196255 | ++++<br>40.0       | 2.00<br>60.0   | 4.00<br>++++   | 10.0  | 20.0  |
| Pyrene                                | CRY    | Ave        | 11056<br>1518626 | 69094<br>2262103 | 129686<br>3053160 | 381626 | 739875 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |

FORM VI  
GC/MS SEMI VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 136451

SDG No.: \_\_\_\_\_

Instrument ID: CH722 GC Column: Rxi-5SilMS ID: 0.32 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/24/2015 23:35 Calibration End Date: 03/25/2015 02:57 Calibration ID: 22787

| ANALYTE                        | IS REF | CURVE TYPE | RESPONSE         |                  |                   |        |        | CONCENTRATION (NG) |                |                |       |       |
|--------------------------------|--------|------------|------------------|------------------|-------------------|--------|--------|--------------------|----------------|----------------|-------|-------|
|                                |        |            | LVL 1<br>LVL 6   | LVL 2<br>LVL 7   | LVL 3<br>LVL 8    | LVL 4  | LVL 5  | LVL 1<br>LVL 6     | LVL 2<br>LVL 7 | LVL 3<br>LVL 8 | LVL 4 | LVL 5 |
| Butyl benzyl phthalate         | CRY    | Ave        | 3687<br>640520   | 21403<br>976063  | 44932<br>1309981  | 150738 | 302546 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 3,3'-Dichlorobenzidine         | CRY    | Lin2       | ++++<br>419480   | 10953<br>666785  | 24436<br>890112   | 86795  | 190079 | ++++<br>40.0       | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Benzo[a]anthracene             | CRY    | Ave        | 8889<br>1220094  | 49700<br>1876537 | 104314<br>2544266 | 299781 | 591856 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Bis(2-ethylhexyl) phthalate    | CRY    | Ave        | ++++<br>861524   | 27661<br>1297056 | 59867<br>1843739  | 209613 | 419019 | ++++<br>40.0       | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Chrysene                       | CRY    | Ave        | 8514<br>1174119  | 51620<br>1817886 | 103910<br>2353168 | 299322 | 575745 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Di-n-octyl phthalate           | PRY    | Lin2       | ++++<br>1342018  | 30539<br>2158956 | 70933<br>2966262  | 273056 | 597927 | ++++<br>40.0       | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 7,12-Dimethylbenz(a)anthracene | PRY    | Ave        | ++++<br>537193   | 17330<br>844756  | 38055<br>1165390  | 113747 | 252583 | ++++<br>40.0       | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Benzo[b]fluoranthene           | PRY    | Ave        | 8367<br>1153596  | 44815<br>1746520 | 95388<br>2410096  | 277582 | 543274 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Benzo[k]fluoranthene           | PRY    | Ave        | 8125<br>1116851  | 44881<br>1728539 | 91407<br>2412024  | 266345 | 537988 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Benzo[e]pyrene                 | PRY    | Ave        | 6835<br>1031086  | 40207<br>1633752 | 85204<br>2196105  | 245781 | 489580 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Benzo[a]pyrene                 | PRY    | Ave        | 7142<br>1018005  | 36836<br>1610963 | 80608<br>2145541  | 239618 | 483882 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Indeno[1,2,3-cd]pyrene         | PRY    | Ave        | 8535<br>1124036  | 44191<br>1786038 | 90280<br>2463621  | 252012 | 522145 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Dibenz(a,h)anthracene          | PRY    | Ave        | 6768<br>951548   | 38337<br>1483824 | 74994<br>2069095  | 212303 | 437071 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Benzo[g,h,i]perylene           | PRY    | Ave        | 6674<br>938855   | 36630<br>1491755 | 74713<br>2046604  | 213507 | 436073 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 2-Fluorophenol (Surr)          | DCB    | Ave        | 3477<br>380803   | 18696<br>571551  | 36575<br>788190   | 95458  | 184934 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Phenol-d5 (Surr)               | DCB    | Ave        | 4544<br>509889   | 25684<br>754122  | 48892<br>1043728  | 129332 | 251361 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Nitrobenzene-d5 (Surr)         | NPT    | Ave        | 4091<br>464230   | 23320<br>698705  | 43983<br>984647   | 112754 | 227231 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 2-Fluorobiphenyl               | ANT    | Ave        | 10717<br>1108504 | 55458<br>1629794 | 104200<br>2270259 | 274051 | 557966 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| 2,4,6-Tribromophenol (Surr)    | PHN    | Lin1       | 478<br>157778    | 5857<br>247278   | 11851<br>342581   | 35830  | 73162  | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |
| Terphenyl-d14 (Surr)           | CRY    | Ave        | 7410<br>1075104  | 43337<br>1649691 | 90416<br>2215778  | 261382 | 519301 | 0.400<br>40.0      | 2.00<br>60.0   | 4.00<br>80.0   | 10.0  | 20.0  |

FORM VI  
GC/MS SEMI VOA INITIAL CALIBRATION DATA  
INTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 136451

SDG No.: \_\_\_\_\_

Instrument ID: CH722 GC Column: Rxi-5SilMS ID: 0.32 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/24/2015 23:35 Calibration End Date: 03/25/2015 02:57 Calibration ID: 22787

Curve Type Legend:

|  |
|--|
| Ave = Average ISTD<br>Lin1 = Linear 1/conc ISTD<br>Lin2 = Linear 1/conc^2 ISTD |
|--|



TestAmerica Laboratories  
Initial Calibration %Drift Report

Method: \\PITCHROM\ChromData\CH722\20150324-6159.b\BNA\_CH722.m

Instrument: CH722

Lims Location: 180

Lock State: Initial Calib Locked

Cpnd Order: Compound Type

Integrator: RTE

Last Modified: 26-Mar-2015 08:05:36

No.Compounds:209

## Initial Calibration Batches

Ical Batch: \\PITCHROM\ChromData\CH722\20141211-4831.b

Inj Date : 12-Dec-2014 05:28:30, Sublist: chrom-BNA\_CH722\*sub8

Ical Batch: \\PITCHROM\ChromData\CH722\20150324-6159.b

Inj Date : 24-Mar-2015 23:35:30, Sublist: chrom-BNA\_CH722\*sub5

Limit Group: BNA 8270D ICAL

Detector 1: MS SCAN

| Compound                   | Level 1  | Level 2  | Level 3  | Level 4 | Level 5 | Level 6 | Level 7 | Level 8 |
|----------------------------|----------|----------|----------|---------|---------|---------|---------|---------|
| * 1 1,4-Dichlorobenzene-d4 | 108559   | 110597   | 98621    | 104335  | 98645   | 90591   | 89872   | 84404   |
| * 2 Naphthalene-d8         | 500001   | 501953   | 460270   | 481876  | 455414  | 415608  | 403586  | 378636  |
| * 3 Acenaphthene-d10       | 294905   | 303524   | 272091   | 282667  | 273023  | 238549  | 229902  | 219305  |
| * 4 Phenanthrene-d10       | 511055   | 531279   | 473289   | 482975  | 467339  | 404069  | 388248  | 378020  |
| * 5 Chrysene-d12           | 418093   | 425844   | 397236   | 395444  | 394687  | 324294  | 313991  | 316278  |
| * 6 Perylene-d12           | 331164   | 337326   | 323040   | 316585  | 321151  | 265175  | 255160  | 258396  |
| \$ 7 2-Fluorophenol        | -7.7     | -4.5     | 0.3      | -1.8    | 6.5     | 4.1     | 1.9     | 1.2     |
| \$ 8 Phenol-d5             | -9.9     | -2.0     | 0.1      | -0.6    | 8.1     | 4.1     | 0.3     | 0.0     |
| \$ 9 Nitrobenzene-d5       | -9.4     | -0.3     | 2.9      | -4.0    | 3.9     | 2.1     | 2.4     | 2.3     |
| \$ 10 2-Fluorobiphenyl     | 2.8      | -1.0     | 2.9      | -3.1    | 5.0     | -1.5    | -0.9    | -4.2    |
| \$ 11 2,4,6-Tribromophenol | 19.1     | -4.4     | -4.7     | -7.6    | -4.4    | -1.0    | 1.1     | 2.0     |
| \$ 12 Terphenyl-d14        | -12.1    | -4.7     | -0.3     | -1.9    | 6.5     | 4.4     | 7.6     | 0.6     |
| 13 1,4-Dioxane             | 14.3     | 2.2      | -0.9     | -10.5   | 2.5     | -2.2    | -3.0    | -2.4    |
| 14 N-Nitrosodimethylamine  | -29.8    | -3.5     | -2.3     | -0.4    | 9.8     | 8.8     | 8.6     | 8.8     |
| 15 Pyridine                | Disabled | -14.4    | -1.1     | -6.0    | 11.0    | 6.6     | 5.3     | -1.4    |
| 19 Methyl methanesulfonat  | -11.0    | 0.2      | 1.8      | 0.2     | 7.8     | 3.1     | -1.1    | -1.1    |
| 25 Benzaldehyde            | -22.7    | -18.4    | -14.5    | 12.6    | 21.9    | 16.6    | 5.7     | -1.3    |
| 26 Phenol                  | -5.0     | 2.1      | 2.7      | 0.4     | 7.0     | 2.3     | -3.3    | -6.2    |
| 27 Aniline                 | -6.1     | 0.3      | 2.8      | 1.9     | 12.8    | 5.5     | 1.3     | -18.5   |
| 29 Bis(2-chloroethyl)ethe  | -1.1     | 2.3      | 1.2      | -3.0    | 4.2     | 1.3     | -1.8    | -3.2    |
| 30 2-Chlorophenol          | -4.6     | -2.6     | 1.7      | -1.8    | 6.8     | 2.3     | 0.0     | -1.8    |
| 31 n-Decane                | -3.8     | 3.1      | 4.1      | -1.2    | 4.4     | -0.6    | -1.5    | -4.5    |
| 32 1,3-Dichlorobenzene     | 5.3      | 0.4      | 3.2      | -2.4    | 2.1     | -0.8    | -2.7    | -5.1    |
| 33 1,4-Dichlorobenzene     | 1.4      | 1.5      | 3.3      | -2.2    | 3.8     | 1.1     | -3.9    | -5.0    |
| 34 Benzyl alcohol          | -10.8    | -5.6     | -4.2     | -2.2    | 9.1     | 6.2     | 3.6     | 3.9     |
| 35 1,2-Dichlorobenzene     | 0.1      | 0.2      | 4.0      | -3.1    | 4.8     | 0.7     | -2.7    | -4.1    |
| 37 2-Methylphenol          | -9.6     | 1.3      | 2.6      | 0.4     | 7.7     | 3.1     | -2.2    | -3.3    |
| 36 Indene                  | -0.6     | 1.0      | 2.6      | -2.1    | 5.8     | 0.5     | -2.8    | -4.4    |
| 38 2,2'-oxybis[1-chloropr  | -7.1     | 7.6      | 5.3      | -2.0    | 5.1     | 0.8     | -3.8    | -5.9    |
| 39 N-Nitrosopyrrolidine    | -23.1    | -10.9    | -1.8     | -4.3    | 10.8    | 10.9    | 8.5     | 9.8     |
| 40 Acetophenone            | 2.9      | 2.2      | 1.0      | -2.0    | 6.4     | 0.3     | -5.1    | -5.7    |
| 41 N-Nitrosodi-n-propylam  | -8.5     | 5.2      | 3.6      | -1.0    | 6.3     | 2.3     | -2.6    | -5.3    |
| 42 4-Methylphenol          | -11.3    | 1.1      | 4.0      | 1.7     | 9.2     | 3.1     | -2.1    | -5.7    |
| 43 Hexachloroethane        | -12.8    | -4.4     | 4.3      | -1.7    | 8.1     | 3.7     | 1.6     | 1.0     |
| 44 Nitrobenzene            | -13.1    | 4.8      | 4.1      | -2.1    | 3.5     | 1.0     | 1.5     | 0.3     |
| 46 Isophorone              | -11.5    | -0.9     | 0.7      | -0.8    | 4.4     | 4.3     | 2.8     | 0.9     |
| 47 2-Nitrophenol           | -25.5    | -8.2     | -3.0     | 0.3     | 8.9     | 10.9    | 8.7     | 8.0     |
| 48 2,4-Dimethylphenol      | -5.4     | 3.5      | 6.3      | -1.9    | 4.8     | 3.9     | 1.2     | -12.4   |
| 49 Benzoic acid            |          | Disabled | Disabled | -0.7    | 1.7     | 0.3     | -1.6    | 0.3     |
| 50 Bis(2-chloroethoxy)met  | -9.3     | 0.6      | 4.6      | -2.9    | 3.0     | 2.9     | 2.2     | -1.1    |

Method: \\PITCHROM\ChromData\CH722\20150324-6159.b\BNA\_CH722.m

| Compound                   | Level 1  | Level 2  | Level 3  | Level 4 | Level 5 | Level 6 | Level 7 | Level 8  |
|----------------------------|----------|----------|----------|---------|---------|---------|---------|----------|
| 52 2,4-Dichlorophenol      | -12.9    | -2.1     | 3.9      | -1.4    | 4.3     | 4.6     | 2.9     | 0.7      |
| 53 1,2,4-Trichlorobenzene  | -0.2     | 3.4      | 5.0      | -2.8    | 0.3     | 0.0     | -1.3    | -4.3     |
| 56 Naphthalene             | 1.0      | 5.5      | 3.9      | -2.3    | 0.8     | -0.8    | -2.9    | -5.2     |
| 58 4-Chloroaniline         | -16.0    | -2.0     | 1.1      | 1.3     | 8.2     | 8.5     | 4.9     | -6.0     |
| 59 2,6-Dichlorophenol      | -9.3     | 1.0      | 2.7      | -0.6    | 4.6     | 4.4     | -0.6    | -2.2     |
| 61 Hexachlorobutadiene     | 0.5      | 2.7      | 2.9      | -3.8    | 1.0     | -0.7    | 0.3     | -2.8     |
| 62 Caprolactam             | Disabled | Disabled | -17.4    | -4.8    | 4.4     | 7.5     | 6.6     | 3.7      |
| 63 4-Chloro-3-methylpheno  | -21.7    | -5.5     | -1.3     | 0.2     | 6.6     | 9.7     | 6.7     | 5.4      |
| 67 2-Methylnaphthalene     | -4.6     | 3.0      | 1.6      | -1.7    | 3.1     | 2.2     | 0.1     | -3.8     |
| 68 1-Methylnaphthalene     | -3.4     | 0.5      | 3.7      | -3.1    | 4.0     | 1.3     | 0.4     | -3.5     |
| 69 Hexachlorocyclopentadi  | -13.6    | -8.6     | -2.8     | -4.0    | 8.2     | 10.3    | 10.5    | Disabled |
| 70 1,2,4,5-Tetrachloroben  | 11.7     | 3.7      | 5.3      | -3.8    | 0.4     | -4.3    | -4.8    | -8.2     |
| 71 2,4,6-Trichlorophenol   | -28.5    | -3.2     | 3.8      | 1.6     | 6.9     | 7.6     | 8.6     | 3.1      |
| 72 2,4,5-Trichlorophenol   | -26.9    | -7.1     | 0.4      | 2.5     | 12.1    | 6.7     | 8.7     | 3.5      |
| 76 1,1'-Biphenyl           | -1.0     | 2.8      | 4.2      | -3.1    | 2.3     | -0.8    | -0.8    | -3.6     |
| 78 2-Chloronaphthalene     | -1.0     | -1.4     | 6.0      | -2.0    | 2.7     | 1.8     | -3.7    | -2.4     |
| 79 2-Nitroaniline          | Disabled | -17.1    | -4.9     | -3.4    | 4.3     | 6.8     | 9.4     | 4.9      |
| 82 Dimethyl phthalate      | -7.6     | -0.3     | 5.0      | 0.9     | 5.6     | 0.5     | 0.8     | -5.0     |
| 83 1,3-Dinitrobenzene      | Disabled | -16.8    | -9.2     | -1.6    | 5.1     | 7.2     | 9.2     | 6.1      |
| 84 2,6-Dinitrotoluene      | * -33.6  | 0.4      | 0.9      | 3.2     | 10.6    | 6.3     | 8.7     | 3.4      |
| R7 85 Acenaphthylene       | -5.4     | -1.6     | 3.3      | -1.5    | 4.4     | 2.6     | 2.9     | -4.7     |
| 86 3-Nitroaniline          | Disabled | -15.7    | -7.4     | -2.2    | 4.1     | 7.4     | 9.7     | 4.0      |
| 87 Acenaphthene            | 3.8      | -2.2     | 3.8      | -1.9    | 3.6     | 0.3     | -1.9    | -5.5     |
| 88 2,4-Dinitrophenol       |          | Disabled | Disabled | -30.1   | -7.5    | 6.4     | 16.7    | 14.5     |
| 89 4-Nitrophenol           | Disabled | 4.1      | -4.9     | -10.6   | 1.0     | 1.6     | 6.1     | 2.8      |
| 92 2,4-Dinitrotoluene      | * -42.3  | -9.4     | -0.1     | 6.5     | 15.8    | 12.8    | 10.4    | 6.3      |
| 93 Dibenzofuran            | 1.9      | -0.5     | -0.2     | -1.4    | 4.1     | -0.5    | 0.8     | -4.1     |
| 95 2,3,5,6-Tetrachlorophe  | Disabled | -18.1    | -8.4     | -1.5    | 6.8     | 8.2     | 8.5     | 4.4      |
| 96 2,3,4,6-Tetrachlorophe  | -30.0    | -11.3    | 3.6      | 0.9     | 12.0    | 8.8     | 9.7     | 6.4      |
| 97 2-Naphthylamine         | -24.8    | -8.8     | 2.7      | 7.4     | 14.9    | 6.6     | 2.0     | Disabled |
| 98 Diethyl phthalate       | -8.2     | -0.4     | 4.7      | 3.3     | 5.8     | -1.0    | 0.9     | -5.1     |
| 99 Hexadecane              | Disabled | 1.4      | -2.7     | -2.7    | 2.2     | 3.6     | -0.5    | -1.3     |
| 101 4-Chlorophenyl phenyl  | -8.7     | 0.0      | -1.2     | -0.9    | 3.0     | 3.3     | 4.5     | 0.0      |
| 102 4-Nitroaniline         | Disabled | -23.6    | -6.5     | -3.3    | 8.2     | 6.3     | 14.7    | 4.3      |
| 103 Fluorene               | -5.0     | -1.8     | 0.9      | 1.4     | 6.8     | -0.1    | 1.4     | -3.7     |
| 104 4,6-Dinitro-2-methylph | Disabled | Disabled | -26.2    | -8.2    | 4.1     | 9.5     | 10.4    | 10.4     |
| 106 N-Nitrosodiphenylamine | -7.5     | 3.0      | 3.1      | -1.1    | 1.8     | 1.5     | -1.0    | 0.3      |
| 108 1,2-Diphenylhydrazine  | -11.6    | -0.3     | 1.1      | 0.0     | 0.9     | 4.6     | 1.7     | 3.7      |
| 107 Azobenzene             | -11.6    | -0.3     | 1.1      | 0.0     | 0.9     | 4.6     | 1.7     | 3.7      |
| 109 4-Bromophenyl phenyl e | -12.8    | -1.7     | 1.3      | -2.9    | 4.2     | 4.7     | 2.1     | 5.2      |
| 110 Hexachlorobenzene      | 2.7      | 2.2      | 6.7      | -3.3    | -4.3    | -0.4    | -2.1    | -1.5     |
| 114 Atrazine               | -21.2    | -4.7     | 5.0      | 13.1    | 6.3     | 2.2     | -0.7    | Disabled |
| 115 Pentachlorophenol      | * 36.0   | -14.4    | -18.4    | -2.4    | -1.8    | 2.0     | -1.0    | 0.0      |
| 117 n-Octadecane           | -26.0    | -8.7     | -4.1     | 0.9     | 9.7     | 10.7    | 8.4     | 9.1      |
| 120 Phenanthrene           | 1.6      | 2.0      | 3.5      | -1.7    | -0.9    | 0.9     | -3.5    | -1.8     |
| 123 Anthracene             | -9.6     | -1.6     | 4.6      | -0.4    | 2.4     | 4.8     | 1.0     | -1.3     |
| 125 Carbazole              | -13.5    | -2.6     | 3.9      | 0.7     | 3.7     | 3.3     | 2.1     | 2.3      |
| 128 Di-n-butyl phthalate   | -16.6    | -4.5     | 2.5      | 1.2     | 5.4     | 4.1     | 4.5     | 3.5      |
| 133 Fluoranthene           | -7.5     | -2.8     | 3.3      | 1.8     | 4.2     | -0.6    | 2.0     | -0.3     |
| 134 Benzidine              | Disabled | 23.5     | -16.1    | -11.0   | 2.3     | -0.2    | 1.5     | Disabled |
| 135 Pyrene                 | -9.1     | 5.2      | -0.9     | -0.8    | 5.1     | 2.2     | 2.2     | -4.0     |
| 138 Butyl benzyl phthalate | -21.2    | -15.3    | -10.8    | 1.9     | 11.7    | 12.0    | 14.7    | 7.1      |
| 143 3,3'-Dichlorobenzidine | Disabled | 6.5      | -10.0    | -10.2   | 0.9     | 2.9     | 8.9     | 0.9      |
| 144 Benzo[a]anthracene     | -8.3     | -5.0     | 0.0      | -2.2    | 5.5     | 3.1     | 6.5     | 0.4      |
| 147 Bis(2-ethylhexyl) phth | Disabled | -21.7    | -15.0    | 1.3     | 10.7    | 7.8     | 9.0     | 7.8      |
| 146 Chrysene               | -10.1    | 1.0      | 2.0      | 0.0     | 5.0     | 1.5     | 5.5     | -4.9     |
| 152 Di-n-octyl phthalate   | Disabled | 6.1      | -9.8     | -7.8    | -1.1    | 3.7     | 5.9     | 2.9      |
| 153 7,12-Dimethylbenz(a)an | Disabled | -20.2    | -8.1     | -7.9    | 7.3     | 9.8     | 10.7    | 8.4      |
| 154 Benzo[b]fluoranthene   | -13.9    | -6.8     | 4.0      | 1.4     | 4.2     | 6.5     | 3.4     | 1.3      |

Method: \\PITCHROM\ChromData\CH722\20150324-6159.b\BNA\_CH722.m

| Compound                   | Level 1  | Level 2 | Level 3 | Level 4 | Level 5 | Level 6 | Level 7 | Level 8 |
|----------------------------|----------|---------|---------|---------|---------|---------|---------|---------|
| 155 Benzo[k]fluoranthene   | -14.7    | -4.8    | 1.7     | -0.7    | 5.3     | 5.2     | 4.4     | 3.4     |
| 156 Benzo[e]pyrene         | -21.3    | -6.4    | 4.0     | 0.5     | 5.1     | 6.6     | 8.2     | 3.3     |
| 157 Benzo[a]pyrene         | -15.8    | -12.2   | 0.8     | 0.4     | 6.4     | 7.8     | 9.3     | 3.4     |
| 197 Dibenzo[a,j]acridine   | Disabled | 25.7    | -4.8    | -14.2   | -12.6   | 0.6     | 4.2     | 1.0     |
| 162 Indeno[1,2,3-cd]pyrene | -10.3    | -6.2    | 0.5     | -5.9    | 2.3     | 6.0     | 7.9     | 5.7     |
| 161 Dibenzo(a,h)anthracene | -15.0    | -2.7    | -0.1    | -5.3    | 2.4     | 7.3     | 7.2     | 6.2     |
| 160 Benzo[g,h,i]perylene   | -15.4    | -6.1    | 0.4     | -3.8    | 3.1     | 6.9     | 8.8     | 6.0     |

**ICalib Error Legend**

R7, Calibration Average RF &lt; Min. RF Limit

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D  
 Lims ID: IC R0.4  
 Client ID:  
 Sample Type: IC Calib Level: 1  
 Inject. Date: 24-Mar-2015 23:35:30 ALS Bottle#: 2 Worklist Smp#: 2  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006159-002  
 Misc. Info.: ,IC R0.4  
 Operator ID: 007062 Instrument ID: CH722  
 Sublist: chrom-BNA\_CH722\*sub5  
 Method: \\PITCHROM\ChromData\CH722\20150324-6159.b\BNA\_CH722.m  
 Limit Group: BNA 8270D ICAL  
 Last Update: 26-Mar-2015 07:46:30 Calib Date: 25-Mar-2015 02:57:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last Ical File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C8.D  
 Column 1 : Rxi-5SiIMS ( 0.32 mm) Det: MS SCAN  
 Process Host: XAWRK025

First Level Reviewer: bungardf

Date: 25-Mar-2015 00:52:58

| Compound                      | Sig | RT (min.) | Adj RT (min.) | Dlt RT (min.) | Q  | Response | Cal Amt ng | OnCol Amt ng | Flags |
|-------------------------------|-----|-----------|---------------|---------------|----|----------|------------|--------------|-------|
| * 1 1,4-Dichlorobenzene-d4    | 152 | 6.041     | 6.038         | 0.003         | 94 | 69889    | 8.00       | 8.00         |       |
| * 2 Naphthalene-d8            | 136 | 7.291     | 7.288         | 0.003         | 99 | 282755   | 8.00       | 8.00         |       |
| * 3 Acenaphthene-d10          | 164 | 8.974     | 8.976         | -0.002        | 92 | 156131   | 8.00       | 8.00         |       |
| * 4 Phenanthrene-d10          | 188 | 10.400    | 10.397        | 0.003         | 97 | 227024   | 8.00       | 8.00         |       |
| * 5 Chrysene-d12              | 240 | 14.091    | 14.089        | 0.002         | 96 | 176790   | 8.00       | 8.00         |       |
| * 6 Perylene-d12              | 264 | 17.152    | 17.128        | 0.024         | 97 | 151885   | 8.00       | 8.00         |       |
| \$ 7 2-Fluorophenol           | 112 | 4.636     | 4.633         | 0.003         | 87 | 3477     | 0.4000     | 0.3693       |       |
| \$ 8 Phenol-d5                | 99  | 5.683     | 5.680         | 0.003         | 95 | 4544     | 0.4000     | 0.3603       |       |
| \$ 9 Nitrobenzene-d5          | 82  | 6.586     | 6.583         | 0.003         | 84 | 4091     | 0.4000     | 0.3624       |       |
| \$ 10 2-Fluorobiphenyl        | 172 | 8.322     | 8.319         | 0.003         | 98 | 10717    | 0.4000     | 0.4114       |       |
| \$ 11 2,4,6-Tribromophenol    | 330 | 9.732     | 9.724         | 0.008         | 0  | 478      | 0.4000     | 0.4763       | M     |
| \$ 12 Terphenyl-d14           | 244 | 12.270    | 12.267        | 0.003         | 96 | 7410     | 0.4000     | 0.3516       |       |
| 13 1,4-Dioxane                | 88  | 1.644     | 1.636         | 0.008         | 0  | 1692     | 0.4000     | 0.4573       | M     |
| 14 N-Nitrosodimethylamine     | 74  | 2.168     | 2.154         | 0.014         | 0  | 1376     | 0.4000     | 0.2807       | M     |
| 15 Pyridine                   | 79  | 2.280     | 2.213         | 0.067         | 0  | 1339     | 0.4000     | 0.1537       | M     |
| 19 Methyl methanesulfonate    | 80  | 4.406     | 4.393         | 0.013         | 0  | 1690     | 0.4000     | 0.3560       | M     |
| 25 Benzaldehyde               | 77  | 5.581     | 5.579         | 0.002         | 92 | 2038     | 0.4000     | 0.3093       |       |
| 26 Phenol                     | 94  | 5.694     | 5.691         | 0.003         | 93 | 5317     | 0.4000     | 0.3801       |       |
| 27 Aniline                    | 93  | 5.704     | 5.696         | 0.008         | 95 | 5900     | 0.4000     | 0.3756       |       |
| 29 Bis(2-chloroethyl)ether    | 93  | 5.779     | 5.776         | 0.003         | 97 | 4056     | 0.4000     | 0.3958       |       |
| 30 2-Chlorophenol             | 128 | 5.827     | 5.825         | 0.002         | 92 | 4485     | 0.4000     | 0.3817       |       |
| 31 n-Decane                   | 43  | 5.902     | 5.899         | 0.003         | 87 | 3611     | 0.4000     | 0.3847       |       |
| 32 1,3-Dichlorobenzene        | 146 | 5.987     | 5.979         | 0.008         | 94 | 5791     | 0.4000     | 0.4213       |       |
| 33 1,4-Dichlorobenzene        | 146 | 6.057     | 6.054         | 0.003         | 90 | 5609     | 0.4000     | 0.4055       |       |
| 34 Benzyl alcohol             | 108 | 6.180     | 6.177         | 0.003         | 92 | 2433     | 0.4000     | 0.3570       |       |
| 35 1,2-Dichlorobenzene        | 146 | 6.212     | 6.209         | 0.003         | 96 | 5257     | 0.4000     | 0.4005       |       |
| 36 Indene                     | 116 | 6.297     | 6.300         | -0.003        | 87 | 7569     | 0.4000     | 0.3978       |       |
| 37 2-Methylphenol             | 108 | 6.297     | 6.300         | -0.003        | 89 | 3612     | 0.4000     | 0.3616       |       |
| 38 2,2'-oxybis[1-chloropropan | 45  | 6.324     | 6.321         | 0.003         | 0  | 4563     | 0.4000     | 0.3714       | M     |
| 39 N-Nitrosopyrrolidine       | 100 | 6.404     | 6.401         | 0.003         | 86 | 1375     | 0.4000     | 0.3077       |       |

| Compound                       | Sig | RT (min.) | Adj RT (min.) | Dlt RT (min.) | Q  | Response | Cal Amt ng | OnCol Amt ng | Flags |
|--------------------------------|-----|-----------|---------------|---------------|----|----------|------------|--------------|-------|
| 40 Acetophenone                | 105 | 6.441     | 6.439         | 0.002         | 97 | 6358     | 0.4000     | 0.4114       |       |
| 42 4-Methylphenol              | 108 | 6.447     | 6.444         | 0.003         | 93 | 3740     | 0.4000     | 0.3547       |       |
| 41 N-Nitrosodi-n-propylamine   | 70  | 6.441     | 6.444         | -0.003        | 71 | 2822     | 0.4000     | 0.3659       |       |
| 43 Hexachloroethane            | 117 | 6.554     | 6.551         | 0.003         | 82 | 1731     | 0.4000     | 0.3489       |       |
| 44 Nitrobenzene                | 77  | 6.607     | 6.604         | 0.003         | 0  | 3881     | 0.4000     | 0.3476       | M     |
| 46 Isophorone                  | 82  | 6.842     | 6.834         | 0.008         | 0  | 6923     | 0.4000     | 0.3541       | M     |
| 47 2-Nitrophenol               | 139 | 6.922     | 6.920         | 0.002         | 0  | 1893     | 0.4000     | 0.2982       | M     |
| 48 2,4-Dimethylphenol          | 107 | 6.960     | 6.957         | 0.003         | 90 | 4180     | 0.4000     | 0.3783       |       |
| 49 Benzoic acid                | 122 |           | 7.005         |               |    |          | ND         | ND           |       |
| 50 Bis(2-chloroethoxy)methane  | 93  | 7.050     | 7.048         | 0.002         | 0  | 4622     | 0.4000     | 0.3626       | M     |
| 52 2,4-Dichlorophenol          | 162 | 7.152     | 7.149         | 0.003         | 86 | 3416     | 0.4000     | 0.3485       |       |
| 53 1,2,4-Trichlorobenzene      | 180 | 7.237     | 7.235         | 0.002         | 91 | 4658     | 0.4000     | 0.3992       |       |
| 56 Naphthalene                 | 128 | 7.312     | 7.310         | 0.002         | 95 | 14684    | 0.4000     | 0.4041       |       |
| 58 4-Chloroaniline             | 127 | 7.360     | 7.358         | 0.002         | 94 | 4727     | 0.4000     | 0.3361       |       |
| 59 2,6-Dichlorophenol          | 162 | 7.371     | 7.368         | 0.003         | 92 | 3508     | 0.4000     | 0.3627       |       |
| 61 Hexachlorobutadiene         | 225 | 7.440     | 7.438         | 0.002         | 90 | 2619     | 0.4000     | 0.4020       |       |
| 62 Caprolactam                 | 113 | 7.649     | 7.657         | -0.008        | 0  | 218      | 0.4000     | 0.0664       | M     |
| 63 4-Chloro-3-methylphenol     | 107 | 7.814     | 7.812         | 0.002         | 90 | 3025     | 0.4000     | 0.3130       |       |
| 67 2-Methylnaphthalene         | 142 | 7.975     | 7.972         | 0.003         | 90 | 9684     | 0.4000     | 0.3816       |       |
| 68 1-Methylnaphthalene         | 142 | 8.071     | 8.068         | 0.003         | 87 | 9099     | 0.4000     | 0.3864       |       |
| 69 Hexachlorocyclopentadiene   | 237 | 8.135     | 8.132         | 0.003         | 80 | 2434     | 0.4000     | 0.3456       |       |
| 70 1,2,4,5-Tetrachlorobenzene  | 216 | 8.140     | 8.138         | 0.002         | 92 | 5043     | 0.4000     | 0.4466       |       |
| 71 2,4,6-Trichlorophenol       | 196 | 8.242     | 8.239         | 0.003         | 1  | 1940     | 0.4000     | 0.2859       |       |
| 72 2,4,5-Trichlorophenol       | 196 | 8.274     | 8.271         | 0.003         | 83 | 2049     | 0.4000     | 0.2925       |       |
| 76 1,1'-Biphenyl               | 154 | 8.418     | 8.415         | 0.003         | 94 | 11365    | 0.4000     | 0.3961       |       |
| 78 2-Chloronaphthalene         | 162 | 8.439     | 8.442         | -0.003        | 94 | 9553     | 0.4000     | 0.3959       |       |
| 79 2-Nitroaniline              | 65  | 8.525     | 8.522         | 0.003         | 85 | 1356     | 0.4000     | 0.2329       |       |
| 82 Dimethyl phthalate          | 163 | 8.691     | 8.693         | -0.002        | 0  | 8862     | 0.4000     | 0.3698       | M     |
| 83 1,3-Dinitrobenzene          | 168 | 8.723     | 8.720         | 0.003         | 6  | 657      | 0.4000     | 0.1693       |       |
| 84 2,6-Dinitrotoluene          | 165 | 8.749     | 8.752         | -0.003        | 79 | 1454     | 0.4000     | 0.2657       |       |
| 85 Acenaphthylene              | 152 | 8.840     | 8.837         | 0.003         | 97 | 13349    | 0.4000     | 0.3784       |       |
| 86 3-Nitroaniline              | 138 | 8.915     | 8.912         | 0.003         | 0  | 1177     | 0.4000     | 0.2094       | M     |
| 87 Acenaphthene                | 153 | 9.006     | 9.003         | 0.003         | 95 | 9918     | 0.4000     | 0.4153       |       |
| 88 2,4-Dinitrophenol           | 184 | 8.990     | 9.008         | -0.018        | 0  | 0        | 0.8000     | 0            | M     |
| 89 4-Nitrophenol               | 109 | 9.059     | 9.057         | 0.002         | 0  | 493      | 0.8000     | 2.23         | M     |
| 92 2,4-Dinitrotoluene          | 165 | 9.134     | 9.137         | -0.003        | 85 | 1571     | 0.4000     | 0.2310       | M     |
| 93 Dibenzofuran                | 168 | 9.171     | 9.169         | 0.002         | 97 | 12668    | 0.4000     | 0.4076       |       |
| 95 2,3,5,6-Tetrachlorophenol   | 232 | 9.246     | 9.243         | 0.003         | 0  | 1427     | 0.4000     | 0.2343       | M     |
| 96 2,3,4,6-Tetrachlorophenol   | 232 | 9.289     | 9.281         | 0.008         | 0  | 1595     | 0.4000     | 0.2801       | M     |
| 97 2-Naphthylamine             | 143 | 9.310     | 9.313         | -0.003        | 94 | 5576     | 0.4000     | 0.3006       |       |
| 98 Diethyl phthalate           | 149 | 9.358     | 9.361         | -0.003        | 99 | 8700     | 0.4000     | 0.3672       |       |
| 99 Hexadecane                  | 57  | 9.380     | 9.377         | 0.003         | 89 | 5621     | 0.4000     | 0.3448       |       |
| 101 4-Chlorophenyl phenyl ethe | 204 | 9.487     | 9.484         | 0.002         | 86 | 4490     | 0.4000     | 0.3651       |       |
| 102 4-Nitroaniline             | 138 | 9.492     | 9.495         | -0.003        | 0  | 1277     | 0.4000     | 0.2499       | M     |
| 103 Fluorene                   | 166 | 9.497     | 9.495         | 0.002         | 94 | 9357     | 0.4000     | 0.3801       |       |
| 104 4,6-Dinitro-2-methylphenol | 198 | 9.529     | 9.527         | 0.002         | 0  | 211      | 0.8000     | 0.0542       | M     |
| 106 N-Nitrosodiphenylamine     | 169 | 9.593     | 9.596         | -0.003        | 60 | 6274     | 0.4000     | 0.3699       |       |
| 108 1,2-Diphenylhydrazine      | 77  | 9.636     | 9.639         | -0.003        | 0  | 7227     | 0.4000     | 0.3536       |       |
| 107 Azobenzene                 | 77  | 9.636     | 9.639         | -0.003        | 94 | 7227     | 0.4000     | 0.3536       |       |
| 109 4-Bromophenyl phenyl ether | 248 | 9.957     | 9.954         | 0.003         | 55 | 2181     | 0.4000     | 0.3488       |       |
| 110 Hexachlorobenzene          | 284 | 10.037    | 10.034        | 0.003         | 90 | 2964     | 0.4000     | 0.4107       |       |
| 114 Atrazine                   | 200 | 10.085    | 10.088        | -0.003        | 0  | 1510     | 0.4000     | 0.3154       | M     |

| Compound                       | Sig | RT (min.) | Adj RT (min.) | Dlt RT (min.) | Q  | Response | Cal Amt ng | OnCol Amt ng | Flags |
|--------------------------------|-----|-----------|---------------|---------------|----|----------|------------|--------------|-------|
| 115 Pentachlorophenol          | 266 | 10.213    | 10.210        | 0.003         | 89 | 5259     | 0.8000     | 1.09         |       |
| 117 n-Octadecane               | 57  | 10.256    | 10.253        | 0.003         | 92 | 4780     | 0.4000     | 0.2959       |       |
| 120 Phenanthrene               | 178 | 10.421    | 10.424        | -0.003        | 94 | 13073    | 0.4000     | 0.4062       |       |
| 123 Anthracene                 | 178 | 10.475    | 10.472        | 0.003         | 96 | 11585    | 0.4000     | 0.3617       |       |
| 125 Carbazole                  | 167 | 10.624    | 10.622        | 0.002         | 95 | 9289     | 0.4000     | 0.3461       |       |
| 128 Di-n-butyl phthalate       | 149 | 10.961    | 10.958        | 0.003         | 0  | 11427    | 0.4000     | 0.3336       | M     |
| 133 Fluoranthene               | 202 | 11.768    | 11.765        | 0.003         | 96 | 11523    | 0.4000     | 0.3702       |       |
| 134 Benzidine                  | 184 | 11.912    | 11.915        | -0.003        | 0  | 4166     | 0.4000     | 2.06         | M     |
| 135 Pyrene                     | 202 | 12.077    | 12.075        | 0.002         | 96 | 11056    | 0.4000     | 0.3635       |       |
| 138 Butyl benzyl phthalate     | 149 | 13.039    | 13.031        | 0.008         | 86 | 3687     | 0.4000     | 0.3151       |       |
| 143 3,3'-Dichlorobenzidine     | 252 | 14.017    | 14.014        | 0.003         | 0  | 1713     | 0.4000     | 1.14         | M     |
| 144 Benzo[a]anthracene         | 228 | 14.075    | 14.062        | 0.013         | 53 | 8889     | 0.4000     | 0.3668       |       |
| 147 Bis(2-ethylhexyl) phthalat | 149 | 14.134    | 14.126        | 0.008         | 0  | 4119     | 0.4000     | 0.2518       | M     |
| 146 Chrysene                   | 228 | 14.140    | 14.137        | 0.003         | 94 | 8514     | 0.4000     | 0.3596       |       |
| 152 Di-n-octyl phthalate       | 149 | 15.523    | 15.515        | 0.008         | 0  | 4585     | 0.4000     | 1.24         | M     |
| 153 7,12-Dimethylbenz(a)anthra | 256 | 16.308    | 16.300        | 0.008         | 66 | 2719     | 0.4000     | 0.2477       |       |
| 154 Benzo[b]fluoranthene       | 252 | 16.319    | 16.306        | 0.013         | 94 | 8367     | 0.4000     | 0.3442       |       |
| 155 Benzo[k]fluoranthene       | 252 | 16.373    | 16.365        | 0.007         | 94 | 8125     | 0.4000     | 0.3412       |       |
| 156 Benzo[e]pyrene             | 252 | 16.923    | 16.899        | 0.024         | 0  | 6835     | 0.4000     | 0.3148       | M     |
| 157 Benzo[a]pyrene             | 252 | 17.024    | 17.006        | 0.018         | 0  | 7142     | 0.4000     | 0.3369       | M     |
| 162 Indeno[1,2,3-cd]pyrene     | 276 | 19.498    | 19.458        | 0.040         | 0  | 8535     | 0.4000     | 0.3586       | M     |
| 161 Dibenz(a,h)anthracene      | 278 | 19.551    | 19.511        | 0.040         | 88 | 6768     | 0.4000     | 0.3401       |       |
| 160 Benzo[g,h,i]perylene       | 276 | 20.139    | 20.093        | 0.046         | 0  | 6674     | 0.4000     | 0.3385       | M     |
| S 206 Methyl Phenols, Total    | 108 |           |               |               | 0  |          | 0.8000     | 0.7164       |       |
| S 208 Total Cresols            | 108 |           |               |               | 0  |          | 0.8000     | 0.7164       |       |

**QC Flag Legend**

Processing Flags

ND - Not Detected or Marked ND

Review Flags

M - Manually Integrated

**Reagents:**

SVTAPSTD0.4i\_00008

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Operator ID: 007062

Lims ID: IC R0.4

Worklist Smp#: 2

Client ID:

Injection Vol: 2.0 ul

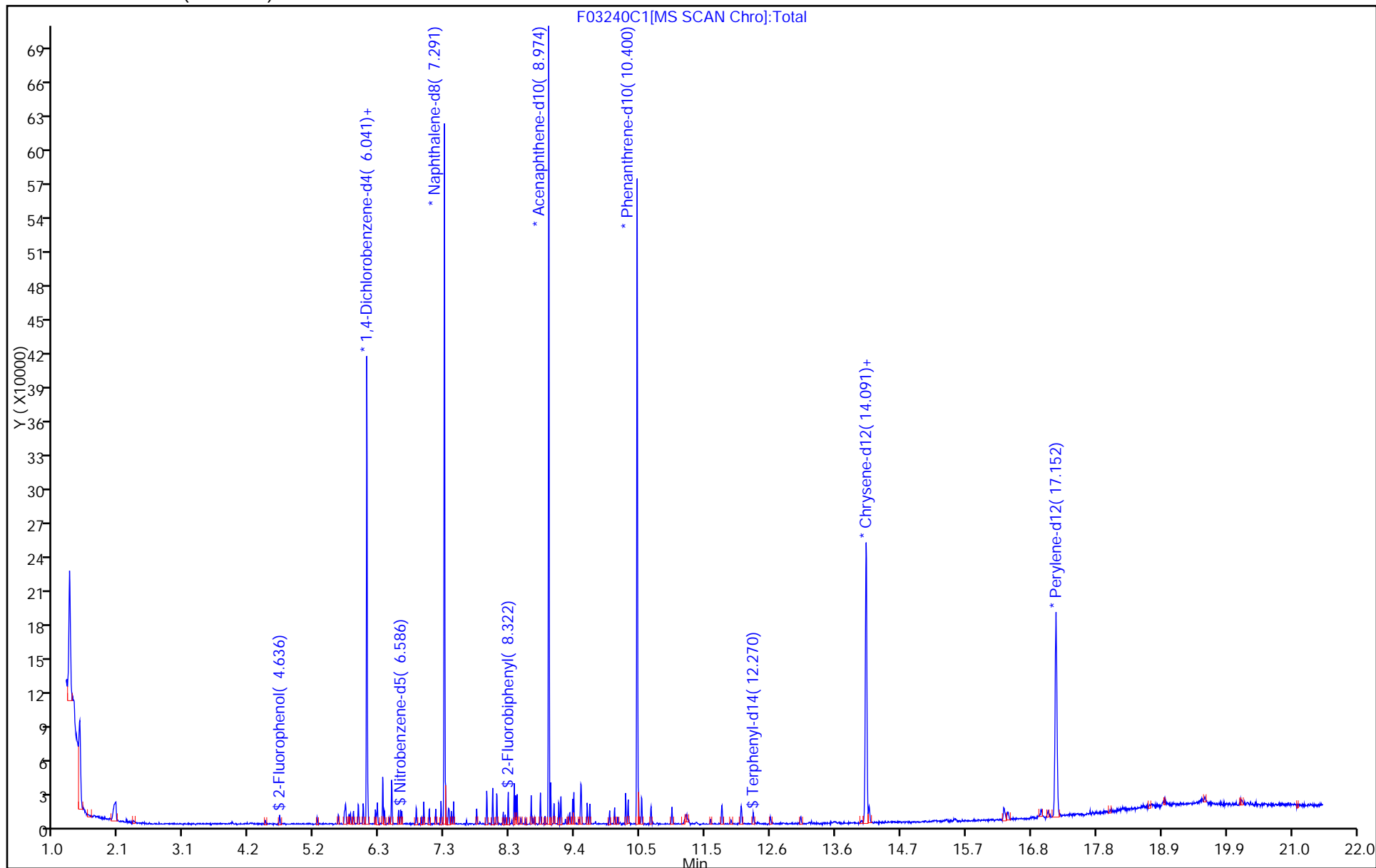
Dil. Factor: 1.0000

ALS Bottle#: 2

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#:

2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

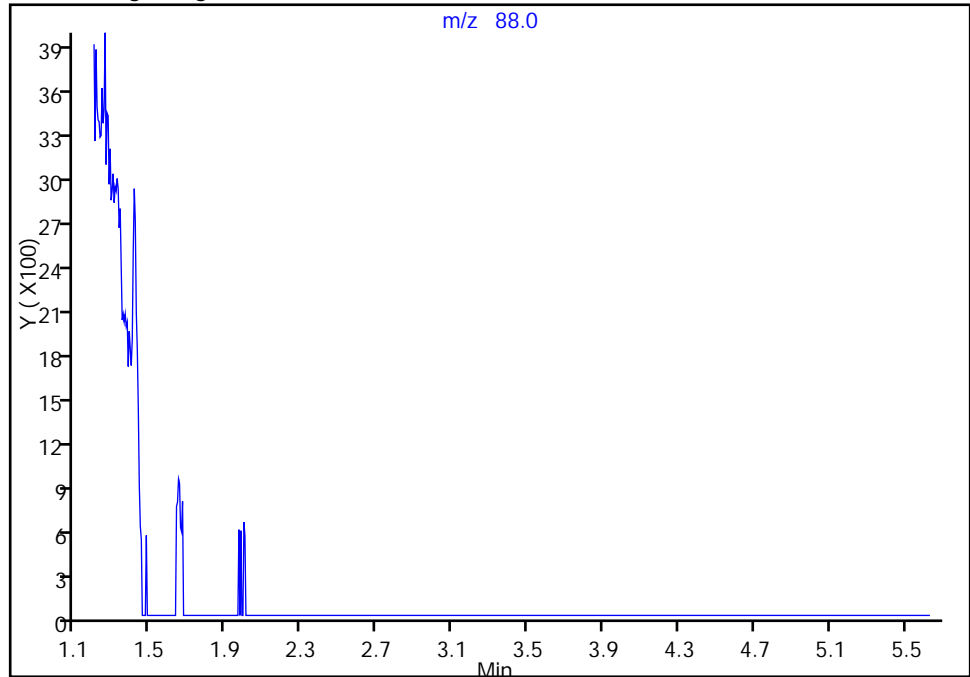
Detector: MS SCAN

## 13 1,4-Dioxane, CAS: 123-91-1

Not Detected

Expected RT: 1.64

## Processing Integration Results



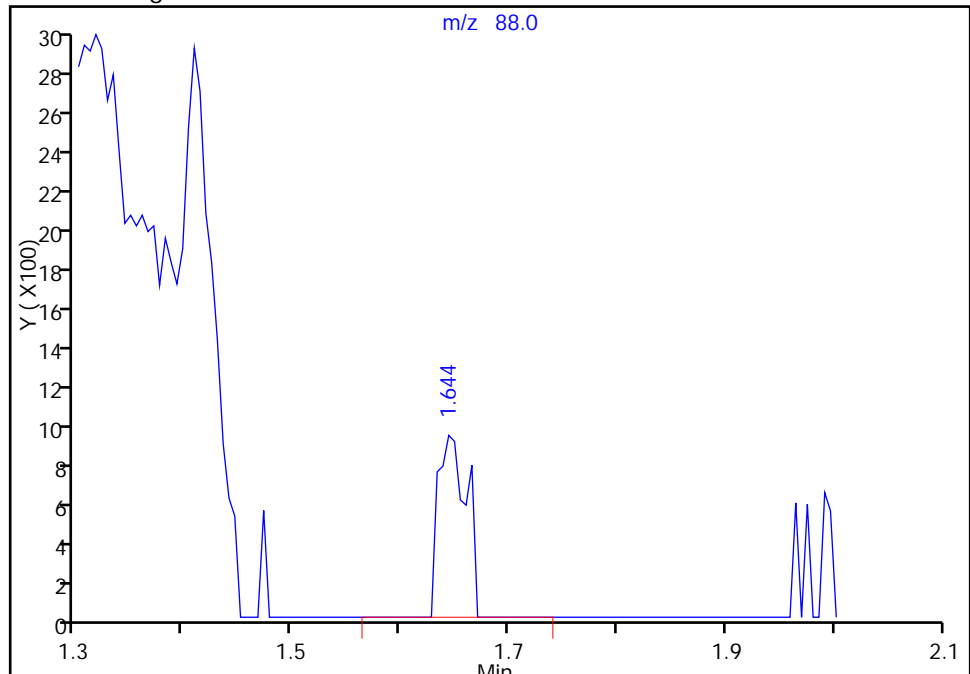
RT: 1.64

Area: 1692

Amount: 0.457276

Amount Units: ng

## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography



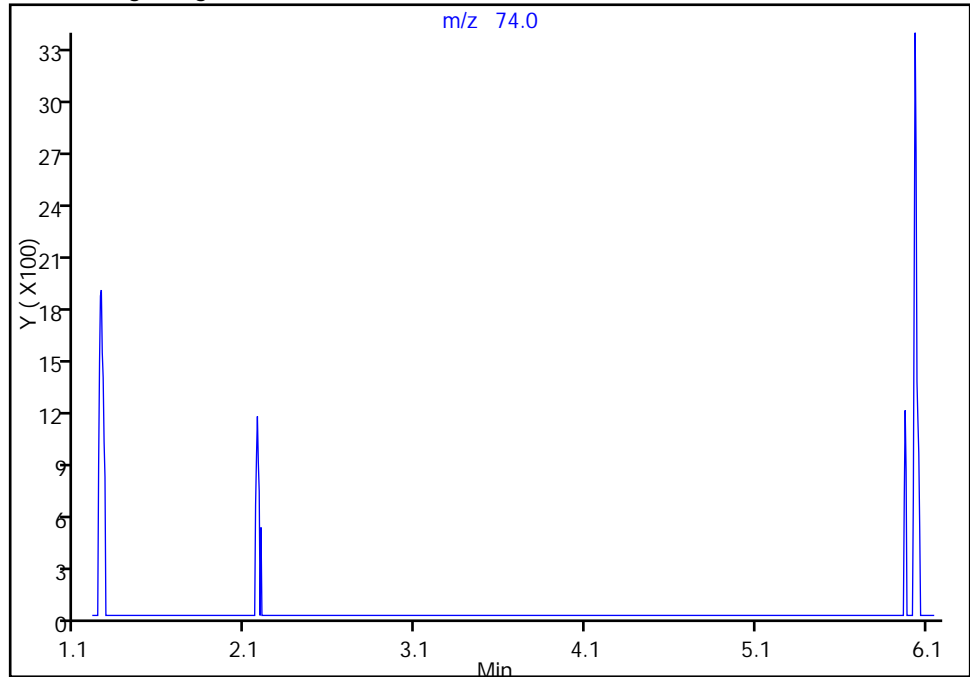
## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D  
Injection Date: 24-Mar-2015 23:35:30 Instrument ID: CH722  
Lims ID: IC R0.4  
Client ID:  
Operator ID: 007062 ALS Bottle#: 2 Worklist Smp#: 2  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: BNA\_CH722 Limit Group: BNA 8270D ICAL  
Column: Rxi-5SilMS ( 0.32 mm) Detector: MS SCAN

## 14 N-Nitrosodimethylamine, CAS: 62-75-9

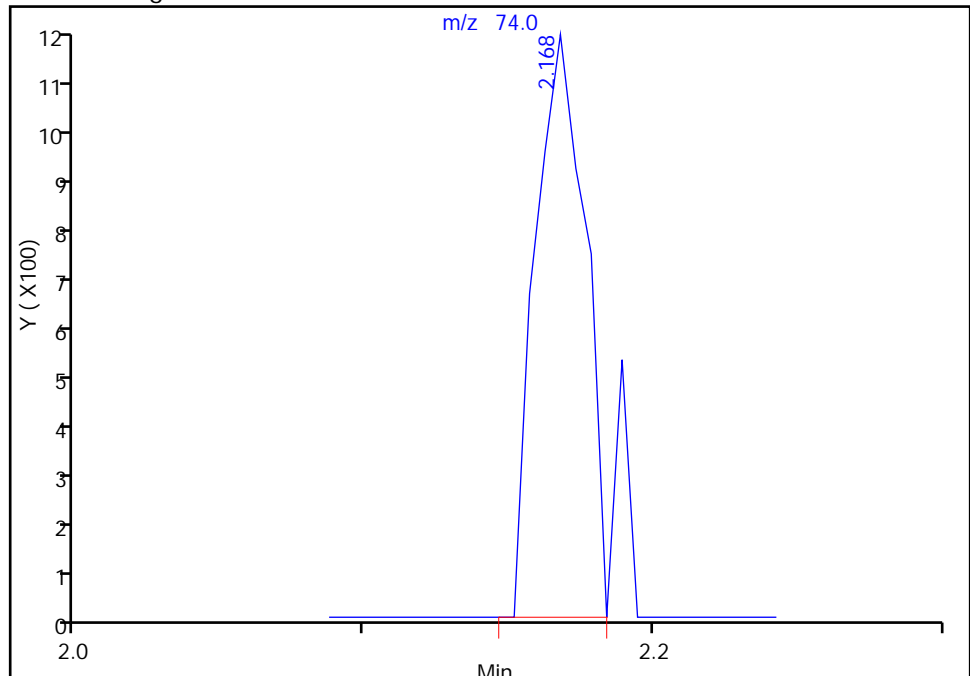
Not Detected  
Expected RT: 2.15

## Processing Integration Results



RT: 2.17  
Area: 1376  
Amount: 0.280667  
Amount Units: ng

## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58  
Audit Action: Manually Integrated  
Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#: 2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

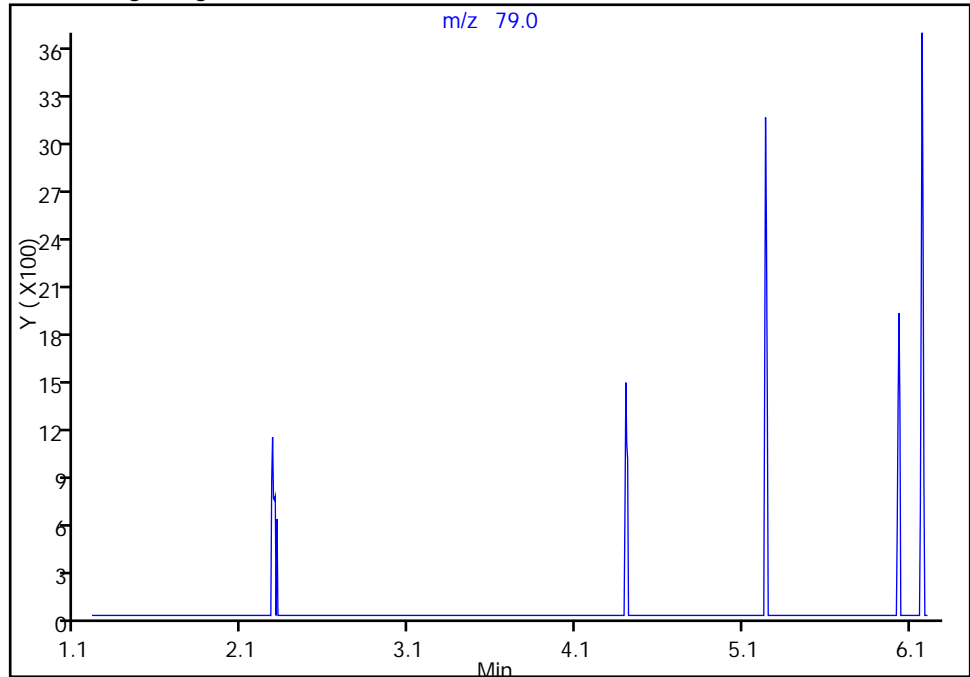
Detector: MS SCAN

## 15 Pyridine, CAS: 110-86-1

Not Detected

Expected RT: 2.21

## Processing Integration Results



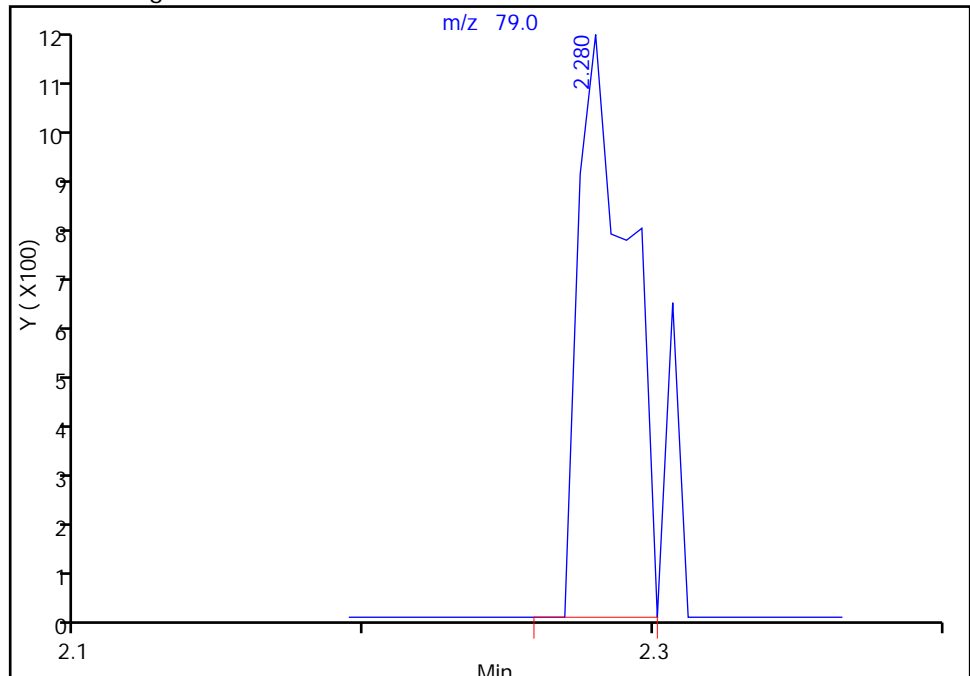
RT: 2.28

Area: 1339

Amount: 0.153710

Amount Units: ng

## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#:

2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS ( 0.32 mm)

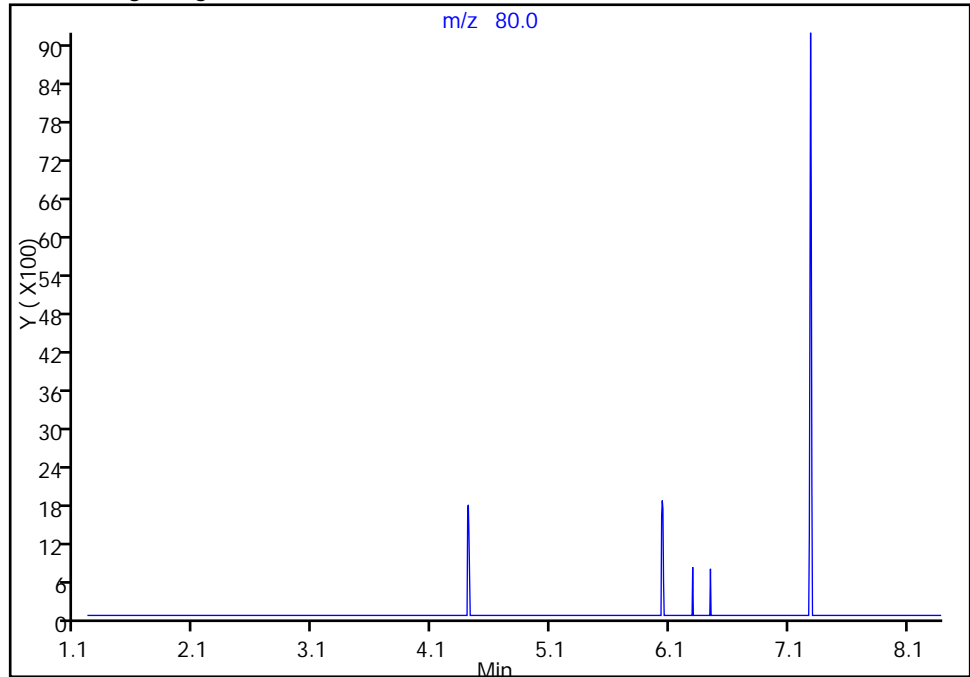
Detector: MS SCAN

## 19 Methyl methanesulfonate, CAS: 66-27-3

Not Detected

Expected RT: 4.39

## Processing Integration Results



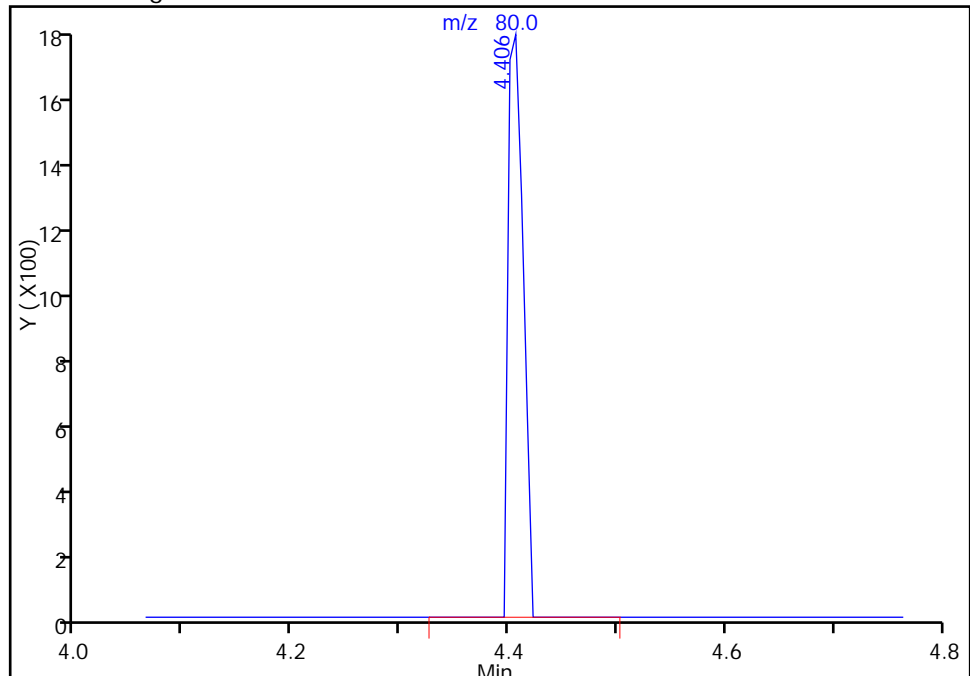
RT: 4.41

Area: 1690

Amount: 0.356009

Amount Units: ng

## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#: 2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

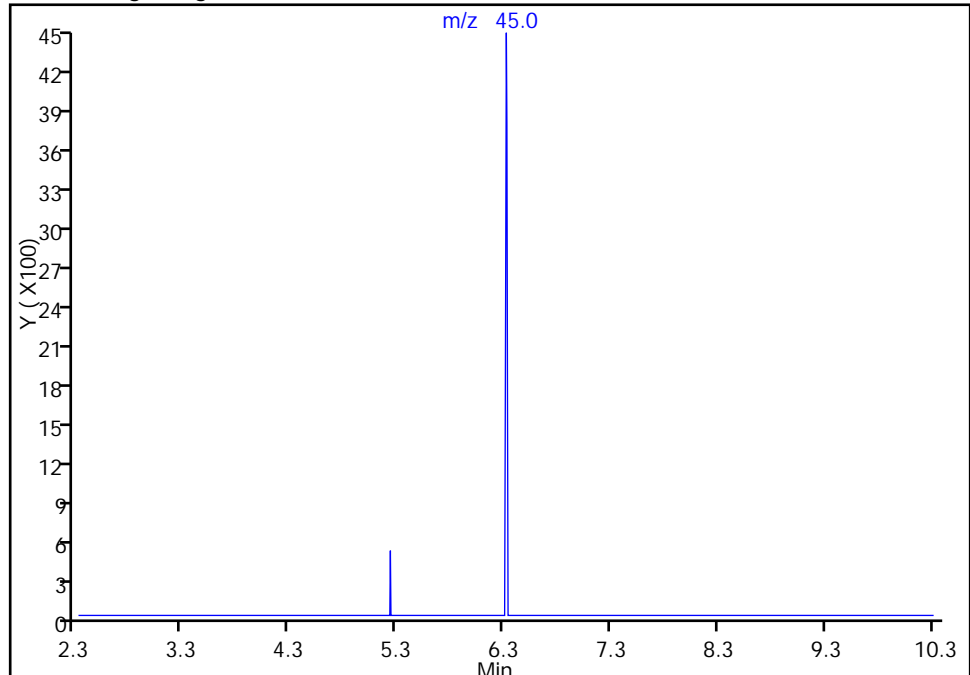
Detector: MS SCAN

## 38 2,2'-oxybis[1-chloropropane], CAS: 108-60-1

Not Detected

Expected RT: 6.32

## Processing Integration Results



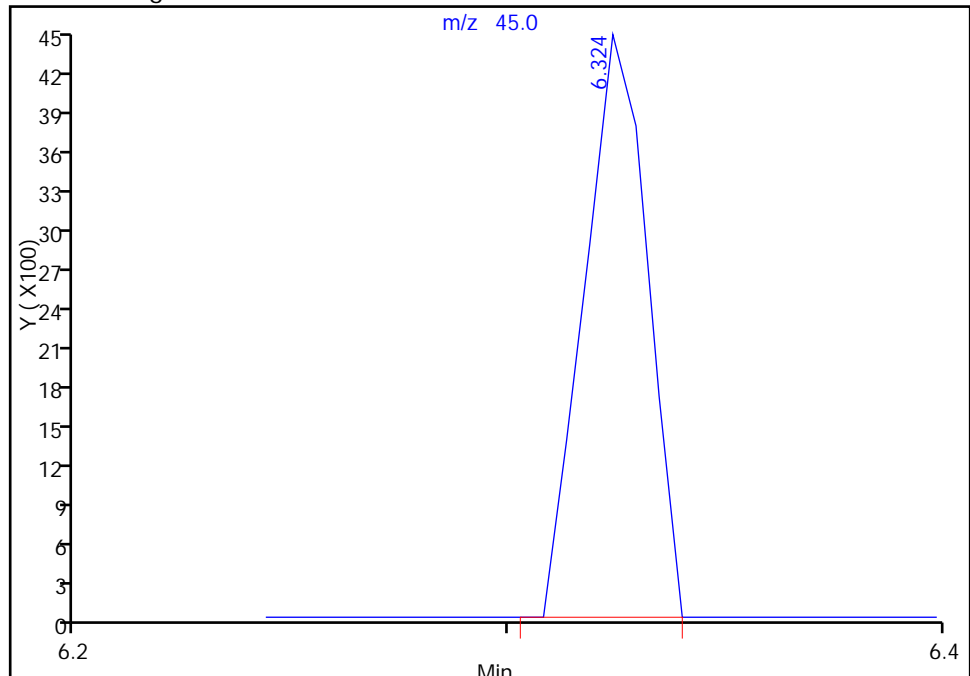
RT: 6.32

Area: 4563

Amount: 0.371403

Amount Units: ng

## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#:

2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

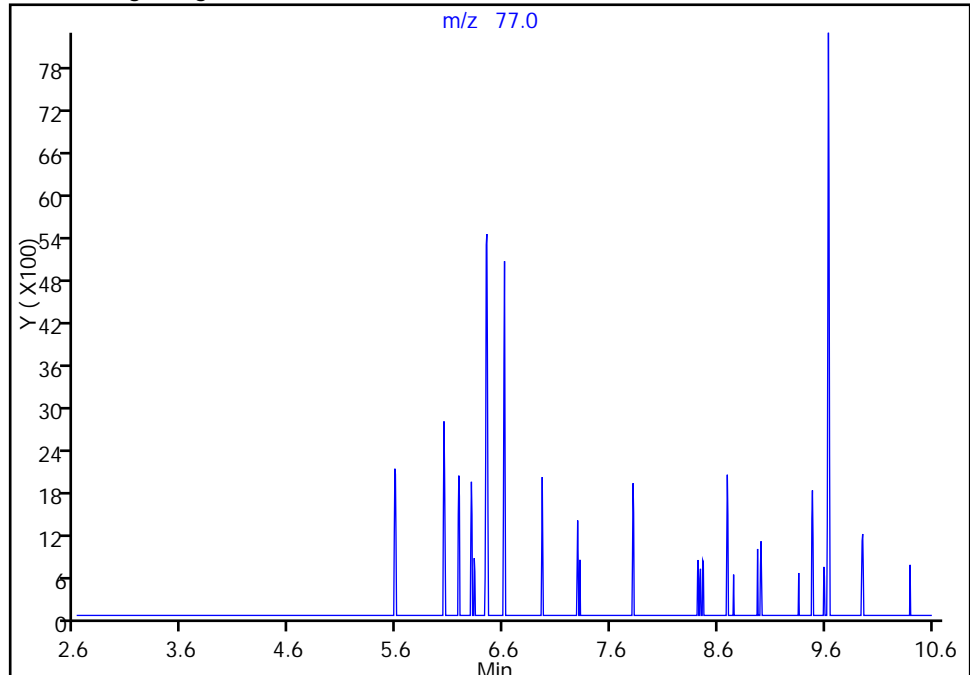
Detector: MS SCAN

## 44 Nitrobenzene, CAS: 98-95-3

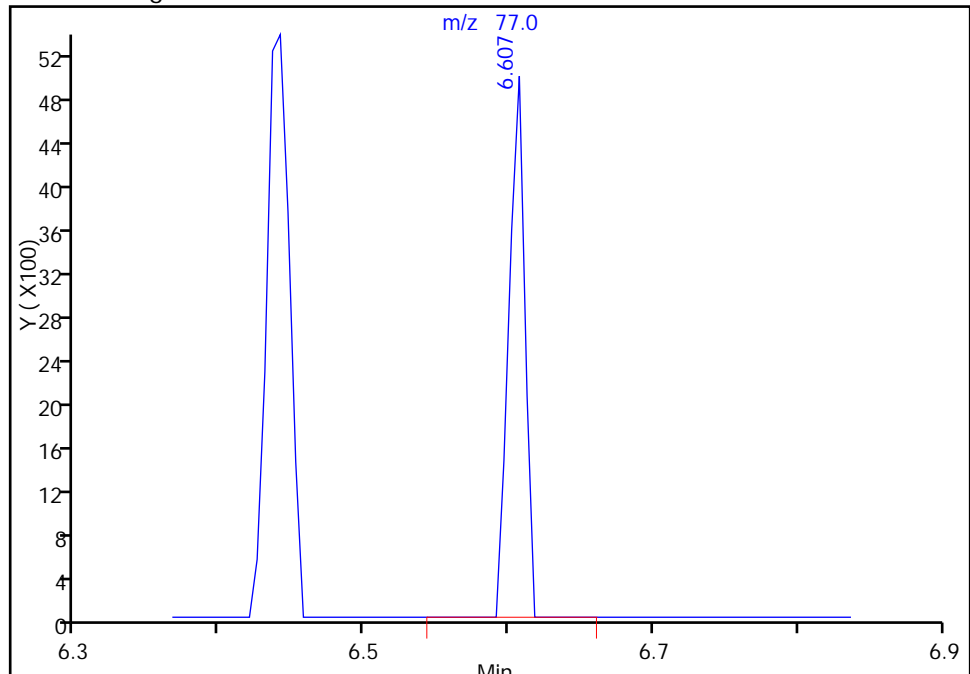
Not Detected

Expected RT: 6.60

## Processing Integration Results



## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#: 2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

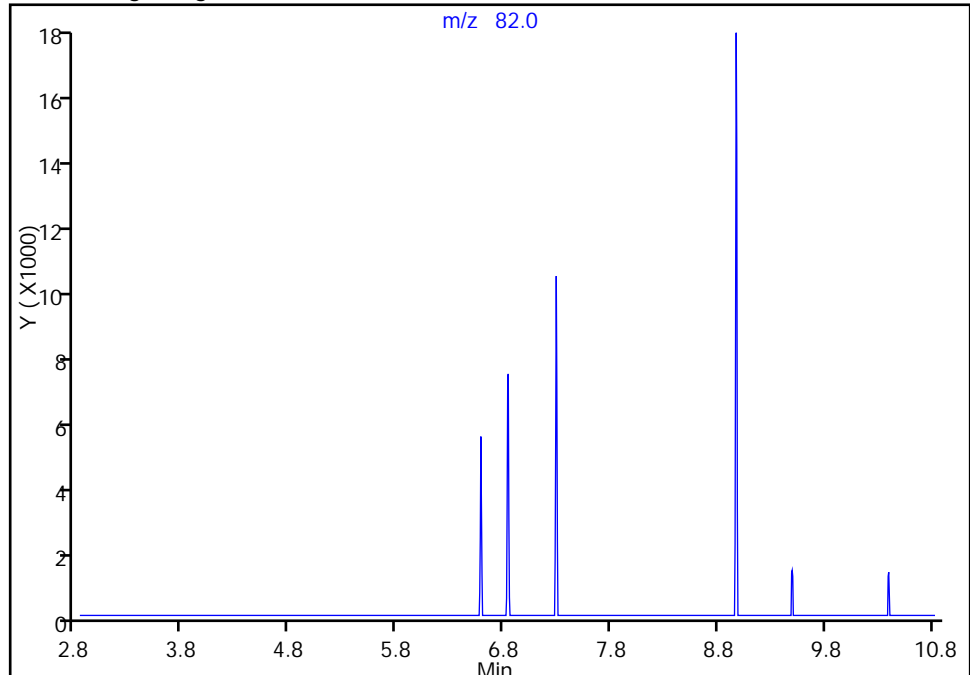
Detector: MS SCAN

## 46 Isophorone, CAS: 78-59-1

Not Detected

Expected RT: 6.83

## Processing Integration Results



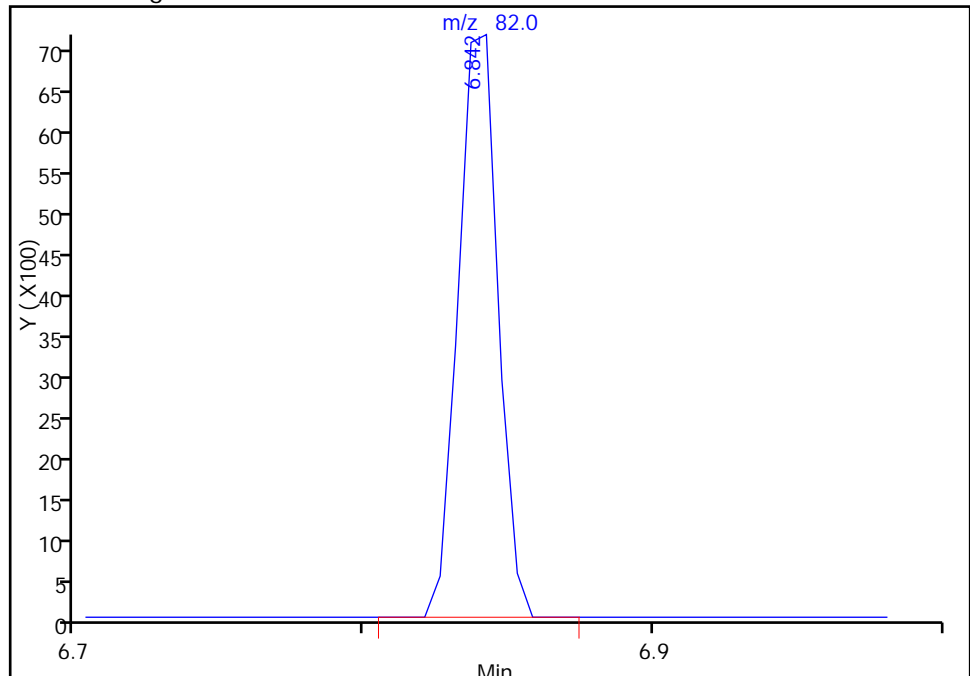
RT: 6.84

Area: 6923

Amount: 0.354066

Amount Units: ng

## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#:

2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

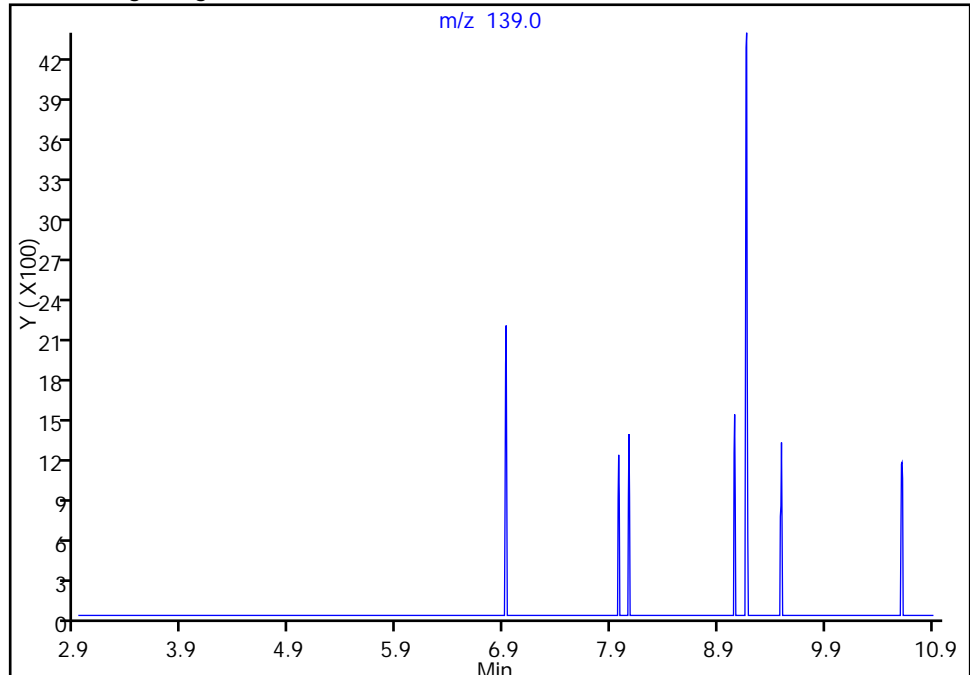
Detector: MS SCAN

## 47 2-Nitrophenol, CAS: 88-75-5

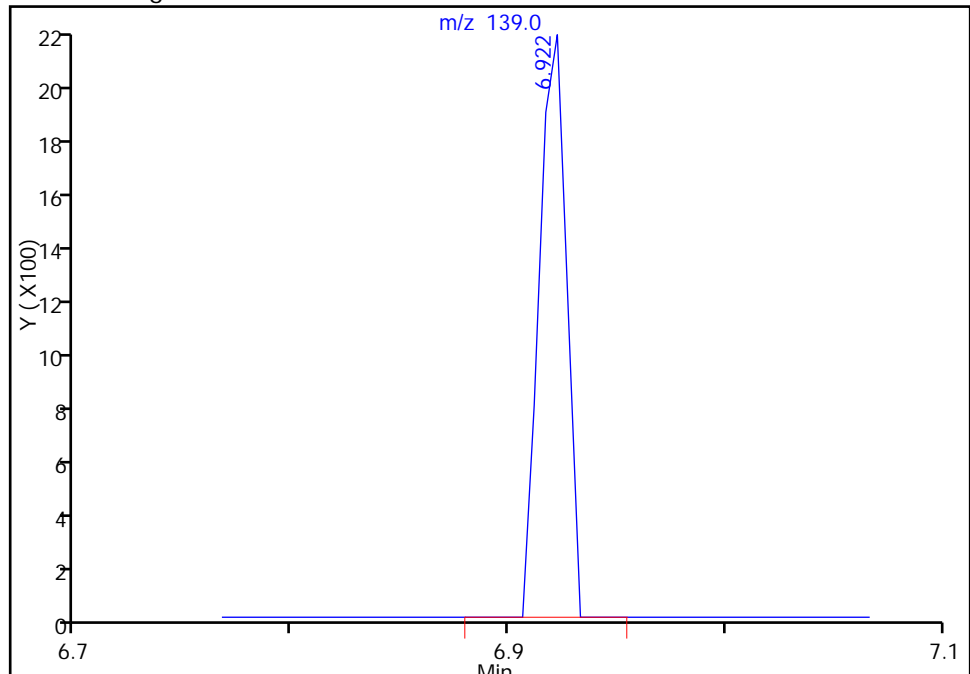
Not Detected

Expected RT: 6.92

## Processing Integration Results



## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#: 2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

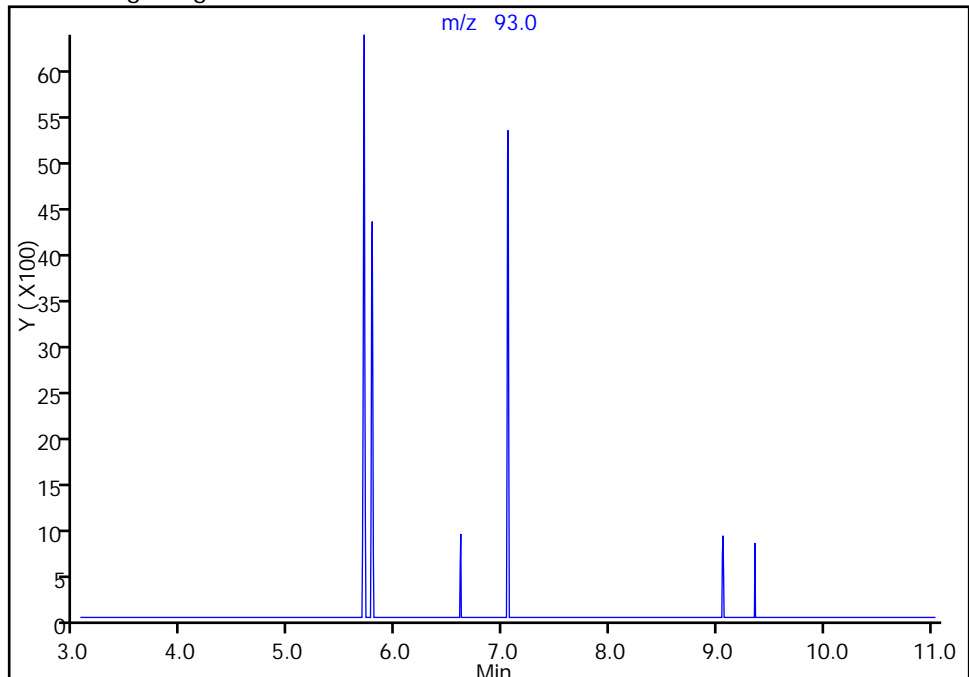
Detector: MS SCAN

## 50 Bis(2-chloroethoxy)methane, CAS: 111-91-1

## Processing Integration Results

Not Detected

Expected RT: 7.05



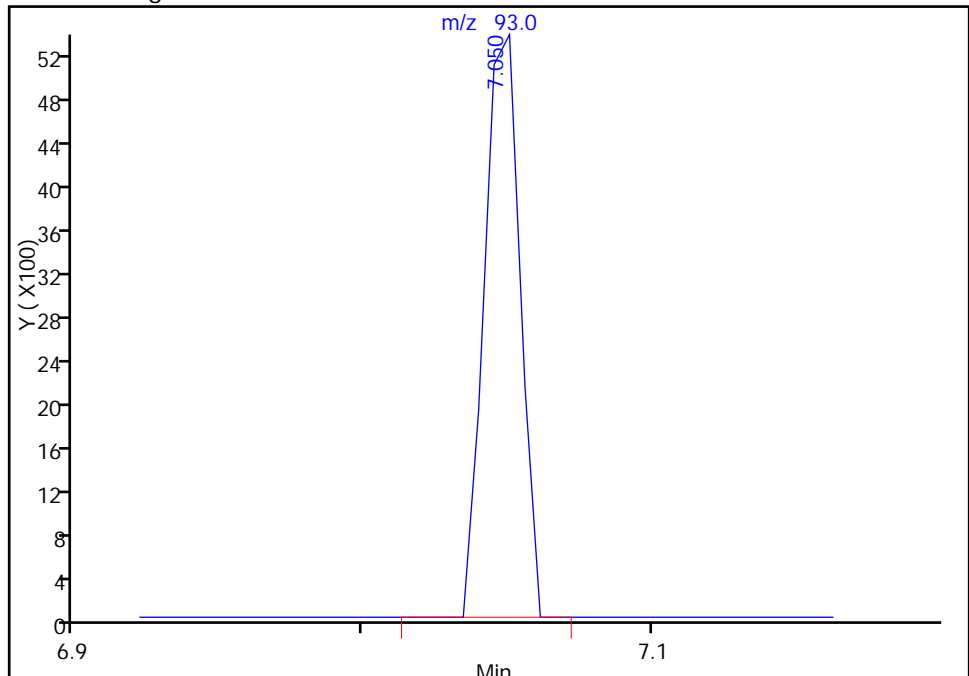
## Manual Integration Results

RT: 7.05

Area: 4622

Amount: 0.362602

Amount Units: ng



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#:

2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

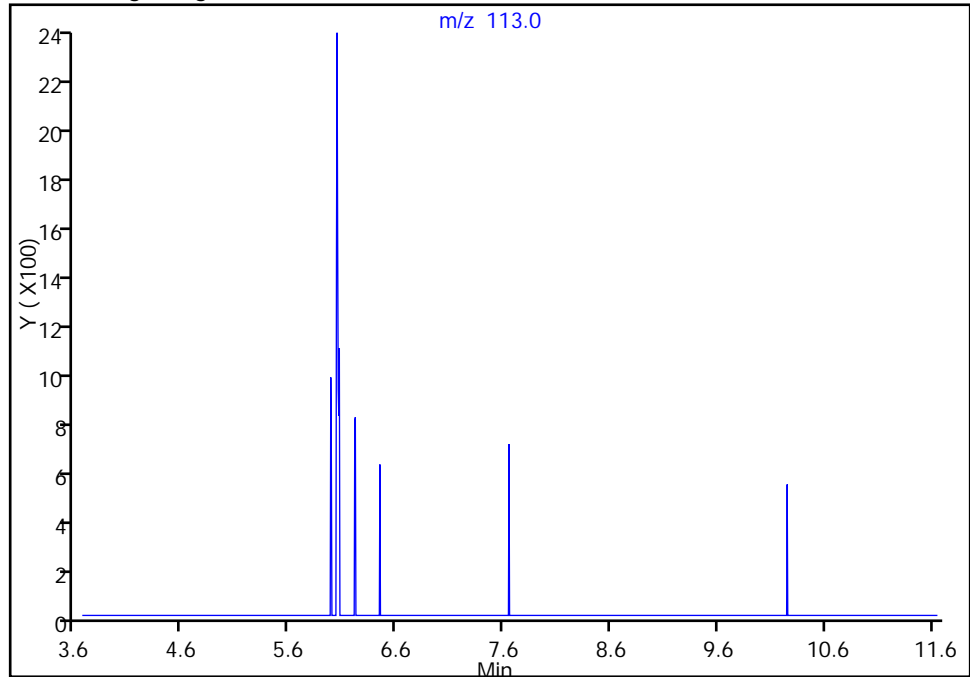
Detector: MS SCAN

## 62 Caprolactam, CAS: 105-60-2

Not Detected

Expected RT: 7.66

## Processing Integration Results



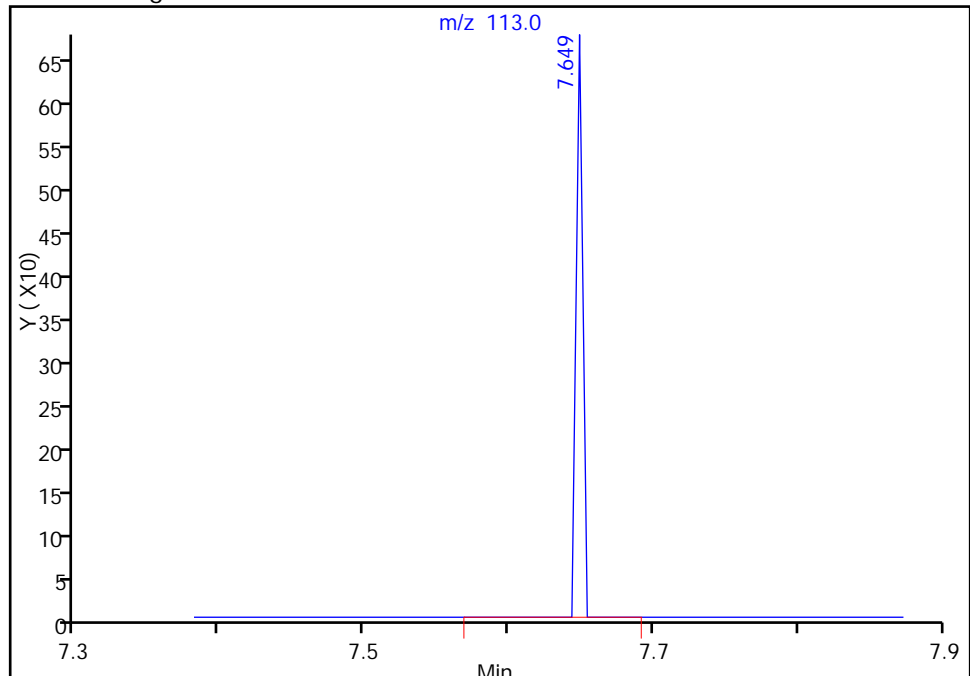
RT: 7.65

Area: 218

Amount: 0.066429

Amount Units: ng

## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#:

2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

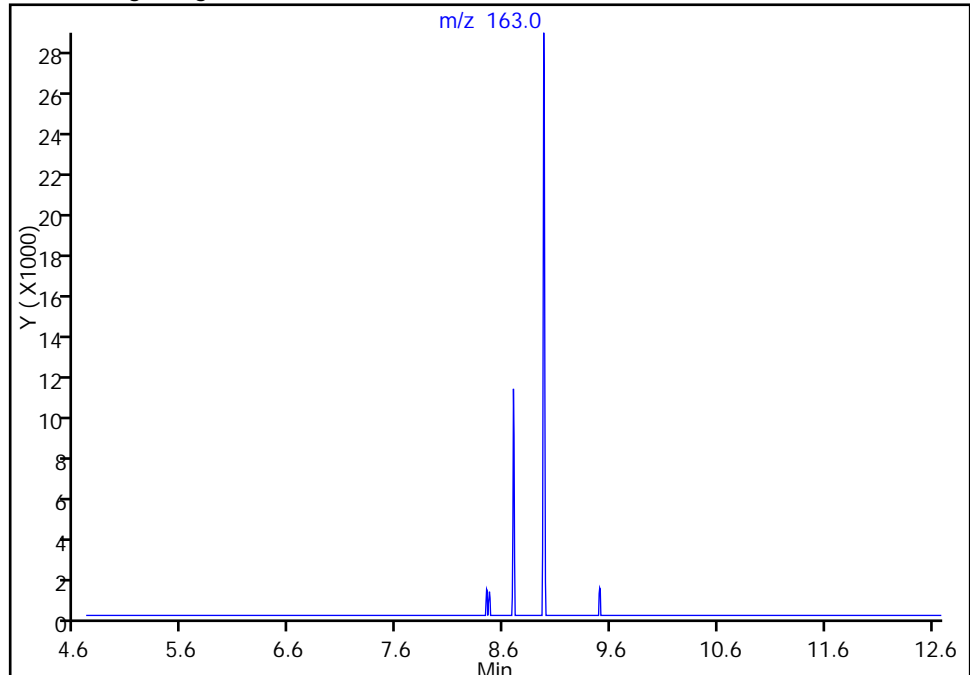
Detector: MS SCAN

## 82 Dimethyl phthalate, CAS: 131-11-3

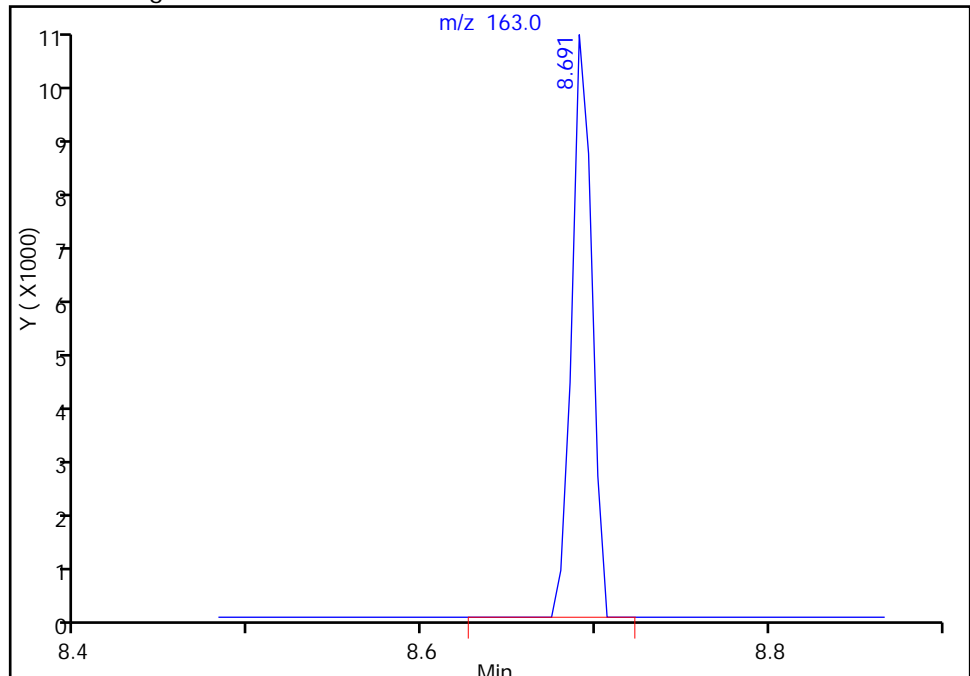
Not Detected

Expected RT: 8.69

## Processing Integration Results



## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#:

2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

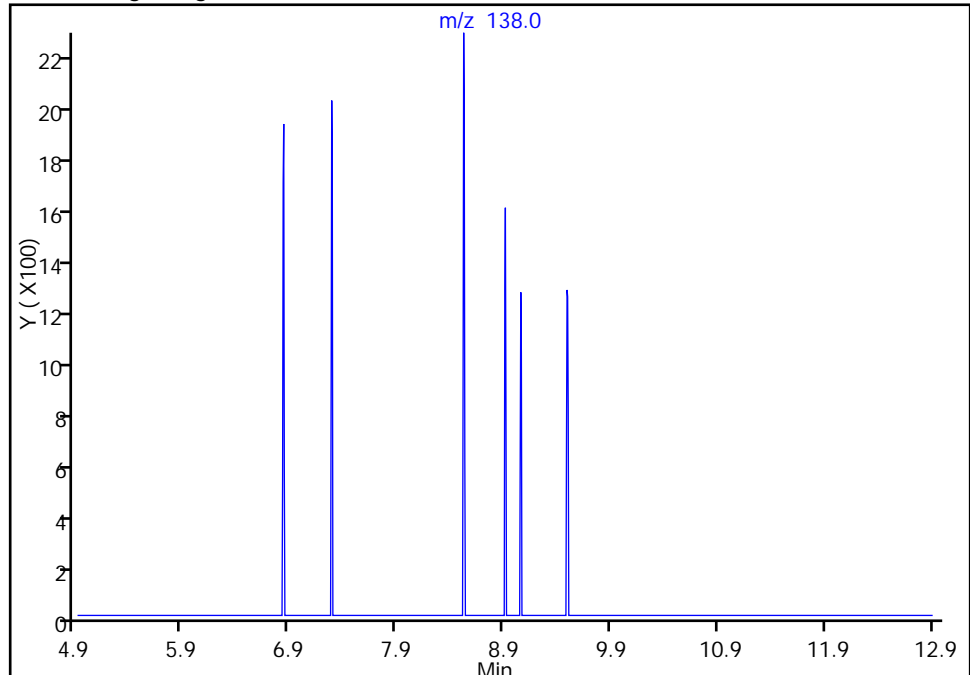
Detector: MS SCAN

## 86 3-Nitroaniline, CAS: 99-09-2

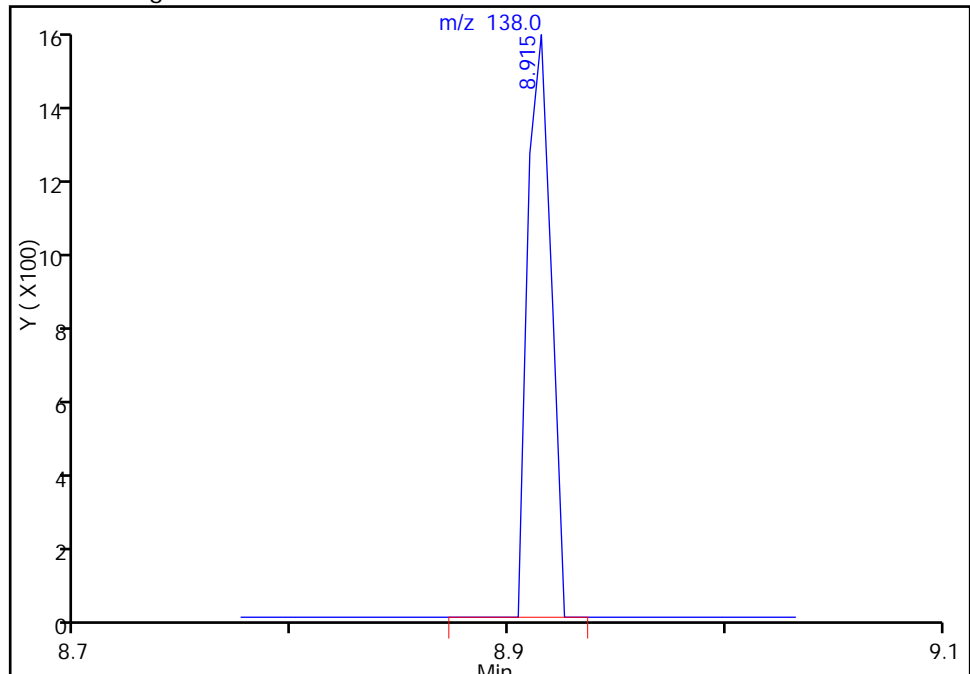
Not Detected

Expected RT: 8.91

## Processing Integration Results



## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#:

2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS ( 0.32 mm)

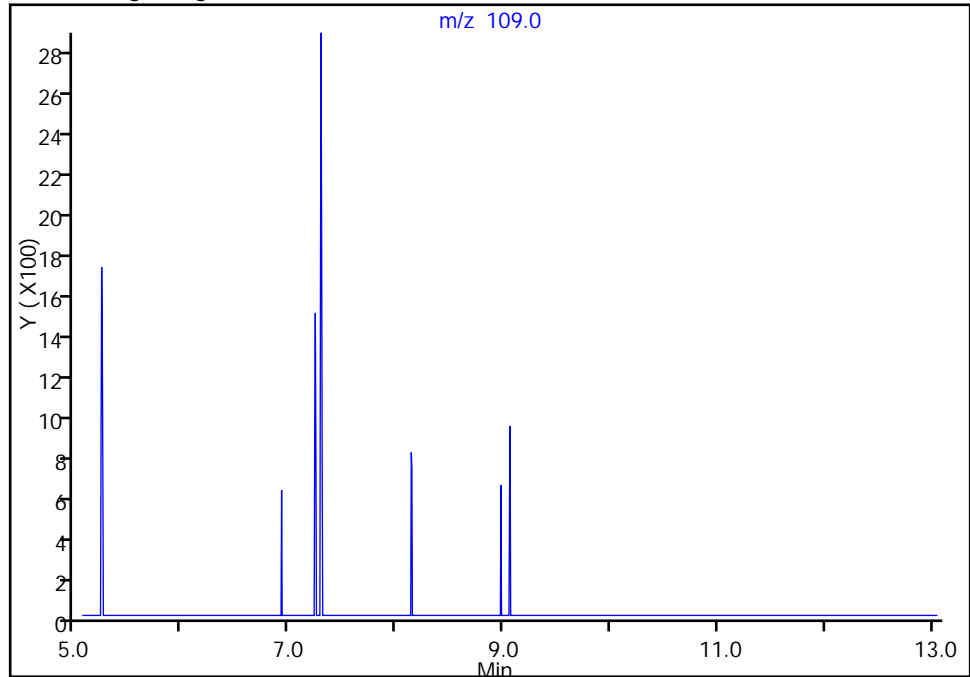
Detector: MS SCAN

## 89 4-Nitrophenol, CAS: 100-02-7

Not Detected

Expected RT: 9.06

## Processing Integration Results



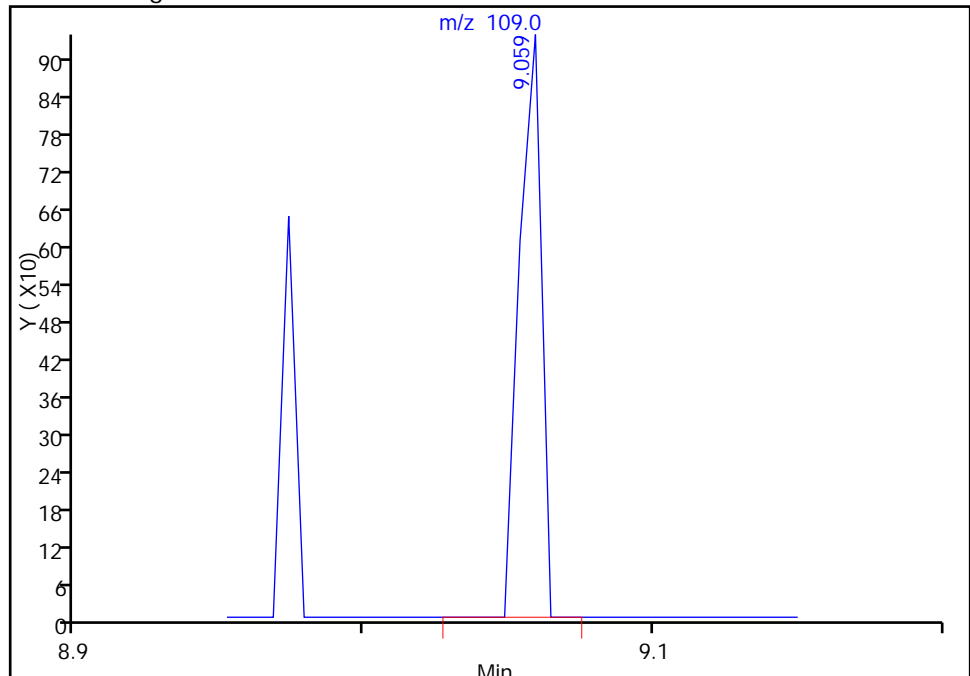
RT: 9.06

Area: 493

Amount: 2.234633

Amount Units: ng

## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#: 2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

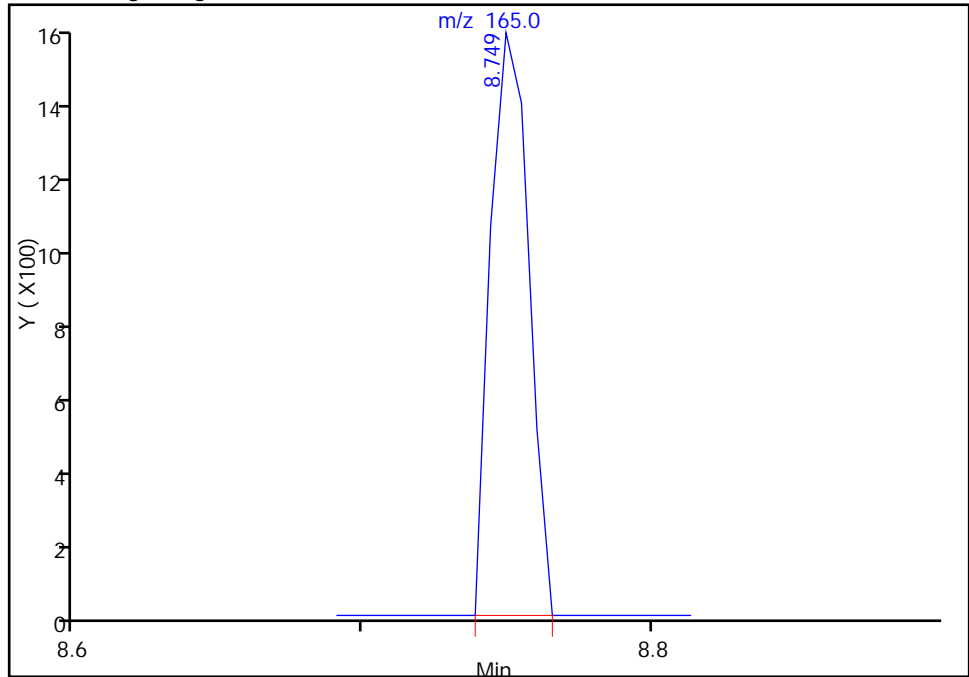
Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

## 92 2,4-Dinitrotoluene, CAS: 121-14-2

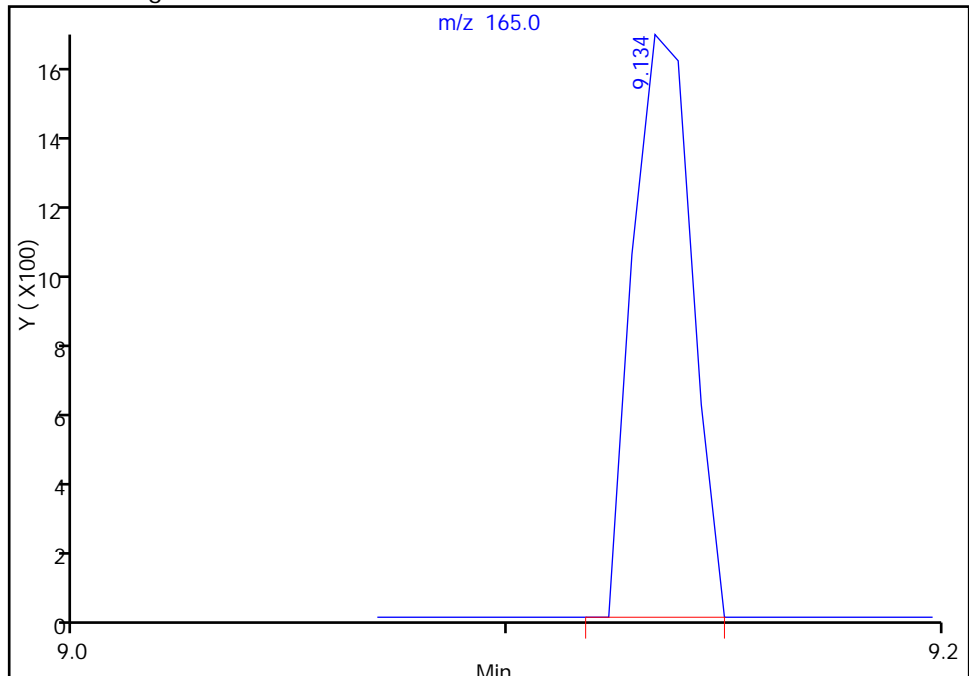
RT: 8.75  
Area: 1454  
Amount: 0.400000  
Amount Units: ng

## Processing Integration Results



RT: 9.13  
Area: 1571  
Amount: 0.230958  
Amount Units: ng

## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#: 2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

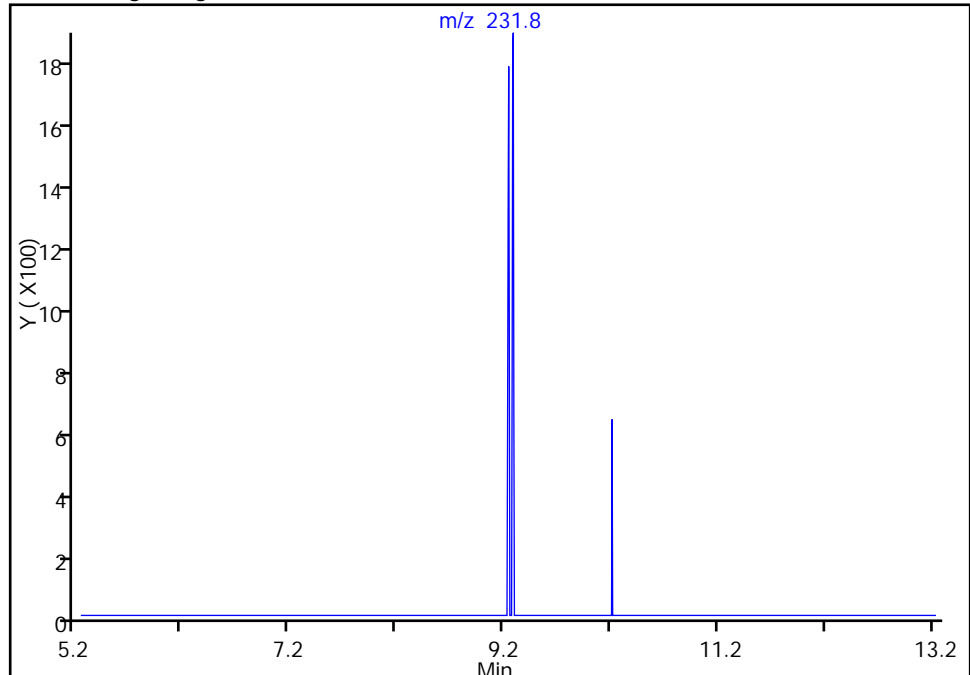
Detector: MS SCAN

## 95 2,3,5,6-Tetrachlorophenol, CAS: 935-95-5

Not Detected

Expected RT: 9.24

## Processing Integration Results



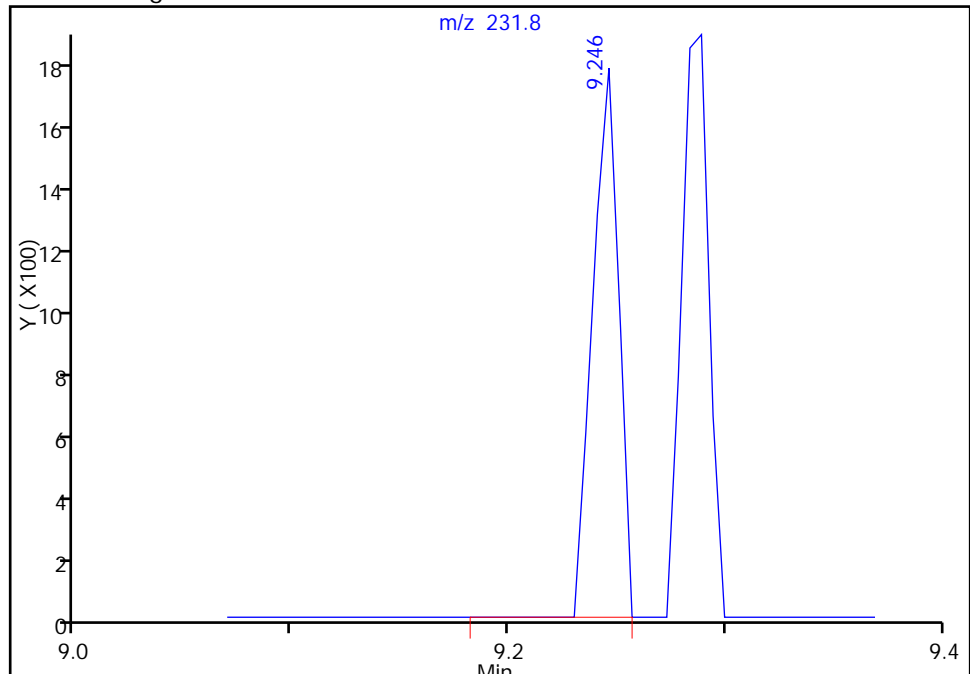
RT: 9.25

Area: 1427

Amount: 0.234281

Amount Units: ng

## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#:

2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

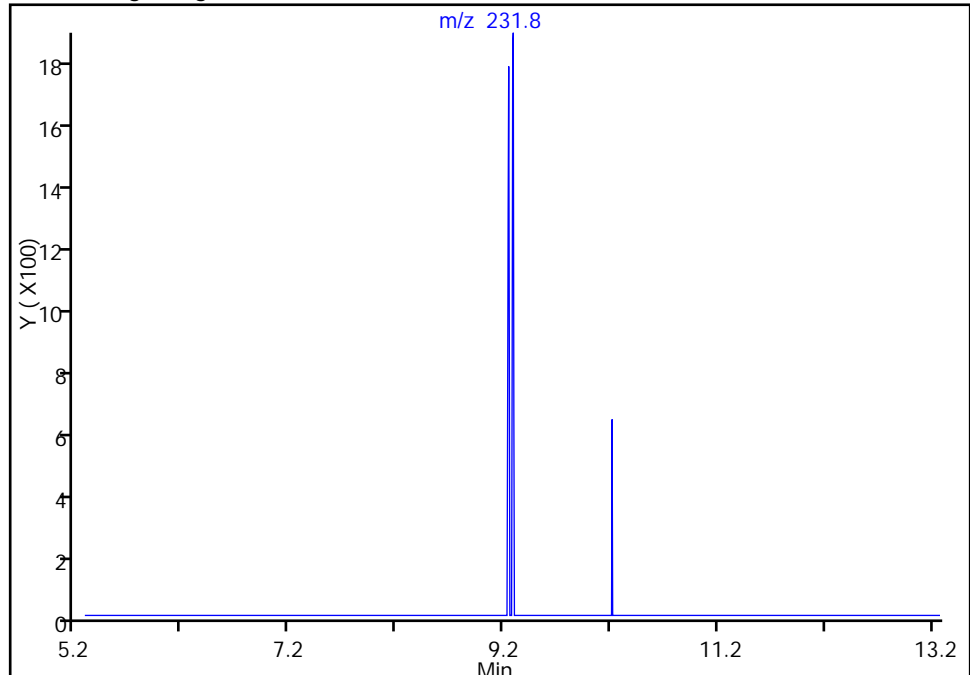
Detector: MS SCAN

## 96 2,3,4,6-Tetrachlorophenol, CAS: 58-90-2

Not Detected

Expected RT: 9.28

## Processing Integration Results



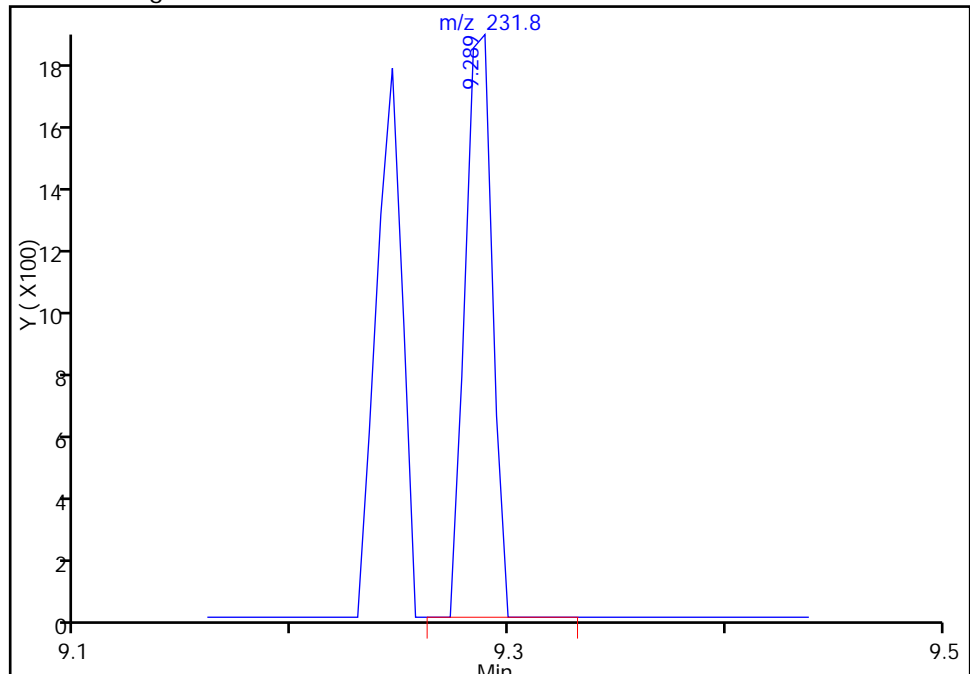
RT: 9.29

Area: 1595

Amount: 0.280111

Amount Units: ng

## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#:

2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

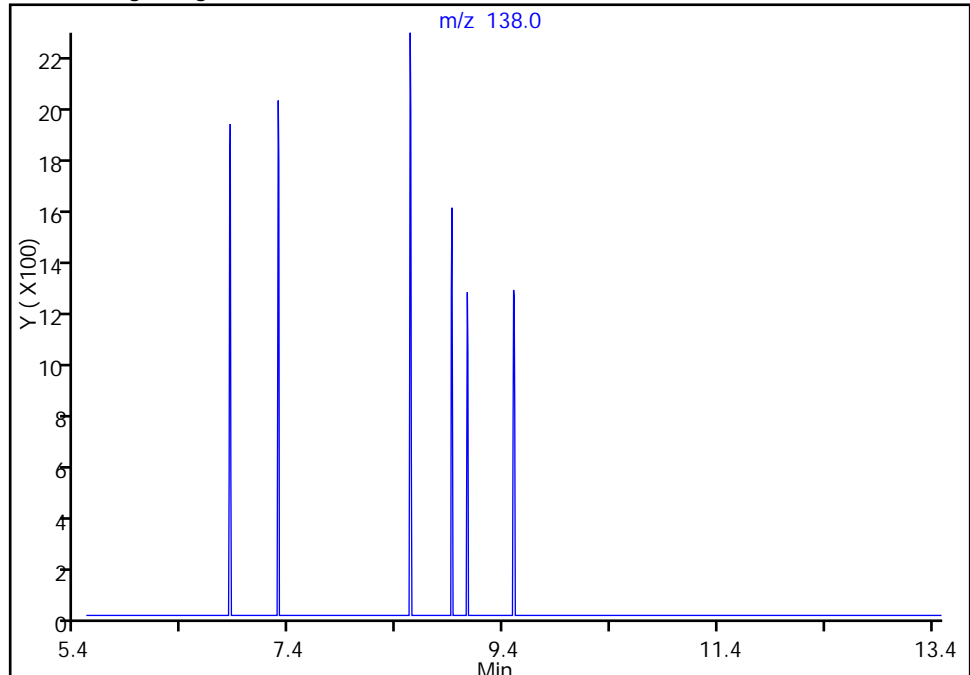
Detector: MS SCAN

## 102 4-Nitroaniline, CAS: 100-01-6

Not Detected

Expected RT: 9.49

## Processing Integration Results



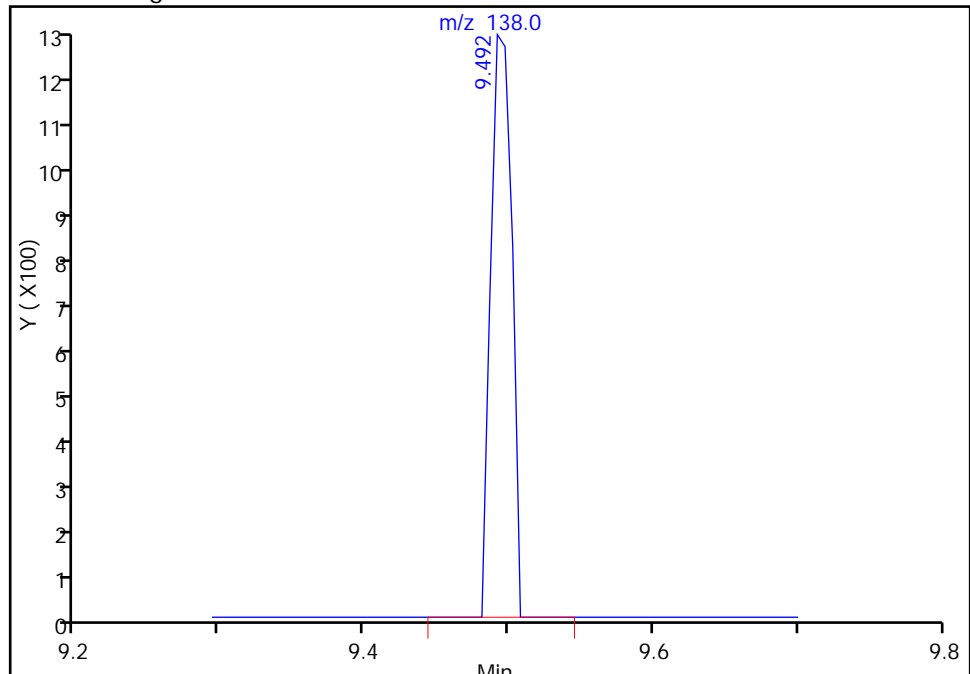
RT: 9.49

Area: 1277

Amount: 0.249904

Amount Units: ng

## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#:

2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

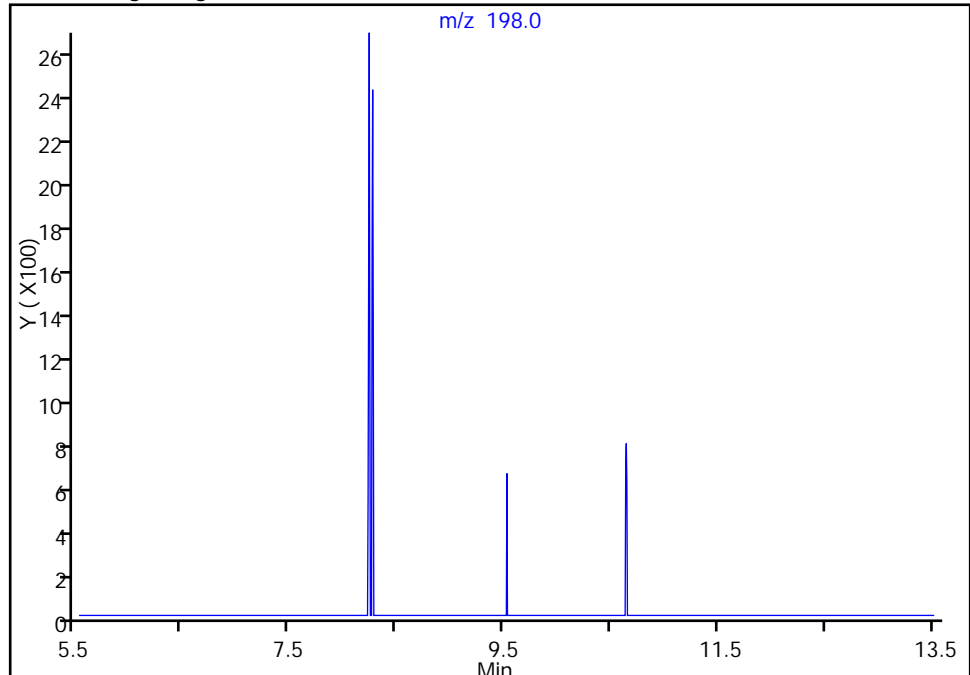
Detector: MS SCAN

## 104 4,6-Dinitro-2-methylphenol, CAS: 534-52-1

Not Detected

Expected RT: 9.53

## Processing Integration Results



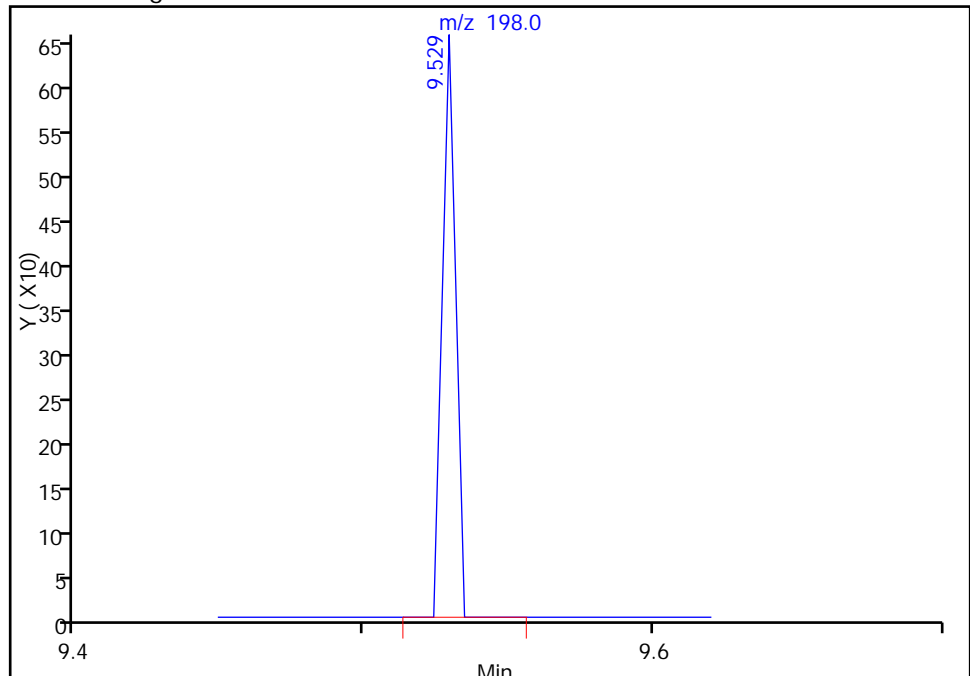
RT: 9.53

Area: 211

Amount: 0.054206

Amount Units: ng

## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#:

2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

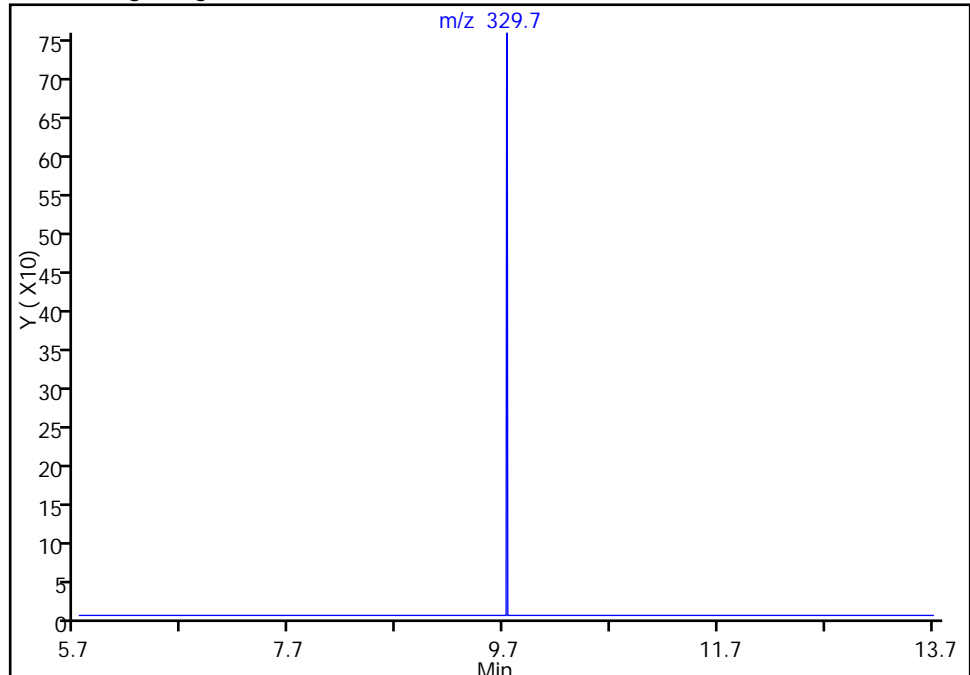
Detector: MS SCAN

## \$ 11 2,4,6-Tribromophenol, CAS: 118-79-6

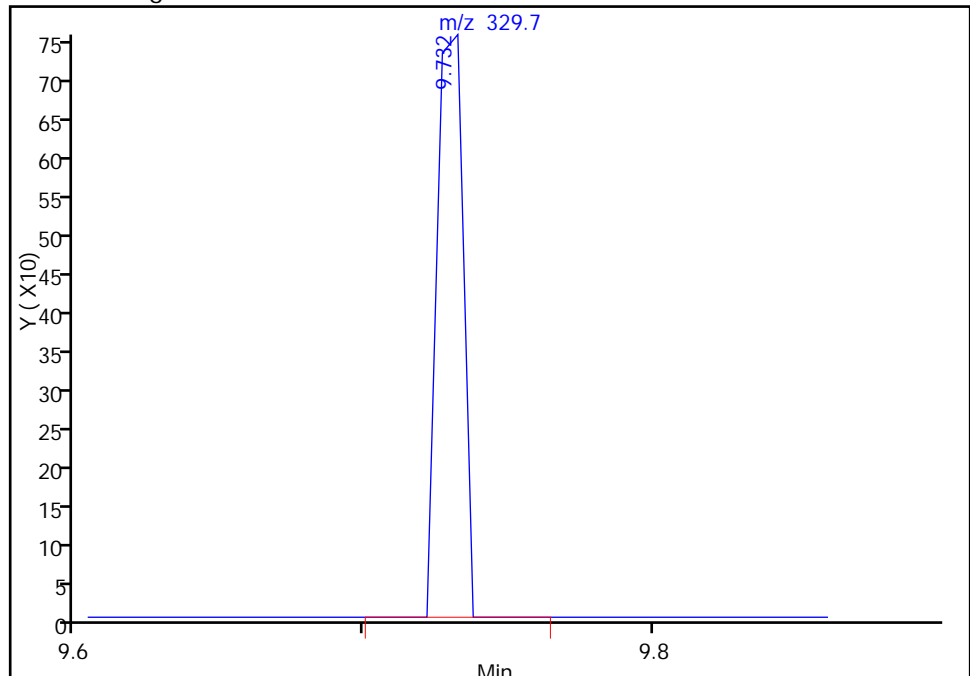
Not Detected

Expected RT: 9.72

## Processing Integration Results



## Manual Integration Results



RT: 9.73

Area: 478

Amount: 0.476267

Amount Units: ng

Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#:

2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

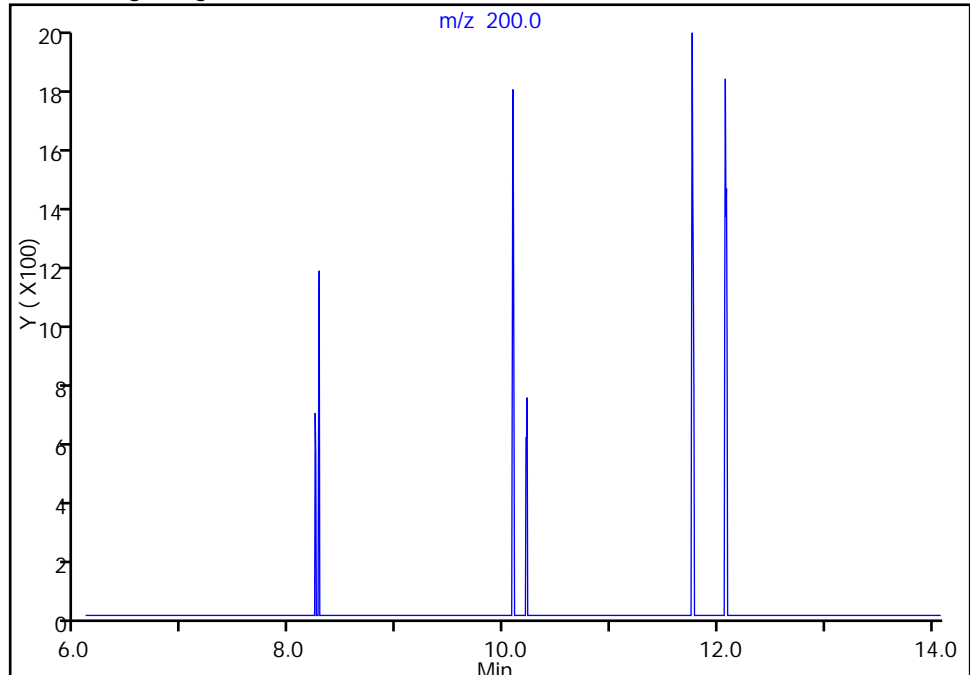
Detector: MS SCAN

## 114 Atrazine, CAS: 1912-24-9

Not Detected

Expected RT: 10.09

## Processing Integration Results



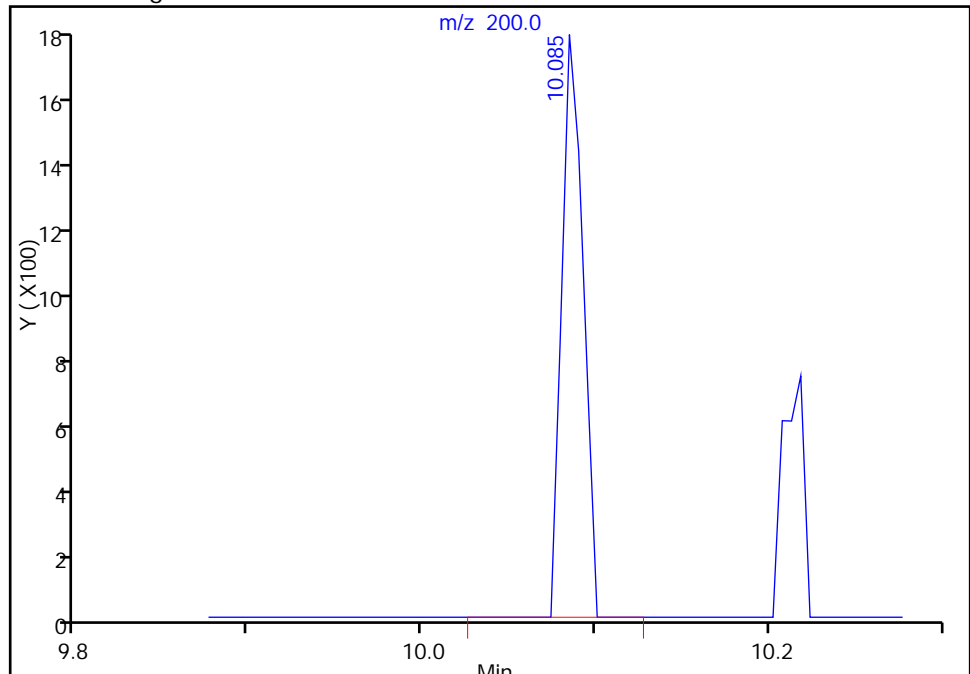
RT: 10.08

Area: 1510

Amount: 0.315358

Amount Units: ng

## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#: 2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

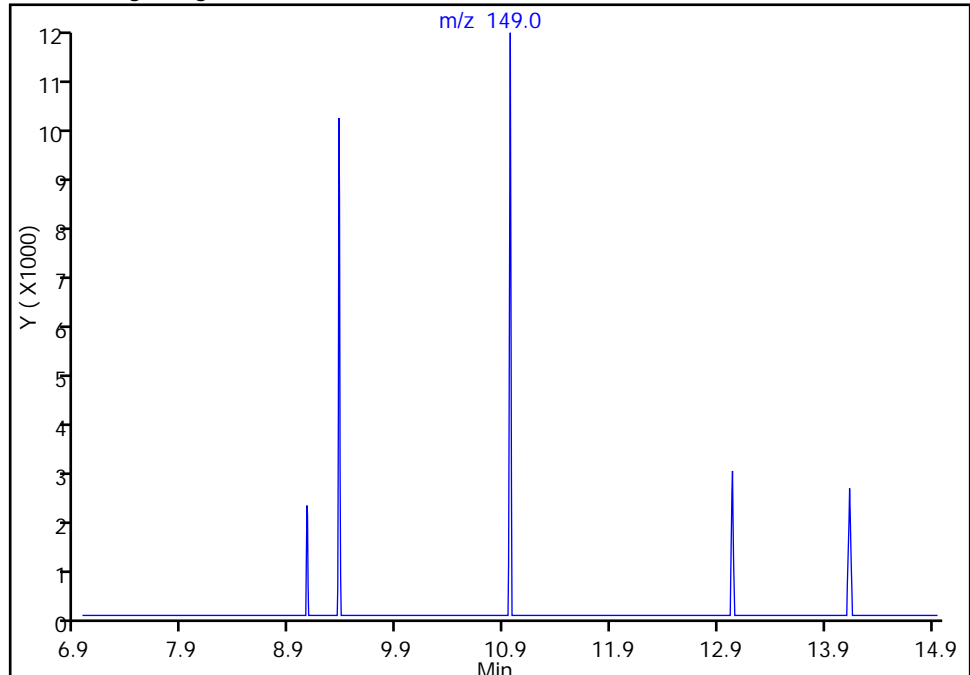
Detector: MS SCAN

## 128 Di-n-butyl phthalate, CAS: 84-74-2

Not Detected

Expected RT: 10.96

## Processing Integration Results



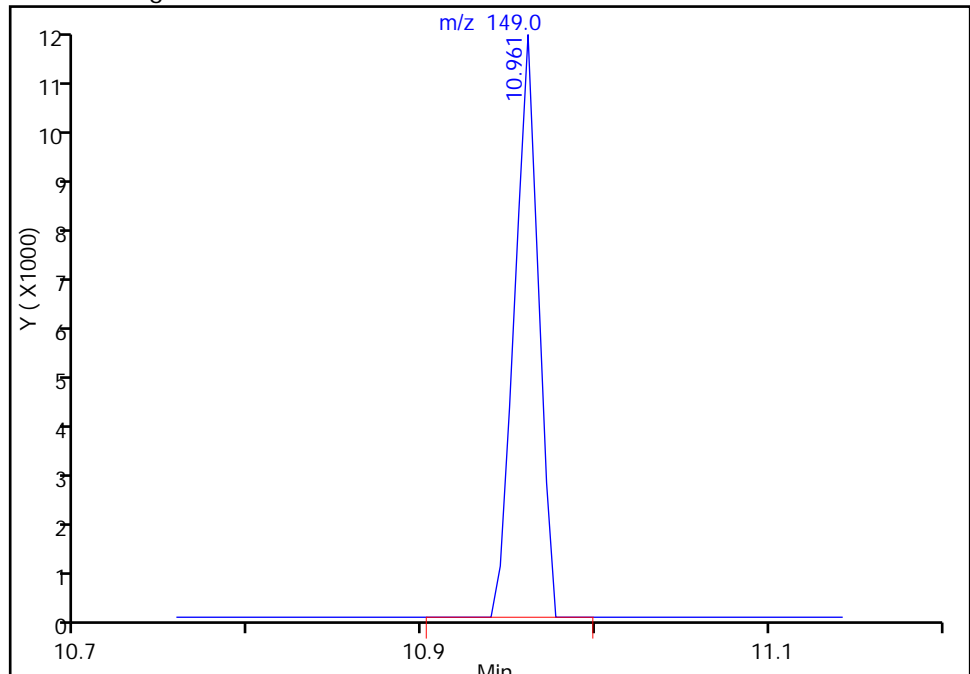
RT: 10.96

Area: 11427

Amount: 0.333649

Amount Units: ng

## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#: 2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

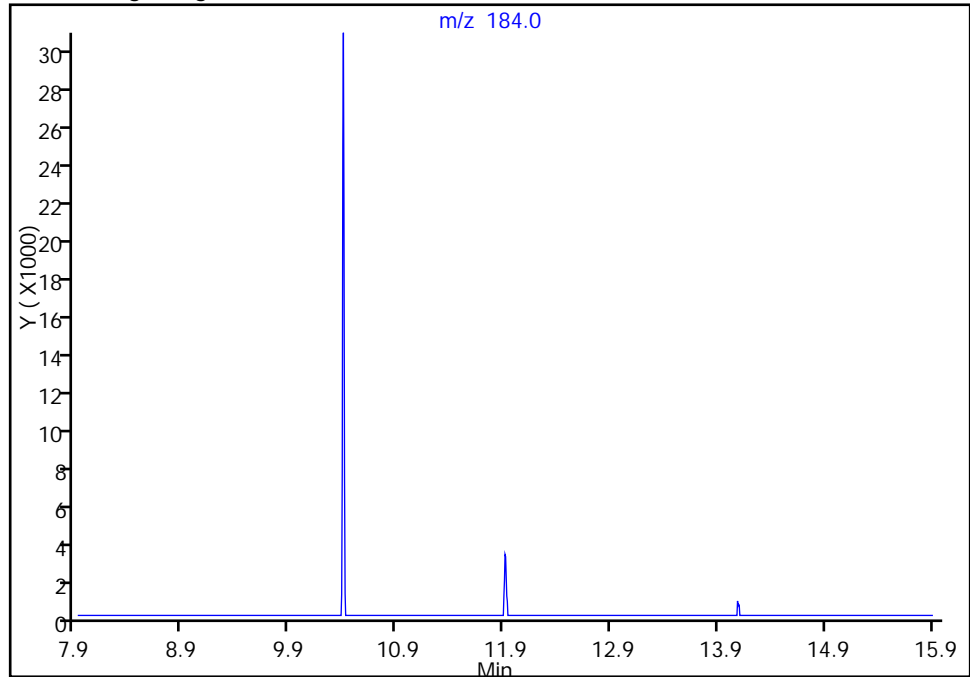
Detector: MS SCAN

## 134 Benzidine, CAS: 92-87-5

Not Detected

Expected RT: 11.91

## Processing Integration Results



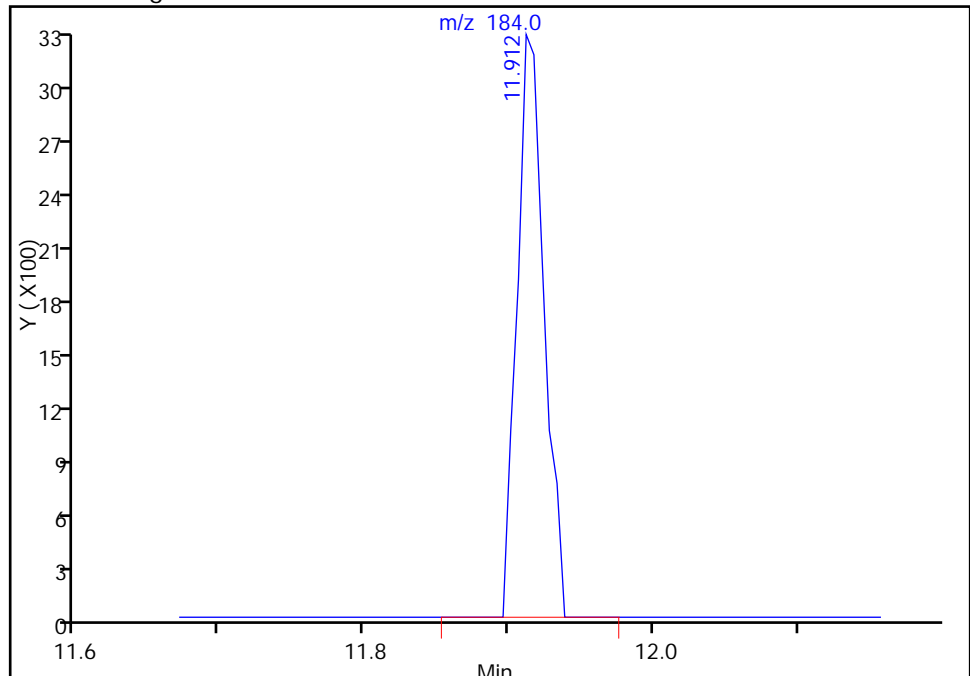
RT: 11.91

Area: 4166

Amount: 2.057204

Amount Units: ng

## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#: 2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

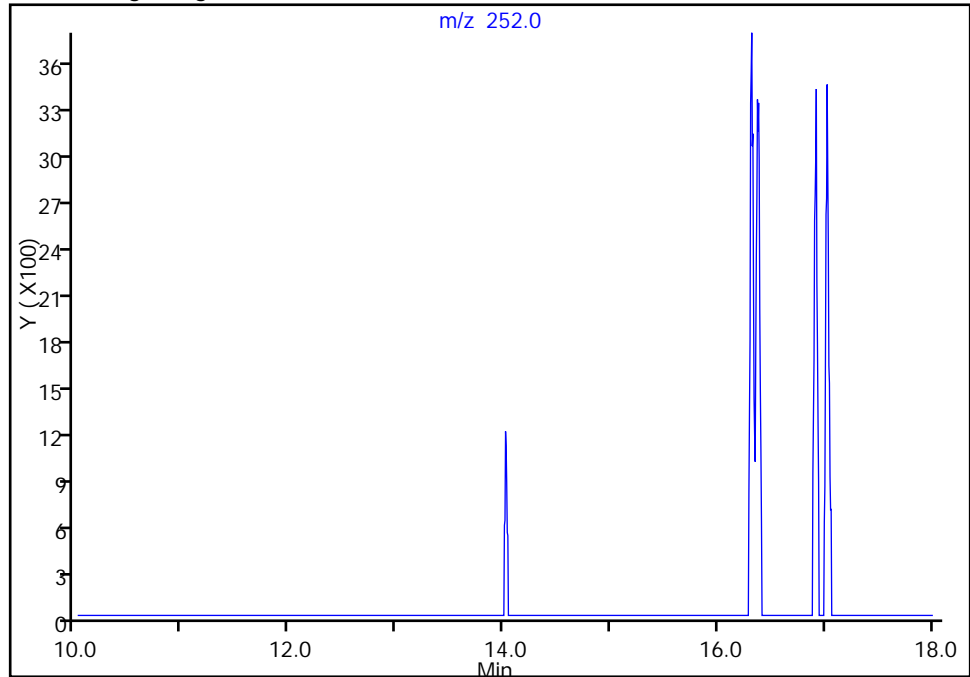
Detector: MS SCAN

## 143 3,3'-Dichlorobenzidine, CAS: 91-94-1

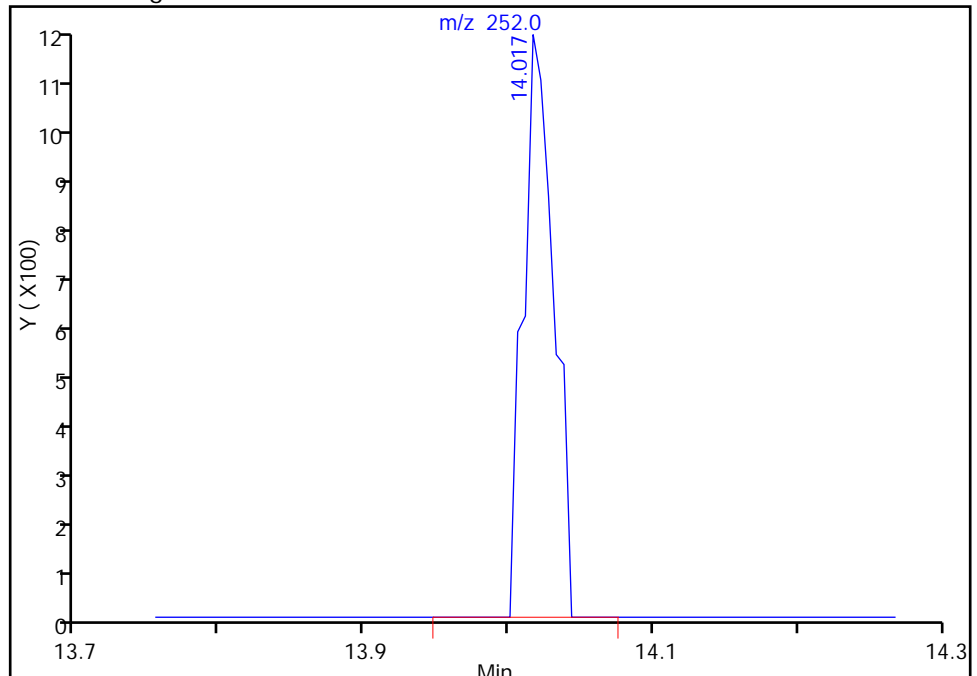
Not Detected

Expected RT: 14.01

## Processing Integration Results



## Manual Integration Results



RT: 14.02

Area: 1713

Amount: 1.141312

Amount Units: ng

Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#:

2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor:

1.0000

Method: BNA\_CH722

Limit Group:

BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

Detector

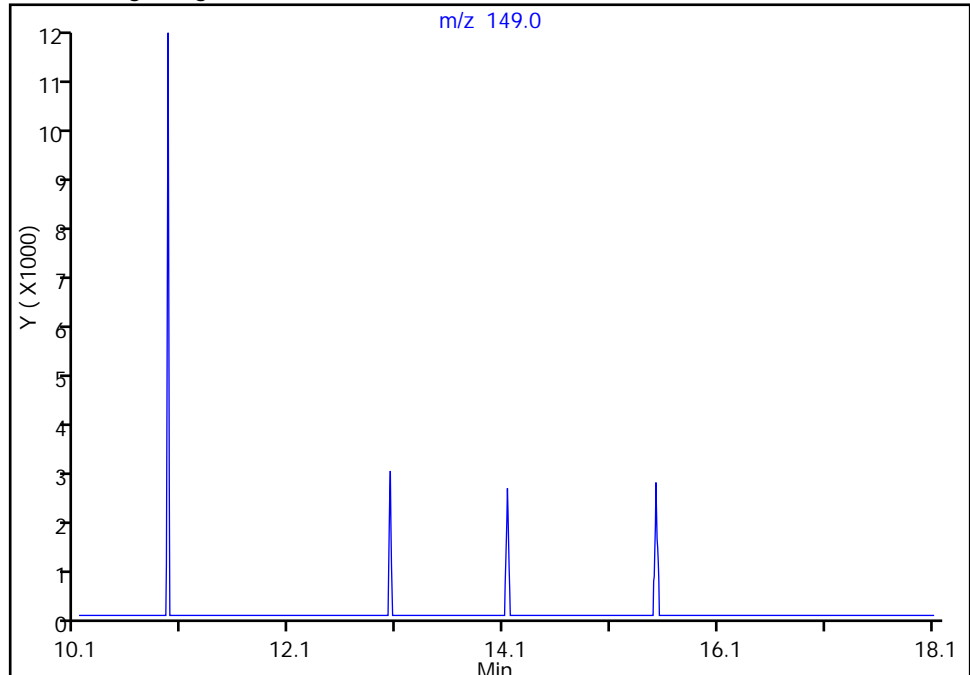
MS SCAN

## 147 Bis(2-ethylhexyl) phthalate, CAS: 117-81-7

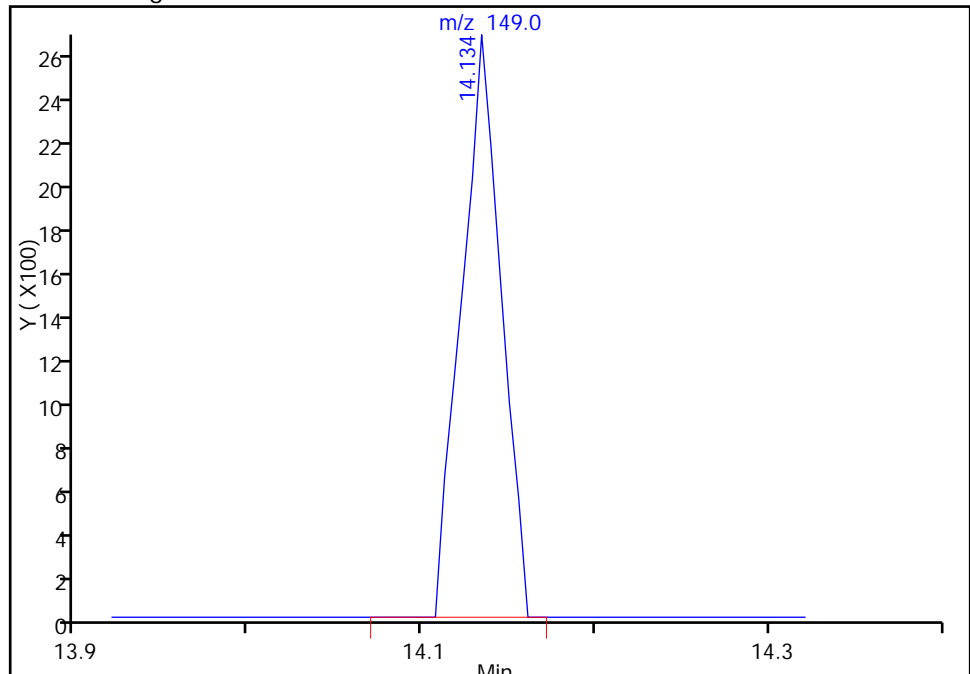
Not Detected

Expected RT: 14.13

## Processing Integration Results



## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#: 2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

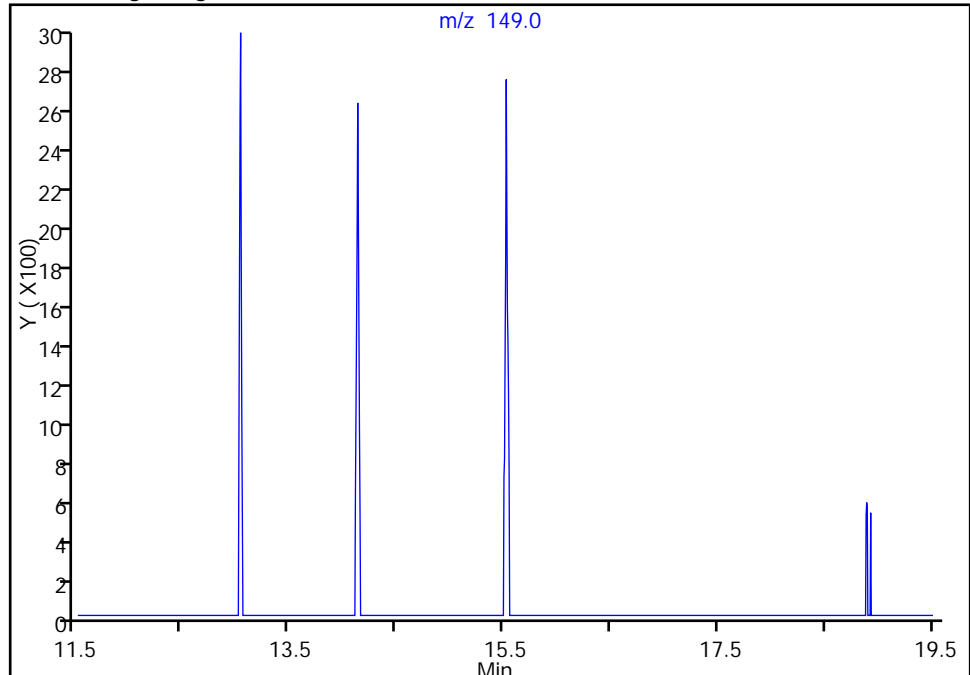
Detector: MS SCAN

## 152 Di-n-octyl phthalate, CAS: 117-84-0

Not Detected

Expected RT: 15.52

## Processing Integration Results



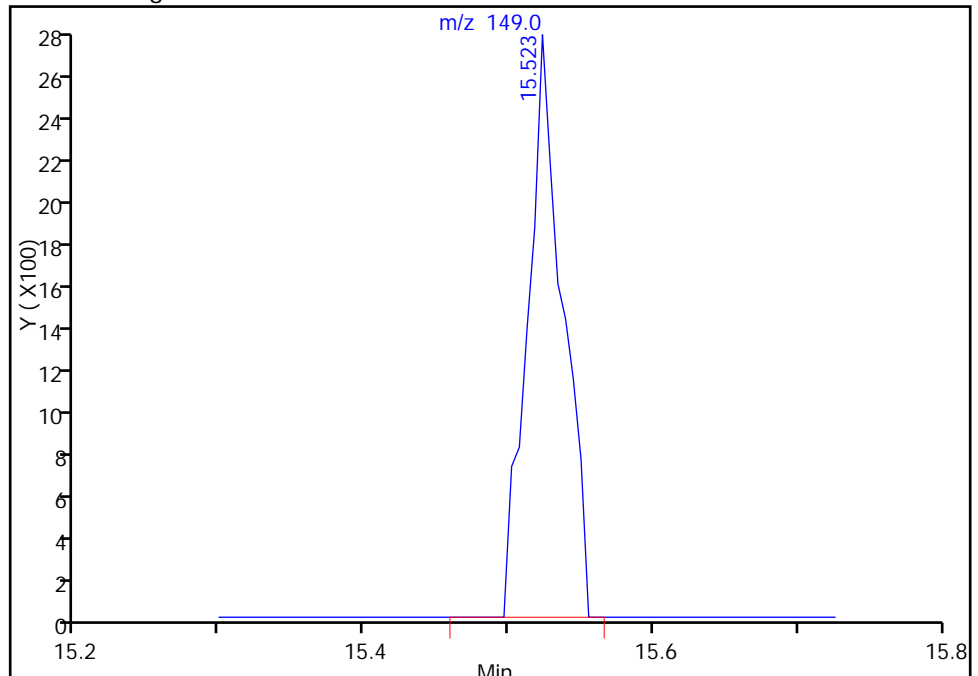
RT: 15.52

Area: 4585

Amount: 1.240977

Amount Units: ng

## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#: 2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

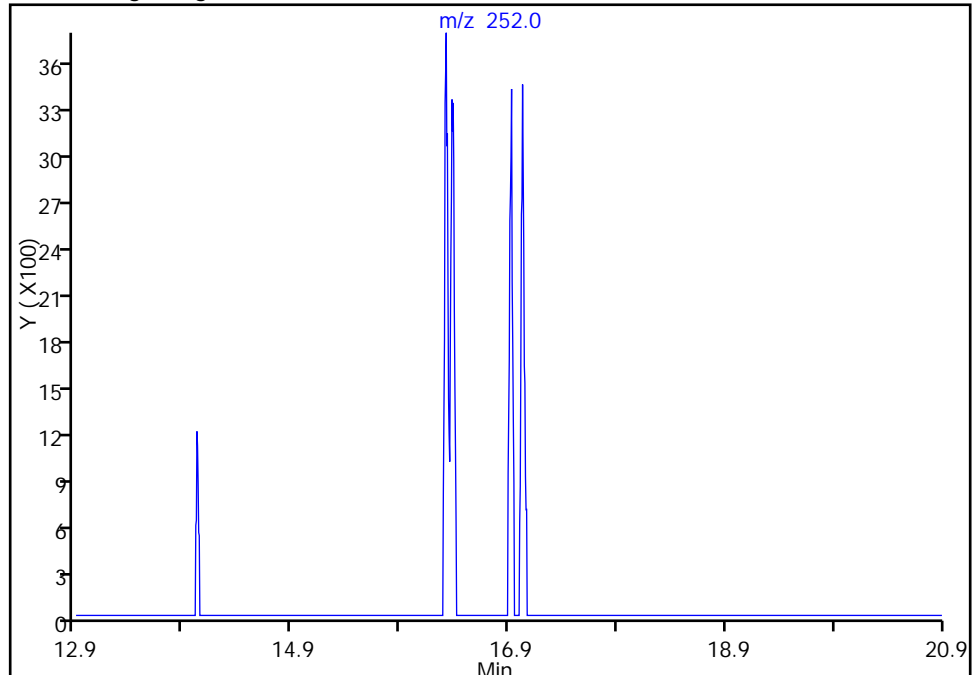
Detector: MS SCAN

## 156 Benzo[e]pyrene, CAS: 192-97-2

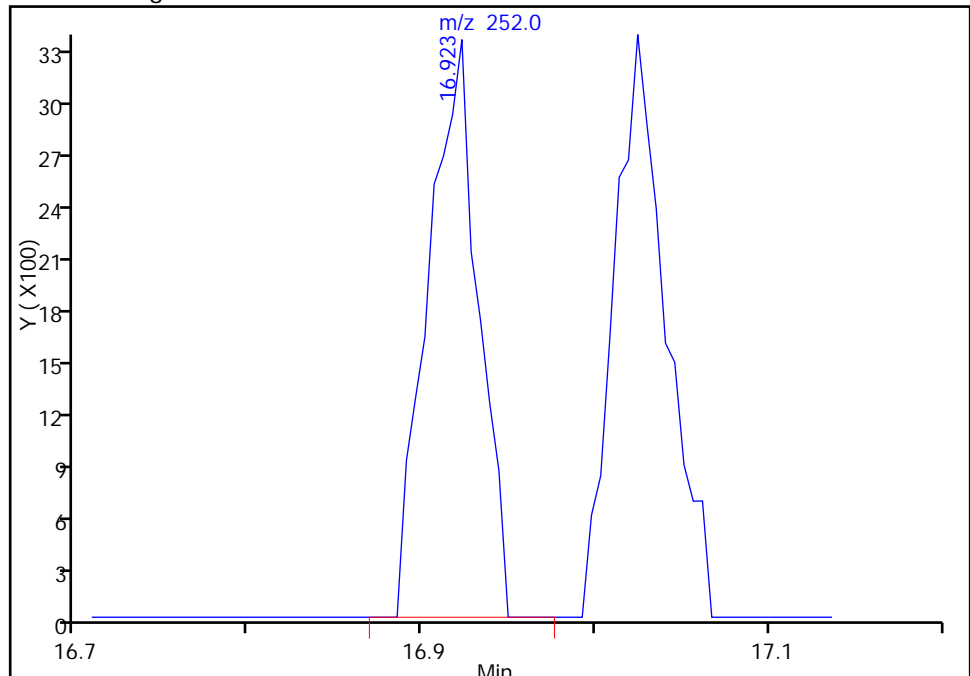
Not Detected

Expected RT: 16.90

## Processing Integration Results



## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#:

2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

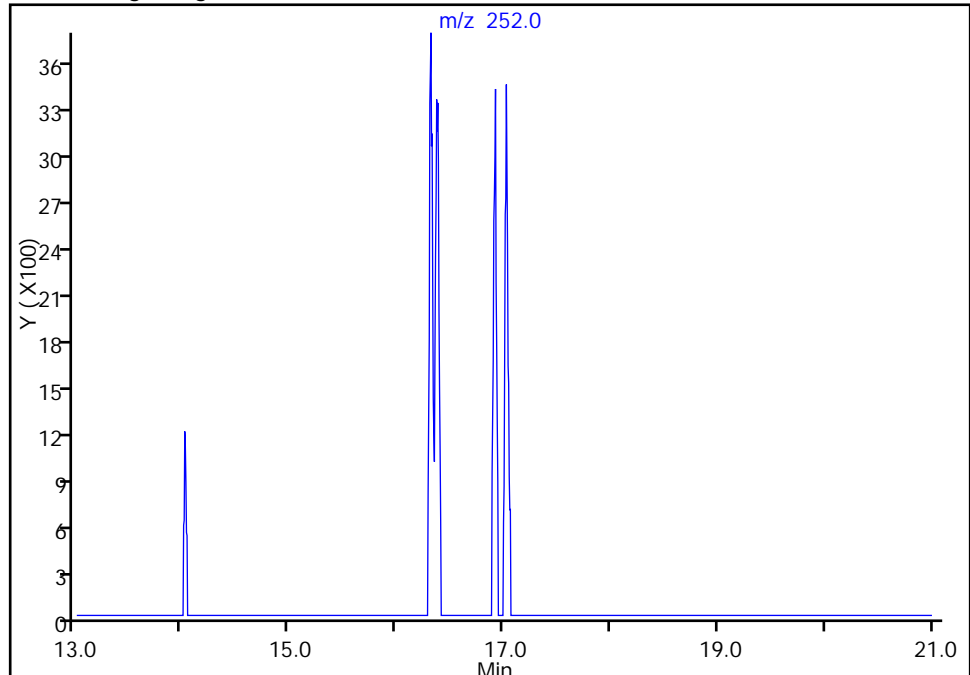
Detector: MS SCAN

## 157 Benzo[a]pyrene, CAS: 50-32-8

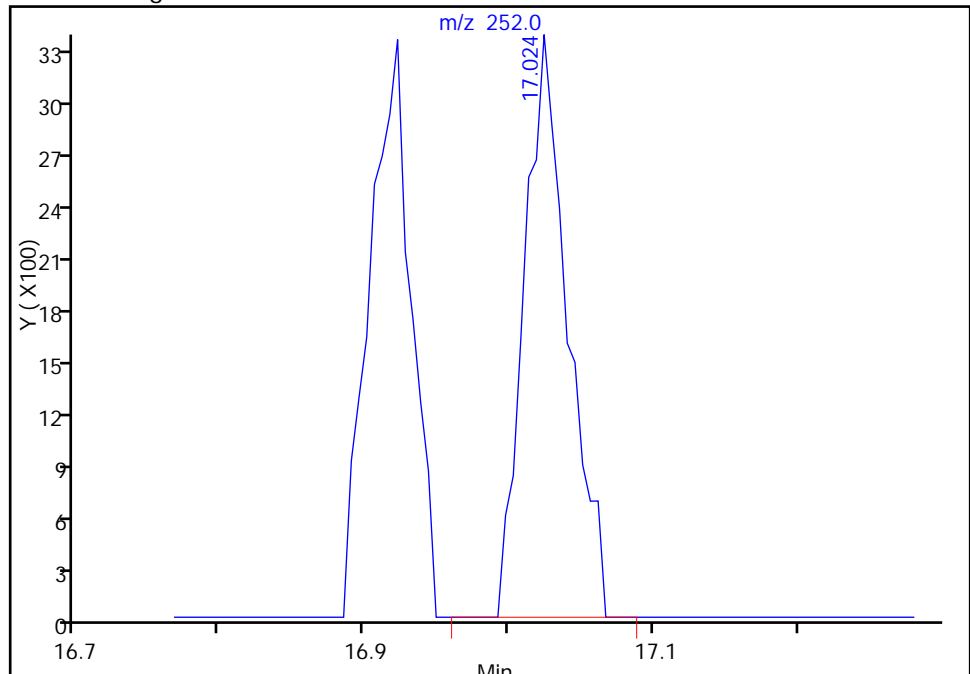
Not Detected

Expected RT: 17.01

## Processing Integration Results



## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#:

2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

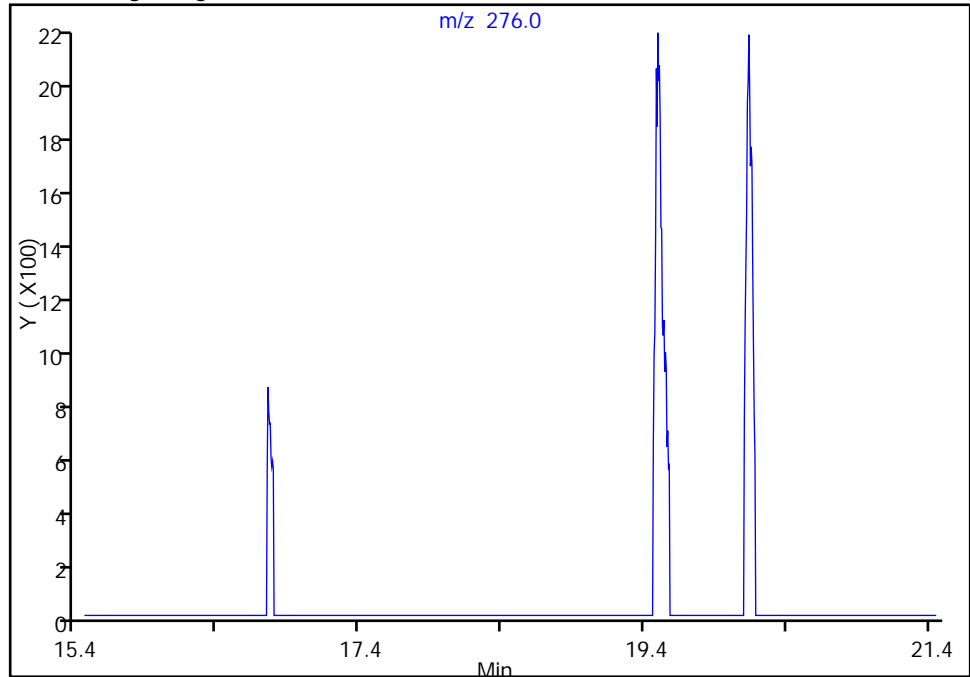
Detector: MS SCAN

## 162 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

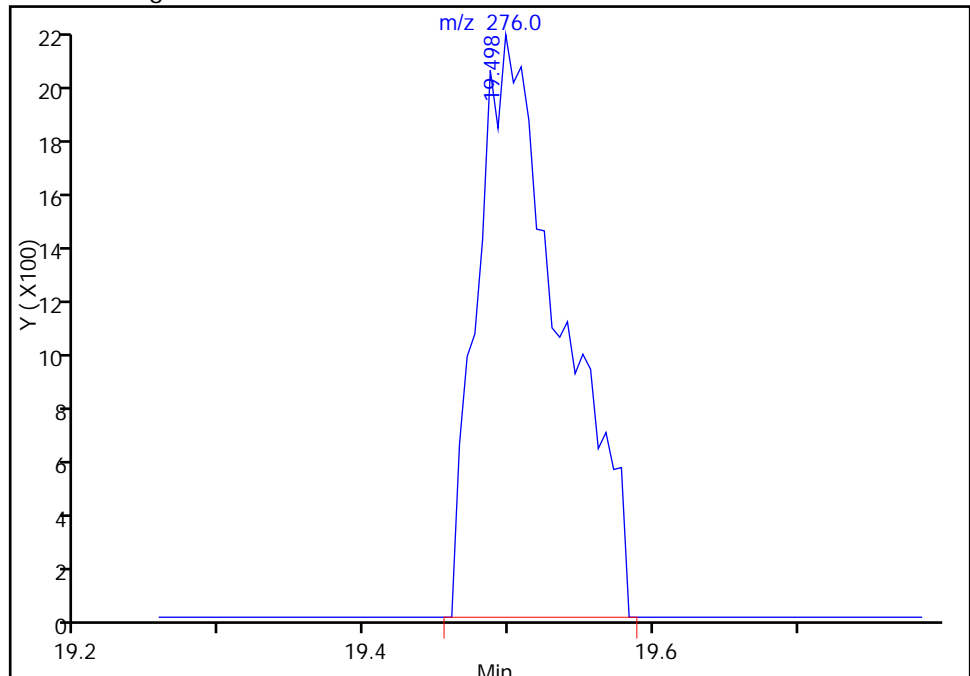
Not Detected

Expected RT: 19.46

## Processing Integration Results



## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C1.D

Injection Date: 24-Mar-2015 23:35:30

Instrument ID: CH722

Lims ID: IC R0.4

Client ID:

Operator ID: 007062

ALS Bottle#: 2

Worklist Smp#: 2

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)

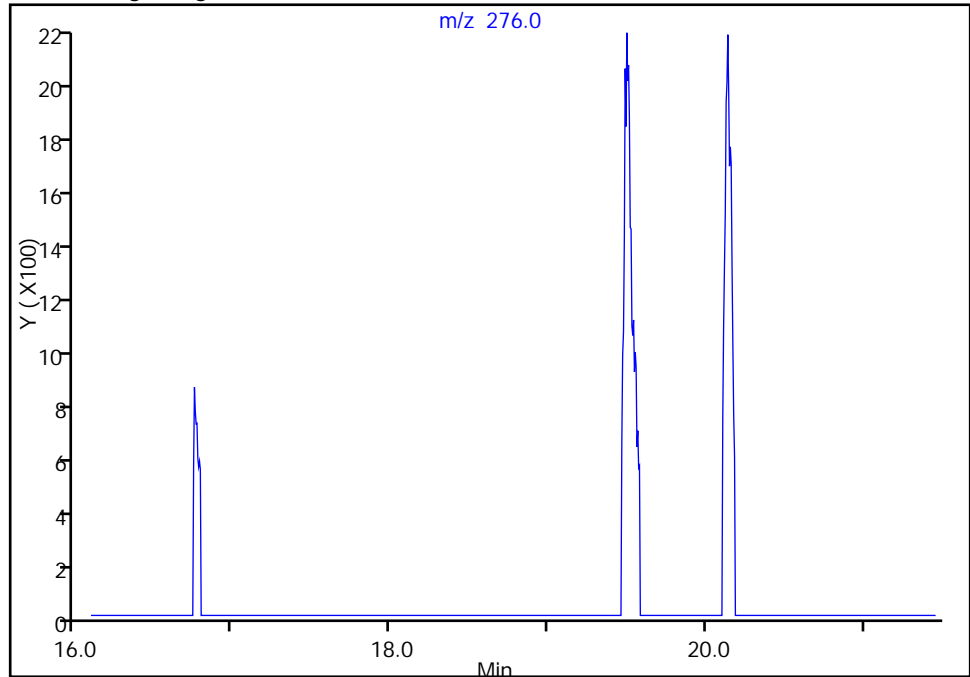
Detector: MS SCAN

## 160 Benzo[g,h,i]perylene, CAS: 191-24-2

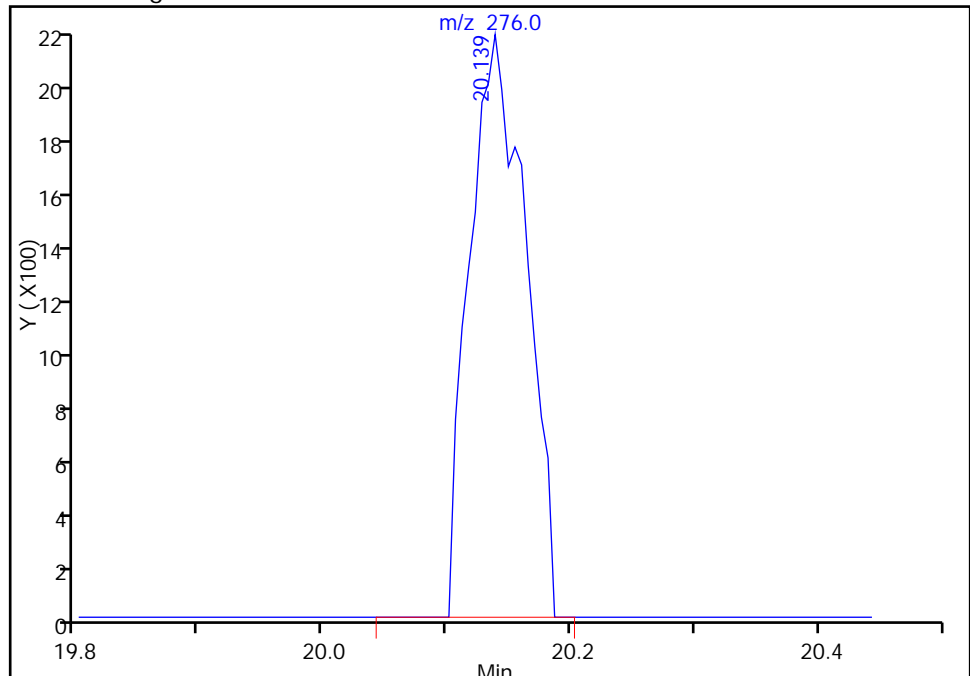
Not Detected

Expected RT: 20.09

## Processing Integration Results



## Manual Integration Results



RT: 20.14

Area: 6674

Amount: 0.338546

Amount Units: ng

Reviewer: bungardf, 25-Mar-2015 00:52:58

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C2.D  
 Lims ID: IC R2.0  
 Client ID:  
 Sample Type: IC Calib Level: 2  
 Inject. Date: 25-Mar-2015 00:04:30 ALS Bottle#: 3 Worklist Smp#: 3  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006159-003  
 Misc. Info.: ,IC R2.0  
 Operator ID: 007062 Instrument ID: CH722  
 Sublist: chrom-BNA\_CH722\*sub5  
 Method: \\PITCHROM\ChromData\CH722\20150324-6159.b\BNA\_CH722.m  
 Limit Group: BNA 8270D ICAL  
 Last Update: 26-Mar-2015 07:46:33 Calib Date: 25-Mar-2015 02:57:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last Ical File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C8.D  
 Column 1 : Rxi-5SiIMS ( 0.32 mm) Det: MS SCAN  
 Process Host: XAWRK025

First Level Reviewer: bungardf

Date: 25-Mar-2015 01:16:46

| Compound                      | Sig | RT<br>(min.) | Adj RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-------------------------------|-----|--------------|------------------|------------------|-----|----------|---------------|-----------------|-------|
| * 1 1,4-Dichlorobenzene-d4    | 152 | 6.044        | 6.038            | 0.006            | 94  | 72628    | 8.00          | 8.00            |       |
| * 2 Naphthalene-d8            | 136 | 7.299        | 7.288            | 0.011            | 99  | 292905   | 8.00          | 8.00            |       |
| * 3 Acenaphthene-d10          | 164 | 8.982        | 8.976            | 0.006            | 93  | 167849   | 8.00          | 8.00            |       |
| * 4 Phenanthrene-d10          | 188 | 10.409       | 10.397           | 0.012            | 97  | 247923   | 8.00          | 8.00            |       |
| * 5 Chrysene-d12              | 240 | 14.116       | 14.089           | 0.027            | 96  | 190831   | 8.00          | 8.00            |       |
| * 6 Perylene-d12              | 264 | 17.177       | 17.128           | 0.049            | 96  | 150303   | 8.00          | 8.00            |       |
| \$ 7 2-Fluorophenol           | 112 | 4.644        | 4.633            | 0.011            | 93  | 18696    | 2.00          | 1.91            |       |
| \$ 8 Phenol-d5                | 99  | 5.686        | 5.680            | 0.006            | 97  | 25684    | 2.00          | 1.96            |       |
| \$ 9 Nitrobenzene-d5          | 82  | 6.589        | 6.583            | 0.006            | 86  | 23320    | 2.00          | 1.99            |       |
| \$ 10 2-Fluorobiphenyl        | 172 | 8.325        | 8.319            | 0.006            | 100 | 55458    | 2.00          | 1.98            |       |
| \$ 11 2,4,6-Tribromophenol    | 330 | 9.735        | 9.724            | 0.011            | 90  | 5857     | 2.00          | 1.91            |       |
| \$ 12 Terphenyl-d14           | 244 | 12.289       | 12.267           | 0.022            | 99  | 43337    | 2.00          | 1.91            |       |
| 13 1,4-Dioxane                | 88  | 1.653        | 1.636            | 0.017            | 91  | 7860     | 2.00          | 2.04            |       |
| 14 N-Nitrosodimethylamine     | 74  | 2.182        | 2.154            | 0.028            | 94  | 9837     | 2.00          | 1.93            |       |
| 15 Pyridine                   | 79  | 2.251        | 2.213            | 0.038            | 96  | 15501    | 2.00          | 1.71            |       |
| 19 Methyl methanesulfonate    | 80  | 4.404        | 4.393            | 0.011            | 84  | 9890     | 2.00          | 2.00            |       |
| 25 Benzaldehyde               | 77  | 5.585        | 5.579            | 0.006            | 95  | 11174    | 2.00          | 1.63            |       |
| 26 Phenol                     | 94  | 5.697        | 5.691            | 0.006            | 98  | 29692    | 2.00          | 2.04            |       |
| 27 Aniline                    | 93  | 5.707        | 5.696            | 0.011            | 97  | 32734    | 2.00          | 2.01            |       |
| 29 Bis(2-chloroethyl)ether    | 93  | 5.782        | 5.776            | 0.006            | 96  | 21798    | 2.00          | 2.05            |       |
| 30 2-Chlorophenol             | 128 | 5.830        | 5.825            | 0.005            | 96  | 23776    | 2.00          | 1.95            |       |
| 31 n-Decane                   | 43  | 5.910        | 5.899            | 0.011            | 86  | 20120    | 2.00          | 2.06            |       |
| 32 1,3-Dichlorobenzene        | 146 | 5.985        | 5.979            | 0.006            | 97  | 28667    | 2.00          | 2.01            |       |
| 33 1,4-Dichlorobenzene        | 146 | 6.065        | 6.054            | 0.011            | 96  | 29184    | 2.00          | 2.03            |       |
| 34 Benzyl alcohol             | 108 | 6.183        | 6.177            | 0.006            | 94  | 13368    | 2.00          | 1.89            |       |
| 35 1,2-Dichlorobenzene        | 146 | 6.215        | 6.209            | 0.006            | 97  | 27352    | 2.00          | 2.00            |       |
| 36 Indene                     | 116 | 6.306        | 6.300            | 0.006            | 89  | 39951    | 2.00          | 2.02            |       |
| 37 2-Methylphenol             | 108 | 6.300        | 6.300            | 0.000            | 94  | 21024    | 2.00          | 2.03            |       |
| 38 2,2'-oxybis[1-chloropropan | 45  | 6.333        | 6.321            | 0.012            | 94  | 27466    | 2.00          | 2.15            |       |
| 39 N-Nitrosopyrrolidine       | 100 | 6.407        | 6.401            | 0.006            | 92  | 8279     | 2.00          | 1.78            |       |

| Compound                       | Sig | RT (min.) | Adj RT (min.) | Dlt RT (min.) | Q  | Response | Cal Amt ng | OnCol Amt ng | Flags |
|--------------------------------|-----|-----------|---------------|---------------|----|----------|------------|--------------|-------|
| 40 Acetophenone                | 105 | 6.445     | 6.439         | 0.006         | 97 | 32830    | 2.00       | 2.04         |       |
| 42 4-Methylphenol              | 108 | 6.450     | 6.444         | 0.006         | 94 | 22155    | 2.00       | 2.02         |       |
| 41 N-Nitrosodi-n-propylamine   | 70  | 6.445     | 6.444         | 0.001         | 79 | 16860    | 2.00       | 2.10         |       |
| 43 Hexachloroethane            | 117 | 6.557     | 6.551         | 0.006         | 93 | 9863     | 2.00       | 1.91         |       |
| 44 Nitrobenzene                | 77  | 6.610     | 6.604         | 0.006         | 84 | 24241    | 2.00       | 2.10         |       |
| 46 Isophorone                  | 82  | 6.845     | 6.834         | 0.011         | 99 | 40154    | 2.00       | 1.98         |       |
| 47 2-Nitrophenol               | 139 | 6.925     | 6.920         | 0.005         | 90 | 12070    | 2.00       | 1.84         |       |
| 48 2,4-Dimethylphenol          | 107 | 6.963     | 6.957         | 0.006         | 93 | 23689    | 2.00       | 2.07         |       |
| 49 Benzoic acid                | 122 | 6.995     | 7.005         | -0.010        | 1  | 2274     | 2.00       | 5.71         |       |
| 50 Bis(2-chloroethoxy)methane  | 93  | 7.054     | 7.048         | 0.006         | 99 | 26576    | 2.00       | 2.01         |       |
| 52 2,4-Dichlorophenol          | 162 | 7.155     | 7.149         | 0.006         | 93 | 19882    | 2.00       | 1.96         |       |
| 53 1,2,4-Trichlorobenzene      | 180 | 7.241     | 7.235         | 0.006         | 93 | 24984    | 2.00       | 2.07         |       |
| 56 Naphthalene                 | 128 | 7.315     | 7.310         | 0.005         | 97 | 79462    | 2.00       | 2.11         |       |
| 58 4-Chloroaniline             | 127 | 7.364     | 7.358         | 0.006         | 96 | 28564    | 2.00       | 1.96         |       |
| 59 2,6-Dichlorophenol          | 162 | 7.374     | 7.368         | 0.006         | 99 | 20230    | 2.00       | 2.02         |       |
| 61 Hexachlorobutadiene         | 225 | 7.449     | 7.438         | 0.011         | 95 | 13857    | 2.00       | 2.05         |       |
| 62 Caprolactam                 | 113 | 7.652     | 7.657         | -0.005        | 86 | 4672     | 2.00       | 1.37         |       |
| 63 4-Chloro-3-methylphenol     | 107 | 7.818     | 7.812         | 0.006         | 94 | 18915    | 2.00       | 1.89         |       |
| 67 2-Methylnaphthalene         | 142 | 7.983     | 7.972         | 0.011         | 92 | 54168    | 2.00       | 2.06         |       |
| 68 1-Methylnaphthalene         | 142 | 8.079     | 8.068         | 0.011         | 91 | 49047    | 2.00       | 2.01         |       |
| 69 Hexachlorocyclopentadiene   | 237 | 8.144     | 8.132         | 0.011         | 96 | 13835    | 2.00       | 1.83         |       |
| 70 1,2,4,5-Tetrachlorobenzene  | 216 | 8.144     | 8.138         | 0.005         | 96 | 25172    | 2.00       | 2.07         |       |
| 71 2,4,6-Trichlorophenol       | 196 | 8.245     | 8.239         | 0.006         | 89 | 14131    | 2.00       | 1.94         |       |
| 72 2,4,5-Trichlorophenol       | 196 | 8.282     | 8.271         | 0.011         | 95 | 13998    | 2.00       | 1.86         |       |
| 76 1,1'-Biphenyl               | 154 | 8.421     | 8.415         | 0.006         | 95 | 63437    | 2.00       | 2.06         |       |
| 78 2-Chloronaphthalene         | 162 | 8.448     | 8.442         | 0.006         | 95 | 51145    | 2.00       | 1.97         |       |
| 79 2-Nitroaniline              | 65  | 8.533     | 8.522         | 0.011         | 85 | 10381    | 2.00       | 1.66         |       |
| 82 Dimethyl phthalate          | 163 | 8.699     | 8.693         | 0.006         | 99 | 51393    | 2.00       | 1.99         |       |
| 83 1,3-Dinitrobenzene          | 168 | 8.726     | 8.720         | 0.006         | 92 | 6941     | 2.00       | 1.66         |       |
| 84 2,6-Dinitrotoluene          | 165 | 8.758     | 8.752         | 0.006         | 96 | 11815    | 2.00       | 2.01         |       |
| 85 Acenaphthylene              | 152 | 8.849     | 8.837         | 0.012         | 98 | 74670    | 2.00       | 1.97         |       |
| 86 3-Nitroaniline              | 138 | 8.918     | 8.912         | 0.006         | 94 | 10186    | 2.00       | 1.69         |       |
| 87 Acenaphthene                | 153 | 9.014     | 9.003         | 0.011         | 95 | 50230    | 2.00       | 1.96         |       |
| 88 2,4-Dinitrophenol           | 184 | 9.020     | 9.008         | 0.012         | 74 | 2087     | 4.00       | 0.6073       |       |
| 89 4-Nitrophenol               | 109 | 9.062     | 9.057         | 0.005         | 89 | 5678     | 4.00       | 4.17         |       |
| 92 2,4-Dinitrotoluene          | 165 | 9.142     | 9.137         | 0.005         | 86 | 13252    | 2.00       | 1.81         |       |
| 93 Dibenzofuran                | 168 | 9.175     | 9.169         | 0.006         | 97 | 66485    | 2.00       | 1.99         |       |
| 95 2,3,5,6-Tetrachlorophenol   | 232 | 9.249     | 9.243         | 0.006         | 92 | 10731    | 2.00       | 1.64         |       |
| 96 2,3,4,6-Tetrachlorophenol   | 232 | 9.292     | 9.281         | 0.011         | 72 | 10854    | 2.00       | 1.77         |       |
| 97 2-Naphthylamine             | 143 | 9.319     | 9.313         | 0.006         | 97 | 36382    | 2.00       | 1.82         |       |
| 98 Diethyl phthalate           | 149 | 9.367     | 9.361         | 0.006         | 99 | 50730    | 2.00       | 1.99         |       |
| 99 Hexadecane                  | 57  | 9.388     | 9.377         | 0.011         | 91 | 34266    | 2.00       | 2.03         |       |
| 101 4-Chlorophenyl phenyl ethe | 204 | 9.495     | 9.484         | 0.011         | 90 | 26446    | 2.00       | 2.00         |       |
| 102 4-Nitroaniline             | 138 | 9.500     | 9.495         | 0.005         | 85 | 8390     | 2.00       | 1.53         |       |
| 103 Fluorene                   | 166 | 9.506     | 9.495         | 0.011         | 94 | 51966    | 2.00       | 1.96         |       |
| 104 4,6-Dinitro-2-methylphenol | 198 | 9.538     | 9.527         | 0.011         | 89 | 8673     | 4.00       | 2.04         |       |
| 106 N-Nitrosodiphenylamine     | 169 | 9.602     | 9.596         | 0.006         | 61 | 38151    | 2.00       | 2.06         |       |
| 108 1,2-Diphenylhydrazine      | 77  | 9.645     | 9.639         | 0.006         | 0  | 44511    | 2.00       | 1.99         |       |
| 107 Azobenzene                 | 77  | 9.645     | 9.639         | 0.006         | 96 | 44511    | 2.00       | 1.99         |       |
| 109 4-Bromophenyl phenyl ether | 248 | 9.965     | 9.954         | 0.011         | 64 | 13427    | 2.00       | 1.97         |       |
| 110 Hexachlorobenzene          | 284 | 10.045    | 10.034        | 0.011         | 94 | 16114    | 2.00       | 2.04         |       |
| 114 Atrazine                   | 200 | 10.093    | 10.088        | 0.005         | 95 | 9963     | 2.00       | 1.91         |       |

| Compound                       | Sig | RT<br>(min.) | Adj RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|--------------------------------|-----|--------------|------------------|------------------|-----|----------|---------------|-----------------|-------|
| 115 Pentachlorophenol          | 266 | 10.222       | 10.210           | 0.012            | 93  | 18066    | 4.00          | 3.42            |       |
| 117 n-Octadecane               | 57  | 10.264       | 10.253           | 0.011            | 96  | 30648    | 2.00          | 1.83            |       |
| 120 Phenanthrene               | 178 | 10.430       | 10.424           | 0.006            | 97  | 71696    | 2.00          | 2.04            |       |
| 123 Anthracene                 | 178 | 10.483       | 10.472           | 0.011            | 97  | 68865    | 2.00          | 1.97            |       |
| 125 Carbazole                  | 167 | 10.633       | 10.622           | 0.011            | 96  | 57094    | 2.00          | 1.95            |       |
| 128 Di-n-butyl phthalate       | 149 | 10.969       | 10.958           | 0.011            | 100 | 71404    | 2.00          | 1.91            |       |
| 133 Fluoranthene               | 202 | 11.781       | 11.765           | 0.016            | 98  | 66057    | 2.00          | 1.94            |       |
| 134 Benzidine                  | 184 | 11.931       | 11.915           | 0.016            | 1   | 8502     | 2.00          | 2.47            |       |
| 135 Pyrene                     | 202 | 12.091       | 12.075           | 0.016            | 97  | 69094    | 2.00          | 2.10            |       |
| 138 Butyl benzyl phthalate     | 149 | 13.058       | 13.031           | 0.027            | 96  | 21403    | 2.00          | 1.69            |       |
| 143 3,3'-Dichlorobenzidine     | 252 | 14.041       | 14.014           | 0.027            | 72  | 10953    | 2.00          | 2.13            |       |
| 144 Benzo[a]anthracene         | 228 | 14.100       | 14.062           | 0.038            | 99  | 49700    | 2.00          | 1.90            |       |
| 147 Bis(2-ethylhexyl) phthalat | 149 | 14.164       | 14.126           | 0.038            | 71  | 27661    | 2.00          | 1.57            |       |
| 146 Chrysene                   | 228 | 14.164       | 14.137           | 0.027            | 96  | 51620    | 2.00          | 2.02            |       |
| 152 Di-n-octyl phthalate       | 149 | 15.558       | 15.515           | 0.043            | 46  | 30539    | 2.00          | 2.12            |       |
| 153 7,12-Dimethylbenz(a)anthra | 256 | 16.349       | 16.300           | 0.049            | 68  | 17330    | 2.00          | 1.60            |       |
| 154 Benzo[b]fluoranthene       | 252 | 16.354       | 16.306           | 0.048            | 90  | 44815    | 2.00          | 1.86            |       |
| 155 Benzo[k]fluoranthene       | 252 | 16.402       | 16.365           | 0.037            | 99  | 44881    | 2.00          | 1.90            |       |
| 156 Benzo[e]pyrene             | 252 | 16.942       | 16.899           | 0.043            | 0   | 40207    | 2.00          | 1.87            |       |
| 157 Benzo[a]pyrene             | 252 | 17.060       | 17.006           | 0.054            | 80  | 36836    | 2.00          | 1.76            |       |
| 162 Indeno[1,2,3-cd]pyrene     | 276 | 19.522       | 19.458           | 0.064            | 97  | 44191    | 2.00          | 1.88            | M     |
| 161 Dibenz(a,h)anthracene      | 278 | 19.581       | 19.511           | 0.070            | 90  | 38337    | 2.00          | 1.95            | M     |
| 160 Benzo[g,h,i]perylene       | 276 | 20.169       | 20.093           | 0.076            | 95  | 36630    | 2.00          | 1.88            |       |
| S 206 Methyl Phenols, Total    | 108 |              |                  |                  | 0   |          | 4.00          | 4.05            |       |
| S 208 Total Cresols            | 108 |              |                  |                  | 0   |          | 4.00          | 4.05            |       |

**QC Flag Legend**

Review Flags

M - Manually Integrated

**Reagents:**

SVTAPSTD2.0i\_00006

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C2.D

Injection Date: 25-Mar-2015 00:04:30

Instrument ID: CH722

Operator ID: 007062

Lims ID: IC R2.0

Worklist Smp#: 3

Client ID:

Injection Vol: 2.0 ul

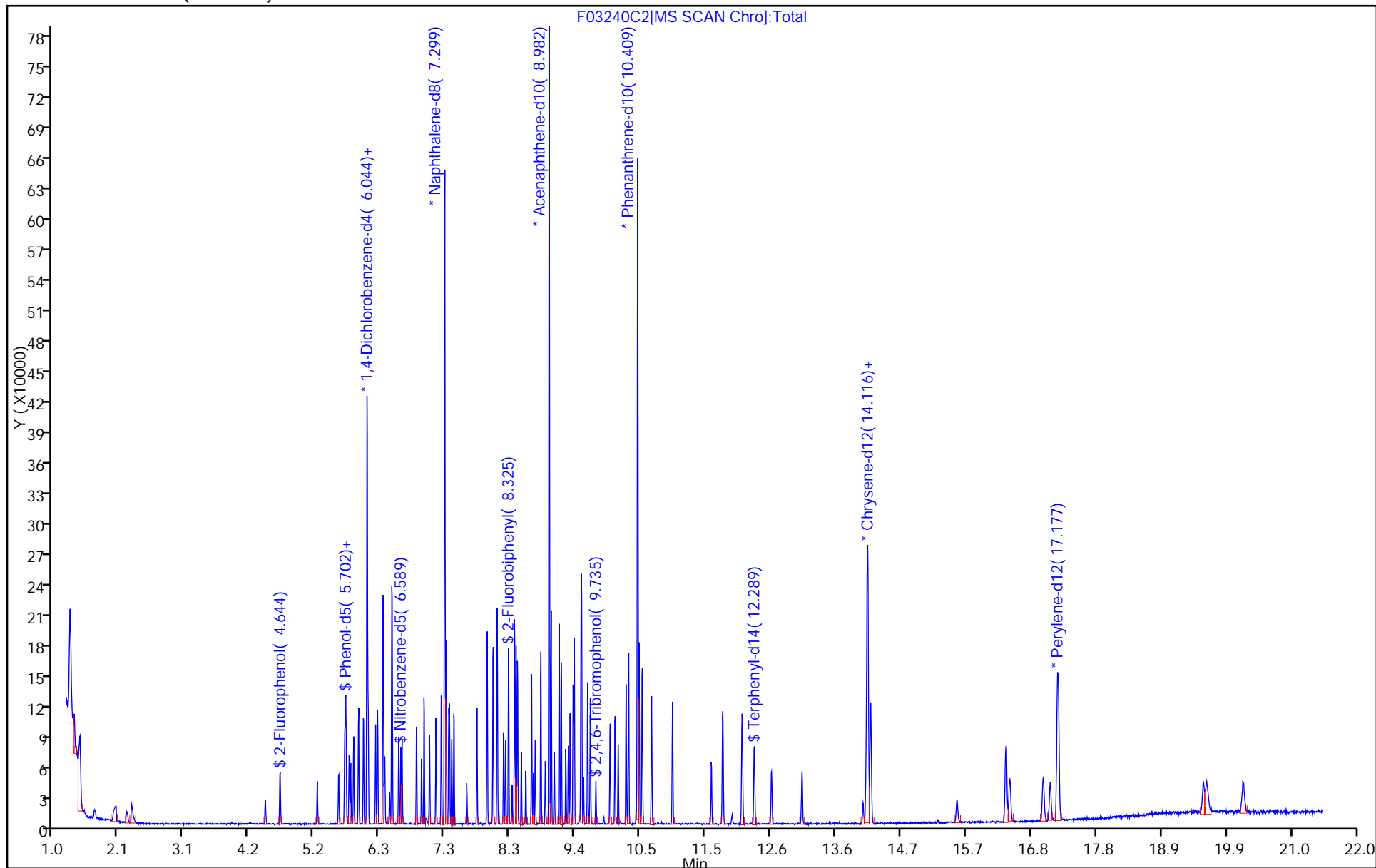
Dil. Factor: 1.0000

ALS Bottle#: 3

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)





## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C2.D

Injection Date: 25-Mar-2015 00:04:30

Instrument ID: CH722

Lims ID: IC R2.0

Client ID:

Operator ID: 007062

ALS Bottle#:

3

Worklist Smp#: 3

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

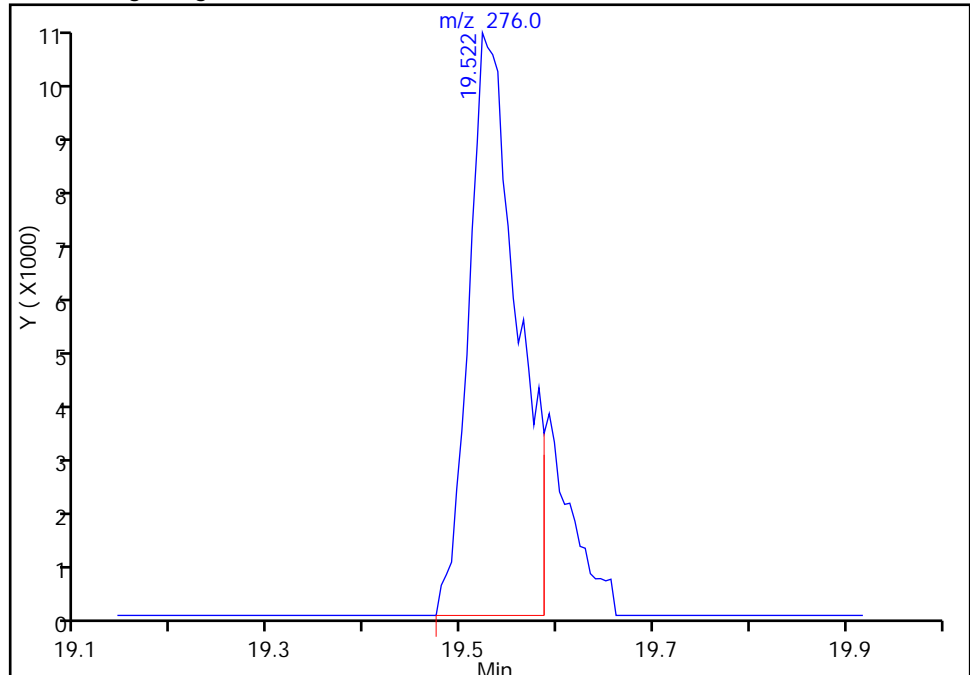
Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

## 162 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

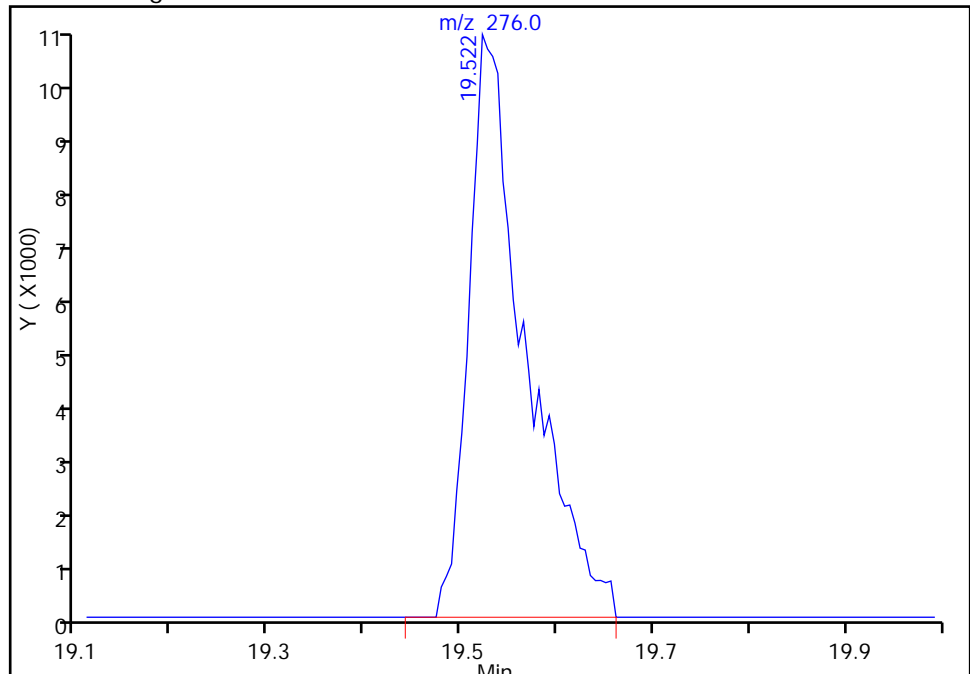
## Processing Integration Results

RT: 19.52  
Area: 37493  
Amount: 2.000000  
Amount Units: ng



## Manual Integration Results

RT: 19.52  
Area: 44191  
Amount: 1.876432  
Amount Units: ng



Reviewer: bungardf, 25-Mar-2015 01:16:46

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C2.D

Injection Date: 25-Mar-2015 00:04:30

Instrument ID: CH722

Lims ID: IC R2.0

Client ID:

Operator ID: 007062

ALS Bottle#:

3

Worklist Smp#: 3

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

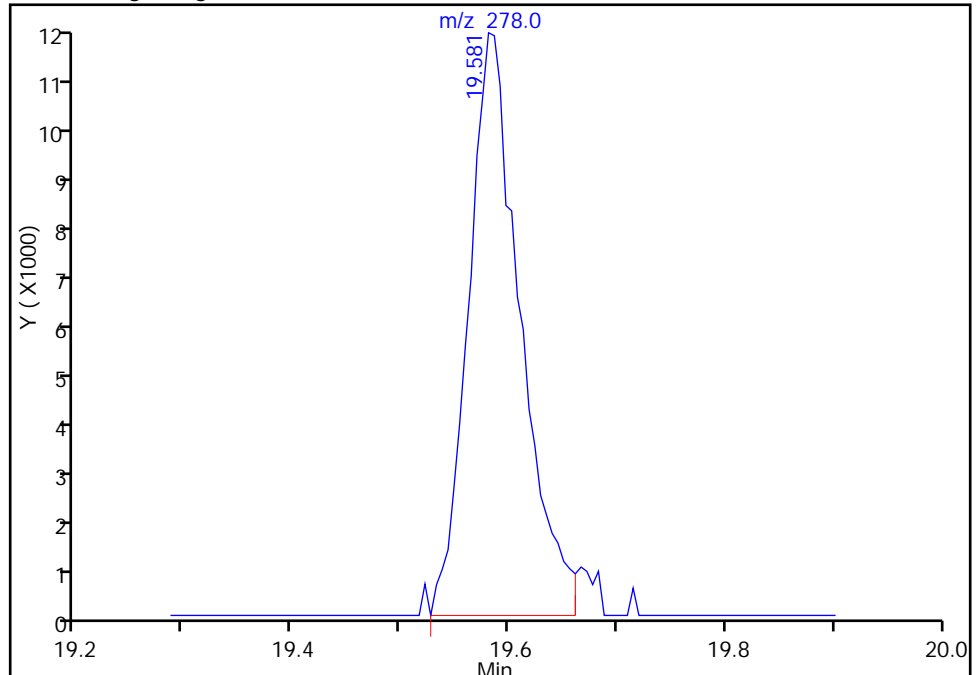
Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

## 161 Dibenz(a,h)anthracene, CAS: 53-70-3

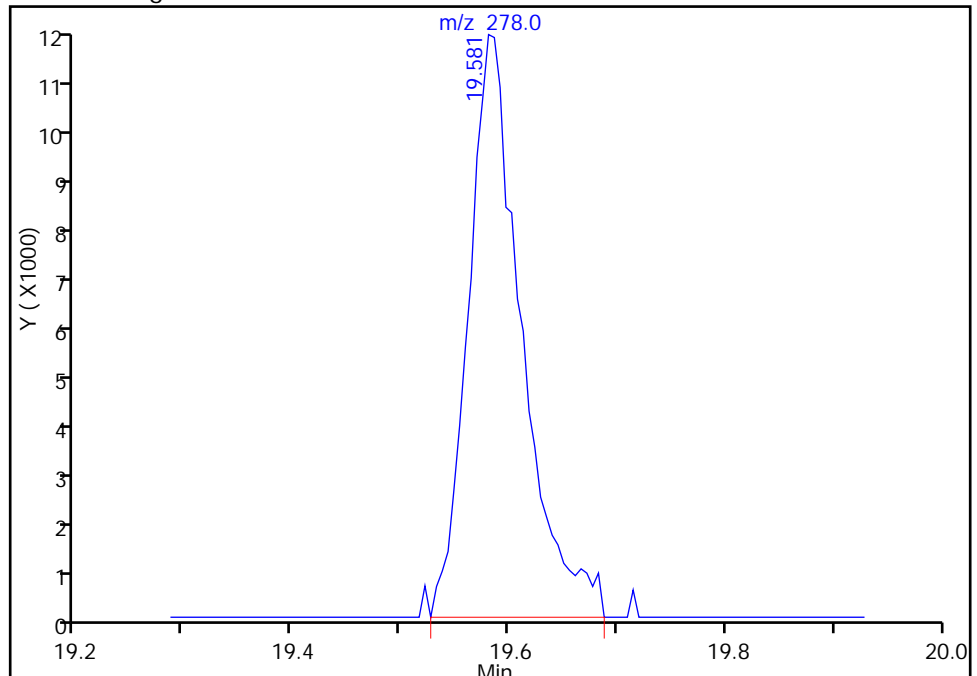
RT: 19.58  
Area: 37304  
Amount: 2.000000  
Amount Units: ng

## Processing Integration Results



RT: 19.58  
Area: 38337  
Amount: 1.946494  
Amount Units: ng

## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 01:16:46

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C3.D  
 Lims ID: IC R4.0  
 Client ID:  
 Sample Type: IC Calib Level: 3  
 Inject. Date: 25-Mar-2015 00:33:30 ALS Bottle#: 4 Worklist Smp#: 4  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006159-004  
 Misc. Info.: ,IC R4.0  
 Operator ID: 007062 Instrument ID: CH722  
 Sublist: chrom-BNA\_CH722\*sub5  
 Method: \\PITCHROM\ChromData\CH722\20150324-6159.b\BNA\_CH722.m  
 Limit Group: BNA 8270D ICAL  
 Last Update: 26-Mar-2015 07:46:35 Calib Date: 25-Mar-2015 02:57:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last Ical File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C8.D  
 Column 1 : Rxi-5SilMS ( 0.32 mm) Det: MS SCAN  
 Process Host: XAWRK025

First Level Reviewer: bungardf

Date: 25-Mar-2015 02:06:27

| Compound                      | Sig | RT<br>(min.) | Adj RT<br>(min.) | Dlt RT<br>(min.) | Q  | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-------------------------------|-----|--------------|------------------|------------------|----|----------|---------------|-----------------|-------|
| * 1 1,4-Dichlorobenzene-d4    | 152 | 6.038        | 6.038            | 0.000            | 94 | 67695    | 8.00          | 8.00            |       |
| * 2 Naphthalene-d8            | 136 | 7.288        | 7.288            | 0.000            | 99 | 267544   | 8.00          | 8.00            |       |
| * 3 Acenaphthene-d10          | 164 | 8.971        | 8.976            | -0.005           | 93 | 151779   | 8.00          | 8.00            |       |
| * 4 Phenanthrene-d10          | 188 | 10.398       | 10.397           | 0.001            | 97 | 227512   | 8.00          | 8.00            |       |
| * 5 Chrysene-d12              | 240 | 14.089       | 14.089           | 0.000            | 97 | 190227   | 8.00          | 8.00            |       |
| * 6 Perylene-d12              | 264 | 17.145       | 17.128           | 0.017            | 96 | 143265   | 8.00          | 8.00            |       |
| \$ 7 2-Fluorophenol           | 112 | 4.633        | 4.633            | 0.000            | 92 | 36575    | 4.00          | 4.01            |       |
| \$ 8 Phenol-d5                | 99  | 5.675        | 5.680            | -0.005           | 98 | 48892    | 4.00          | 4.00            |       |
| \$ 9 Nitrobenzene-d5          | 82  | 6.583        | 6.583            | 0.000            | 86 | 43983    | 4.00          | 4.12            |       |
| \$ 10 2-Fluorobiphenyl        | 172 | 8.319        | 8.319            | 0.000            | 99 | 104200   | 4.00          | 4.11            |       |
| \$ 11 2,4,6-Tribromophenol    | 330 | 9.724        | 9.724            | 0.000            | 93 | 11851    | 4.00          | 3.81            |       |
| \$ 12 Terphenyl-d14           | 244 | 12.273       | 12.267           | 0.006            | 99 | 90416    | 4.00          | 3.99            |       |
| 13 1,4-Dioxane                | 88  | 1.642        | 1.636            | 0.006            | 94 | 14207    | 4.00          | 3.96            |       |
| 14 N-Nitrosodimethylamine     | 74  | 2.160        | 2.154            | 0.006            | 94 | 18565    | 4.00          | 3.91            |       |
| 15 Pyridine                   | 79  | 2.229        | 2.213            | 0.016            | 98 | 33383    | 4.00          | 3.96            |       |
| 19 Methyl methanesulfonate    | 80  | 4.393        | 4.393            | 0.000            | 84 | 18719    | 4.00          | 4.07            |       |
| 25 Benzaldehyde               | 77  | 5.579        | 5.579            | 0.000            | 97 | 21834    | 4.00          | 3.42            |       |
| 26 Phenol                     | 94  | 5.691        | 5.691            | 0.000            | 95 | 55635    | 4.00          | 4.11            |       |
| 27 Aniline                    | 93  | 5.702        | 5.696            | 0.006            | 92 | 62587    | 4.00          | 4.11            |       |
| 29 Bis(2-chloroethyl)ether    | 93  | 5.777        | 5.776            | 0.001            | 95 | 40172    | 4.00          | 4.05            |       |
| 30 2-Chlorophenol             | 128 | 5.825        | 5.825            | 0.000            | 96 | 46311    | 4.00          | 4.07            |       |
| 31 n-Decane                   | 43  | 5.899        | 5.899            | 0.000            | 87 | 37842    | 4.00          | 4.16            |       |
| 32 1,3-Dichlorobenzene        | 146 | 5.980        | 5.979            | 0.001            | 98 | 54972    | 4.00          | 4.13            |       |
| 33 1,4-Dichlorobenzene        | 146 | 6.054        | 6.054            | 0.000            | 95 | 55382    | 4.00          | 4.13            |       |
| 34 Benzyl alcohol             | 108 | 6.177        | 6.177            | 0.000            | 93 | 25306    | 4.00          | 3.83            |       |
| 35 1,2-Dichlorobenzene        | 146 | 6.209        | 6.209            | 0.000            | 98 | 52898    | 4.00          | 4.16            |       |
| 36 Indene                     | 116 | 6.300        | 6.300            | 0.000            | 89 | 75623    | 4.00          | 4.10            |       |
| 37 2-Methylphenol             | 108 | 6.295        | 6.300            | -0.005           | 95 | 39691    | 4.00          | 4.10            |       |
| 38 2,2'-oxybis[1-chloropropan | 45  | 6.321        | 6.321            | 0.000            | 92 | 50108    | 4.00          | 4.21            |       |
| 39 N-Nitrosopyrrolidine       | 100 | 6.402        | 6.401            | 0.001            | 96 | 17002    | 4.00          | 3.93            |       |

| Compound                       | Sig | RT (min.) | Adj RT (min.) | Dlt RT (min.) | Q   | Response | Cal Amt ng | OnCol Amt ng | Flags |
|--------------------------------|-----|-----------|---------------|---------------|-----|----------|------------|--------------|-------|
| 40 Acetophenone                | 105 | 6.434     | 6.439         | -0.005        | 97  | 60497    | 4.00       | 4.04         |       |
| 42 4-Methylphenol              | 108 | 6.444     | 6.444         | 0.000         | 95  | 42496    | 4.00       | 4.16         |       |
| 41 N-Nitrosodi-n-propylamine   | 70  | 6.439     | 6.444         | -0.005        | 83  | 30968    | 4.00       | 4.15         |       |
| 43 Hexachloroethane            | 117 | 6.551     | 6.551         | 0.000         | 94  | 20059    | 4.00       | 4.17         |       |
| 44 Nitrobenzene                | 77  | 6.599     | 6.604         | -0.005        | 85  | 43989    | 4.00       | 4.16         |       |
| 46 Isophorone                  | 82  | 6.834     | 6.834         | 0.000         | 99  | 74503    | 4.00       | 4.03         |       |
| 47 2-Nitrophenol               | 139 | 6.920     | 6.920         | 0.000         | 91  | 23303    | 4.00       | 3.88         |       |
| 48 2,4-Dimethylphenol          | 107 | 6.957     | 6.957         | 0.000         | 94  | 44446    | 4.00       | 4.25         |       |
| 49 Benzoic acid                | 122 | 6.989     | 7.005         | -0.016        | 77  | 8003     | 4.00       | 6.57         | M     |
| 50 Bis(2-chloroethoxy)methane  | 93  | 7.048     | 7.048         | 0.000         | 99  | 50474    | 4.00       | 4.18         |       |
| 52 2,4-Dichlorophenol          | 162 | 7.149     | 7.149         | 0.000         | 92  | 38548    | 4.00       | 4.16         |       |
| 53 1,2,4-Trichlorobenzene      | 180 | 7.235     | 7.235         | 0.000         | 94  | 46359    | 4.00       | 4.20         |       |
| 56 Naphthalene                 | 128 | 7.310     | 7.310         | 0.000         | 97  | 142842   | 4.00       | 4.15         |       |
| 58 4-Chloroaniline             | 127 | 7.352     | 7.358         | -0.006        | 96  | 53810    | 4.00       | 4.04         |       |
| 59 2,6-Dichlorophenol          | 162 | 7.369     | 7.368         | 0.000         | 99  | 37577    | 4.00       | 4.11         |       |
| 61 Hexachlorobutadiene         | 225 | 7.438     | 7.438         | 0.000         | 96  | 25365    | 4.00       | 4.11         |       |
| 62 Caprolactam                 | 113 | 7.646     | 7.657         | -0.011        | 85  | 10264    | 4.00       | 3.31         |       |
| 63 4-Chloro-3-methylphenol     | 107 | 7.812     | 7.812         | 0.000         | 95  | 36093    | 4.00       | 3.95         |       |
| 67 2-Methylnaphthalene         | 142 | 7.972     | 7.972         | 0.000         | 92  | 97566    | 4.00       | 4.06         |       |
| 68 1-Methylnaphthalene         | 142 | 8.068     | 8.068         | 0.000         | 92  | 92455    | 4.00       | 4.15         |       |
| 69 Hexachlorocyclopentadiene   | 237 | 8.132     | 8.132         | 0.000         | 96  | 26631    | 4.00       | 3.89         |       |
| 70 1,2,4,5-Tetrachlorobenzene  | 216 | 8.138     | 8.138         | 0.000         | 96  | 46227    | 4.00       | 4.21         |       |
| 71 2,4,6-Trichlorophenol       | 196 | 8.239     | 8.239         | 0.000         | 91  | 27405    | 4.00       | 4.15         |       |
| 72 2,4,5-Trichlorophenol       | 196 | 8.271     | 8.271         | 0.000         | 96  | 27363    | 4.00       | 4.02         |       |
| 76 1,1'-Biphenyl               | 154 | 8.416     | 8.415         | 0.001         | 95  | 116264   | 4.00       | 4.17         |       |
| 78 2-Chloronaphthalene         | 162 | 8.437     | 8.442         | -0.005        | 95  | 99458    | 4.00       | 4.24         |       |
| 79 2-Nitroaniline              | 65  | 8.522     | 8.522         | 0.000         | 86  | 21529    | 4.00       | 3.80         |       |
| 82 Dimethyl phthalate          | 163 | 8.693     | 8.693         | 0.000         | 100 | 97824    | 4.00       | 4.20         |       |
| 83 1,3-Dinitrobenzene          | 168 | 8.720     | 8.720         | 0.000         | 94  | 13702    | 4.00       | 3.63         |       |
| 84 2,6-Dinitrotoluene          | 165 | 8.747     | 8.752         | -0.005        | 95  | 21471    | 4.00       | 4.04         |       |
| 85 Acenaphthylene              | 152 | 8.838     | 8.837         | 0.001         | 98  | 141740   | 4.00       | 4.13         |       |
| 86 3-Nitroaniline              | 138 | 8.912     | 8.912         | 0.000         | 95  | 20245    | 4.00       | 3.71         |       |
| 87 Acenaphthene                | 153 | 9.003     | 9.003         | 0.000         | 95  | 96412    | 4.00       | 4.15         |       |
| 88 2,4-Dinitrophenol           | 184 | 9.014     | 9.008         | 0.006         | 81  | 7470     | 8.00       | 2.40         |       |
| 89 4-Nitrophenol               | 109 | 9.057     | 9.057         | 0.000         | 88  | 13431    | 8.00       | 7.61         |       |
| 92 2,4-Dinitrotoluene          | 165 | 9.137     | 9.137         | 0.000         | 86  | 26416    | 4.00       | 3.99         |       |
| 93 Dibenzofuran                | 168 | 9.169     | 9.169         | 0.000         | 97  | 120656   | 4.00       | 3.99         |       |
| 95 2,3,5,6-Tetrachlorophenol   | 232 | 9.244     | 9.243         | 0.001         | 93  | 21705    | 4.00       | 3.67         |       |
| 96 2,3,4,6-Tetrachlorophenol   | 232 | 9.281     | 9.281         | 0.000         | 71  | 22948    | 4.00       | 4.15         |       |
| 97 2-Naphthylamine             | 143 | 9.313     | 9.313         | 0.000         | 97  | 74076    | 4.00       | 4.11         |       |
| 98 Diethyl phthalate           | 149 | 9.361     | 9.361         | 0.000         | 99  | 96424    | 4.00       | 4.19         |       |
| 99 Hexadecane                  | 57  | 9.377     | 9.377         | 0.000         | 92  | 60026    | 4.00       | 3.89         |       |
| 101 4-Chlorophenyl phenyl ethe | 204 | 9.484     | 9.484         | 0.000         | 90  | 47258    | 4.00       | 3.95         |       |
| 102 4-Nitroaniline             | 138 | 9.495     | 9.495         | 0.000         | 87  | 18583    | 4.00       | 3.74         |       |
| 103 Fluorene                   | 166 | 9.495     | 9.495         | 0.000         | 93  | 96596    | 4.00       | 4.04         |       |
| 104 4,6-Dinitro-2-methylphenol | 198 | 9.527     | 9.527         | 0.000         | 92  | 23028    | 8.00       | 5.90         |       |
| 106 N-Nitrosodiphenylamine     | 169 | 9.591     | 9.596         | -0.005        | 61  | 70062    | 4.00       | 4.12         |       |
| 108 1,2-Diphenylhydrazine      | 77  | 9.634     | 9.639         | -0.005        | 0   | 82808    | 4.00       | 4.04         |       |
| 107 Azobenzene                 | 77  | 9.634     | 9.639         | -0.005        | 96  | 82808    | 4.00       | 4.04         |       |
| 109 4-Bromophenyl phenyl ether | 248 | 9.954     | 9.954         | 0.000         | 62  | 25396    | 4.00       | 4.05         |       |
| 110 Hexachlorobenzene          | 284 | 10.034    | 10.034        | 0.000         | 96  | 30864    | 4.00       | 4.27         |       |
| 114 Atrazine                   | 200 | 10.088    | 10.088        | 0.000         | 96  | 20156    | 4.00       | 4.20         |       |

| Compound                       | Sig | RT (min.) | Adj RT (min.) | Dlt RT (min.) | Q   | Response | Cal Amt ng | OnCol Amt ng | Flags |
|--------------------------------|-----|-----------|---------------|---------------|-----|----------|------------|--------------|-------|
| 115 Pentachlorophenol          | 266 | 10.211    | 10.210        | 0.001         | 94  | 31601    | 8.00       | 6.52         |       |
| 117 n-Octadecane               | 57  | 10.253    | 10.253        | 0.000         | 95  | 60022    | 4.00       | 3.84         |       |
| 120 Phenanthrene               | 178 | 10.424    | 10.424        | 0.000         | 97  | 133525   | 4.00       | 4.14         |       |
| 123 Anthracene                 | 178 | 10.472    | 10.472        | 0.000         | 97  | 134272   | 4.00       | 4.18         |       |
| 125 Carbazole                  | 167 | 10.622    | 10.622        | 0.000         | 96  | 111830   | 4.00       | 4.16         |       |
| 128 Di-n-butyl phthalate       | 149 | 10.958    | 10.958        | 0.000         | 100 | 140664   | 4.00       | 4.10         |       |
| 133 Fluoranthene               | 202 | 11.765    | 11.765        | 0.000         | 98  | 128908   | 4.00       | 4.13         |       |
| 134 Benzidine                  | 184 | 11.915    | 11.915        | 0.000         | 98  | 17025    | 4.00       | 3.35         |       |
| 135 Pyrene                     | 202 | 12.080    | 12.075        | 0.005         | 97  | 129686   | 4.00       | 3.96         |       |
| 138 Butyl benzyl phthalate     | 149 | 13.037    | 13.031        | 0.006         | 97  | 44932    | 4.00       | 3.57         |       |
| 143 3,3'-Dichlorobenzidine     | 252 | 14.019    | 14.014        | 0.005         | 73  | 24436    | 4.00       | 3.60         |       |
| 144 Benzo[a]anthracene         | 228 | 14.073    | 14.062        | 0.011         | 98  | 104314   | 4.00       | 4.00         |       |
| 147 Bis(2-ethylhexyl) phthalat | 149 | 14.132    | 14.126        | 0.006         | 94  | 59867    | 4.00       | 3.40         |       |
| 146 Chrysene                   | 228 | 14.142    | 14.137        | 0.005         | 98  | 103910   | 4.00       | 4.08         |       |
| 152 Di-n-octyl phthalate       | 149 | 15.521    | 15.515        | 0.006         | 99  | 70933    | 4.00       | 3.61         |       |
| 153 7,12-Dimethylbenz(a)anthra | 256 | 16.311    | 16.300        | 0.011         | 81  | 38055    | 4.00       | 3.68         |       |
| 154 Benzo[b]fluoranthene       | 252 | 16.317    | 16.306        | 0.011         | 98  | 95388    | 4.00       | 4.16         |       |
| 155 Benzo[k]fluoranthene       | 252 | 16.375    | 16.365        | 0.010         | 99  | 91407    | 4.00       | 4.07         |       |
| 156 Benzo[e]pyrene             | 252 | 16.910    | 16.899        | 0.011         | 0   | 85204    | 4.00       | 4.16         |       |
| 157 Benzo[a]pyrene             | 252 | 17.022    | 17.006        | 0.016         | 79  | 80608    | 4.00       | 4.03         |       |
| 162 Indeno[1,2,3-cd]pyrene     | 276 | 19.479    | 19.458        | 0.021         | 99  | 90280    | 4.00       | 4.02         | M     |
| 161 Dibenz(a,h)anthracene      | 278 | 19.533    | 19.511        | 0.022         | 90  | 74994    | 4.00       | 3.99         |       |
| 160 Benzo[g,h,i]perylene       | 276 | 20.115    | 20.093        | 0.022         | 95  | 74713    | 4.00       | 4.02         |       |
| S 206 Methyl Phenols, Total    | 108 |           |               |               | 0   |          | 8.00       | 8.26         |       |
| S 208 Total Cresols            | 108 |           |               |               | 0   |          | 8.00       | 8.26         |       |

**QC Flag Legend**

Review Flags

M - Manually Integrated

**Reagents:**

SVTAPSTD4.0i\_00007

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C3.D

Injection Date: 25-Mar-2015 00:33:30

Instrument ID: CH722

Operator ID: 007062

Lims ID: IC R4.0

Worklist Smp#: 4

Client ID:

Injection Vol: 2.0 ul

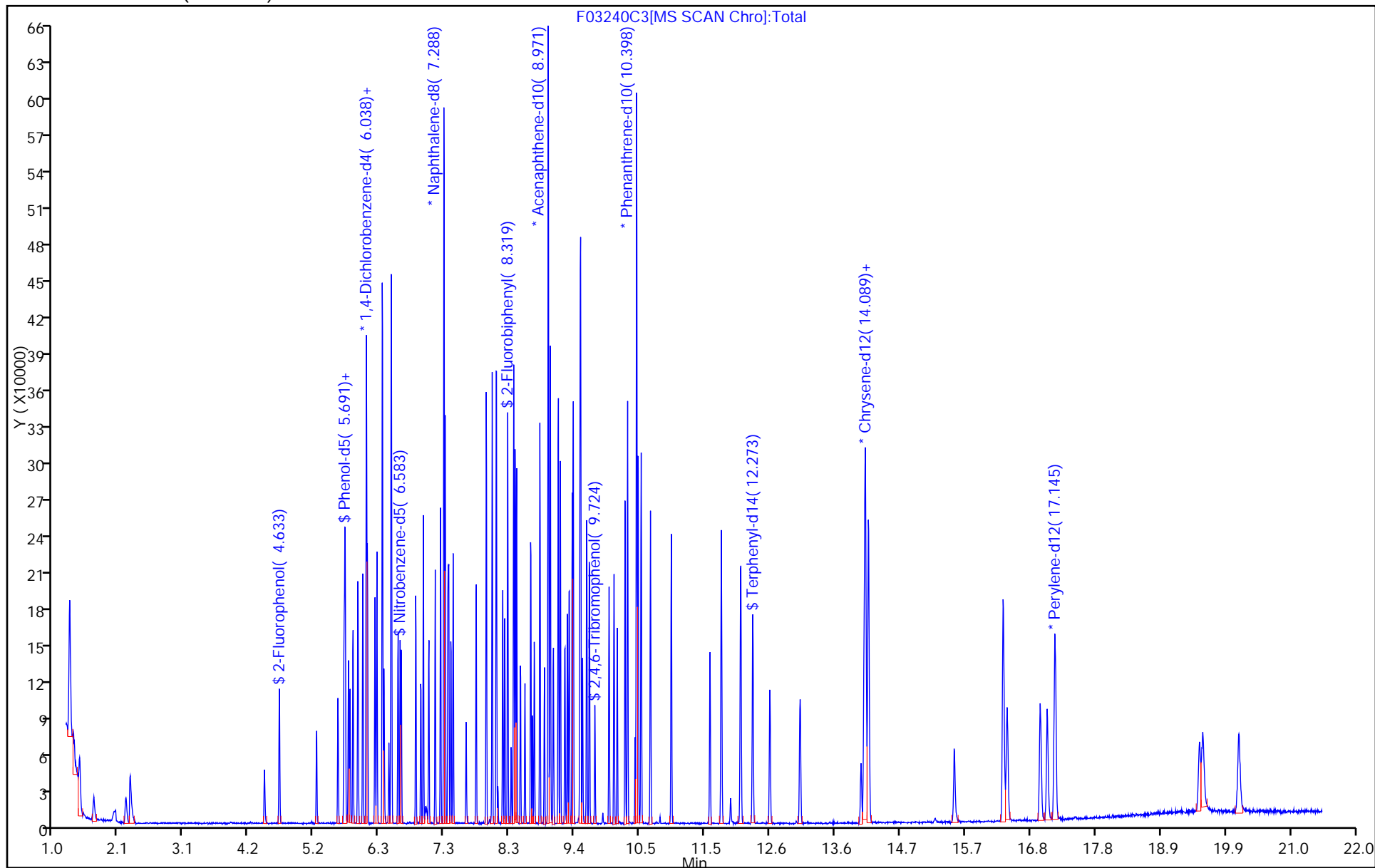
Dil. Factor: 1.0000

ALS Bottle#: 4

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C3.D

Injection Date: 25-Mar-2015 00:33:30

Instrument ID: CH722

Lims ID: IC R4.0

Client ID:

Operator ID: 007062

ALS Bottle#:

4

Worklist Smp#: 4

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

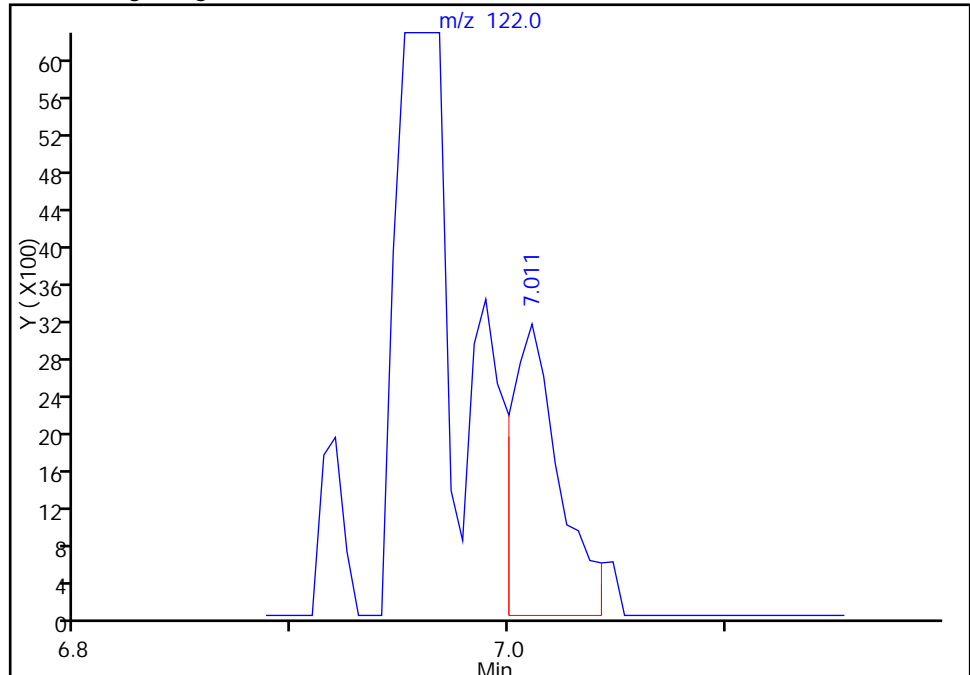
Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

## 49 Benzoic acid, CAS: 65-85-0

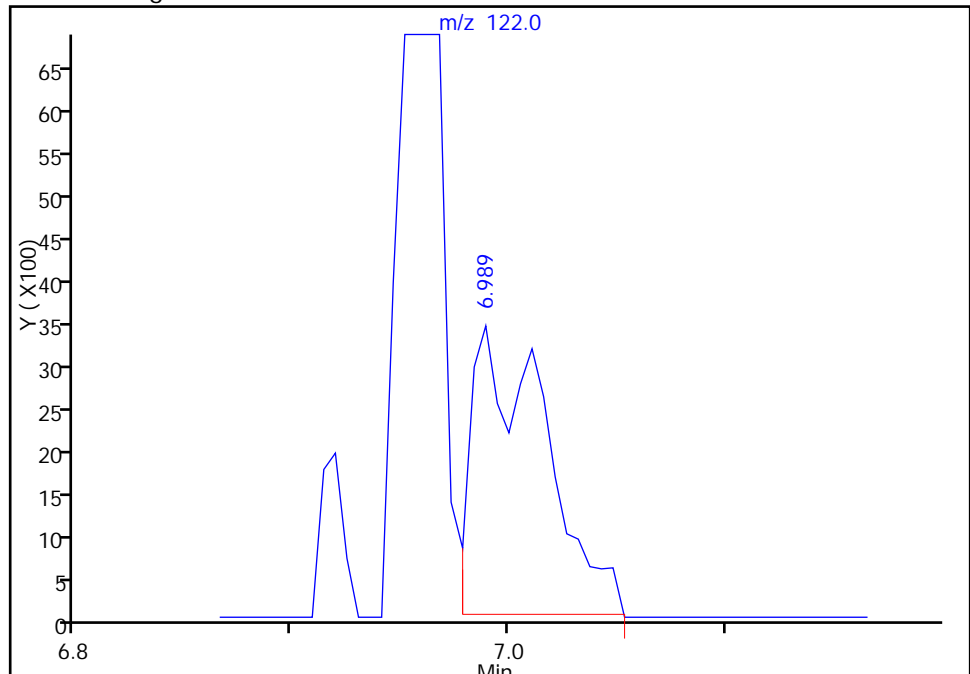
RT: 7.01  
Area: 4896  
Amount: 4.000000  
Amount Units: ng

## Processing Integration Results



RT: 6.99  
Area: 8003  
Amount: 6.572331  
Amount Units: ng

## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 02:06:27

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C3.D

Injection Date: 25-Mar-2015 00:33:30

Instrument ID: CH722

Lims ID: IC R4.0

Client ID:

Operator ID: 007062

ALS Bottle#: 4

Worklist Smp#: 4

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

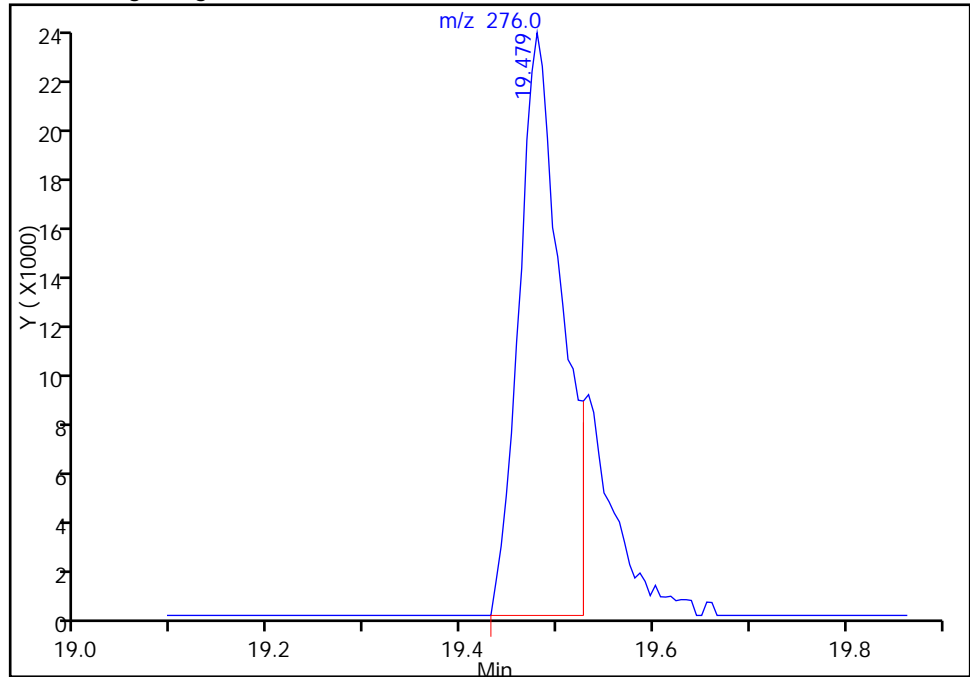
Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

## 162 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

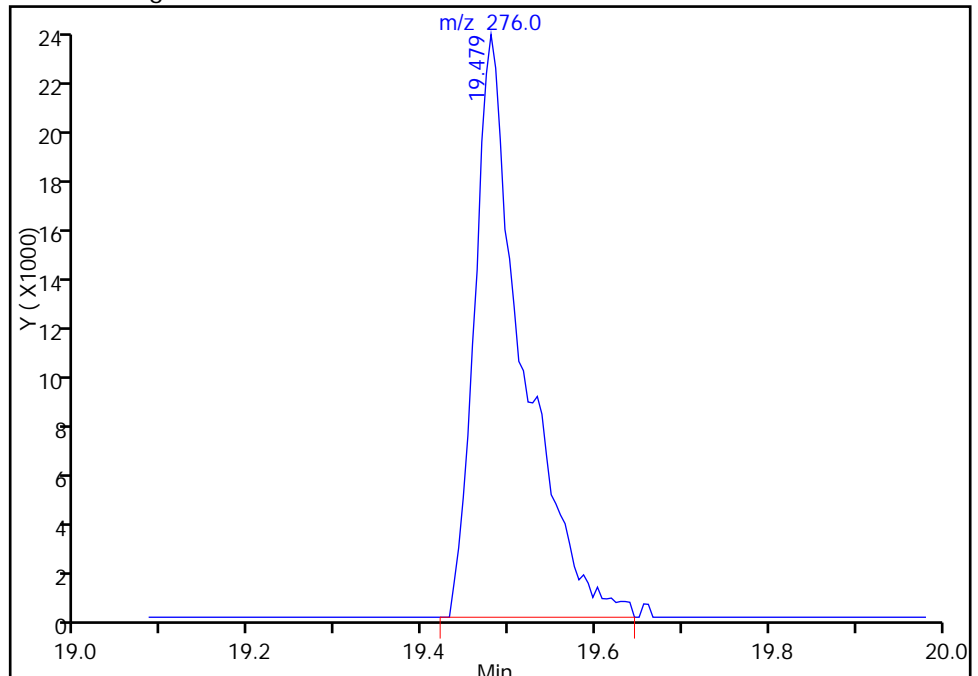
RT: 19.48  
Area: 72102  
Amount: 4.000000  
Amount Units: ng

## Processing Integration Results



RT: 19.48  
Area: 90280  
Amount: 4.021778  
Amount Units: ng

## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 02:06:27

Audit Action: Manually Integrated

Audit Reason: Poor chromatography



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C4.D  
 Lims ID: ICIS R10  
 Client ID:  
 Sample Type: ICIS Calib Level: 4  
 Inject. Date: 25-Mar-2015 01:02:30 ALS Bottle#: 5 Worklist Smp#: 5  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006159-005  
 Misc. Info.: ,ICIS R10  
 Operator ID: 007062 Instrument ID: CH722  
 Sublist: chrom-BNA\_CH722\*sub5  
 Method: \\PITCHROM\ChromData\CH722\20150324-6159.b\BNA\_CH722.m  
 Limit Group: BNA 8270D ICAL  
 Last Update: 26-Mar-2015 07:46:37 Calib Date: 25-Mar-2015 02:57:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last Ical File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C8.D  
 Column 1 : Rxi-5SilMS ( 0.32 mm) Det: MS SCAN  
 Process Host: XAWRK025

First Level Reviewer: bungardf

Date: 25-Mar-2015 02:31:01

| Compound                      | Sig | RT<br>(min.) | Adj RT<br>(min.) | Dlt RT<br>(min.) | Q  | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-------------------------------|-----|--------------|------------------|------------------|----|----------|---------------|-----------------|-------|
| * 1 1,4-Dichlorobenzene-d4    | 152 | 6.038        | 6.038            | 0.000            | 94 | 72124    | 8.00          | 8.00            |       |
| * 2 Naphthalene-d8            | 136 | 7.288        | 7.288            | 0.000            | 99 | 294102   | 8.00          | 8.00            |       |
| * 3 Acenaphthene-d10          | 164 | 8.976        | 8.976            | 0.000            | 93 | 169424   | 8.00          | 8.00            |       |
| * 4 Phenanthrene-d10          | 188 | 10.397       | 10.397           | 0.000            | 97 | 268344   | 8.00          | 8.00            |       |
| * 5 Chrysene-d12              | 240 | 14.089       | 14.089           | 0.000            | 96 | 223573   | 8.00          | 8.00            |       |
| * 6 Perylene-d12              | 264 | 17.128       | 17.128           | 0.000            | 96 | 171003   | 8.00          | 8.00            |       |
| \$ 7 2-Fluorophenol           | 112 | 4.633        | 4.633            | 0.000            | 93 | 95458    | 10.0          | 9.82            |       |
| \$ 8 Phenol-d5                | 99  | 5.680        | 5.680            | 0.000            | 98 | 129332   | 10.0          | 9.94            |       |
| \$ 9 Nitrobenzene-d5          | 82  | 6.583        | 6.583            | 0.000            | 86 | 112754   | 10.0          | 9.60            |       |
| \$ 10 2-Fluorobiphenyl        | 172 | 8.319        | 8.319            | 0.000            | 99 | 274051   | 10.0          | 9.69            |       |
| \$ 11 2,4,6-Tribromophenol    | 330 | 9.724        | 9.724            | 0.000            | 93 | 35830    | 10.0          | 9.24            |       |
| \$ 12 Terphenyl-d14           | 244 | 12.267       | 12.267           | 0.000            | 99 | 261382   | 10.0          | 9.81            |       |
| 13 1,4-Dioxane                | 88  | 1.636        | 1.636            | 0.000            | 93 | 34173    | 10.0          | 8.95            |       |
| 14 N-Nitrosodimethylamine     | 74  | 2.154        | 2.154            | 0.000            | 93 | 50393    | 10.0          | 9.96            |       |
| 15 Pyridine                   | 79  | 2.213        | 2.213            | 0.000            | 98 | 84471    | 10.0          | 9.40            |       |
| 19 Methyl methanesulfonate    | 80  | 4.393        | 4.393            | 0.000            | 85 | 49098    | 10.0          | 10.0            |       |
| 25 Benzaldehyde               | 77  | 5.579        | 5.579            | 0.000            | 97 | 76602    | 10.0          | 11.3            |       |
| 26 Phenol                     | 94  | 5.691        | 5.691            | 0.000            | 95 | 144972   | 10.0          | 10.0            |       |
| 27 Aniline                    | 93  | 5.696        | 5.696            | 0.000            | 90 | 165108   | 10.0          | 10.2            |       |
| 29 Bis(2-chloroethyl)ether    | 93  | 5.776        | 5.776            | 0.000            | 97 | 102599   | 10.0          | 9.70            |       |
| 30 2-Chlorophenol             | 128 | 5.825        | 5.825            | 0.000            | 96 | 119062   | 10.0          | 9.82            |       |
| 31 n-Decane                   | 43  | 5.899        | 5.899            | 0.000            | 87 | 95701    | 10.0          | 9.88            |       |
| 32 1,3-Dichlorobenzene        | 146 | 5.979        | 5.979            | 0.000            | 98 | 138372   | 10.0          | 9.76            |       |
| 33 1,4-Dichlorobenzene        | 146 | 6.054        | 6.054            | 0.000            | 95 | 139645   | 10.0          | 9.78            |       |
| 34 Benzyl alcohol             | 108 | 6.177        | 6.177            | 0.000            | 94 | 68777    | 10.0          | 9.78            |       |
| 35 1,2-Dichlorobenzene        | 146 | 6.209        | 6.209            | 0.000            | 98 | 131269   | 10.0          | 9.69            |       |
| 36 Indene                     | 116 | 6.300        | 6.300            | 0.000            | 89 | 192295   | 10.0          | 9.79            |       |
| 37 2-Methylphenol             | 108 | 6.300        | 6.300            | 0.000            | 72 | 103485   | 10.0          | 10.0            |       |
| 38 2,2'-oxybis[1-chloropropan | 45  | 6.321        | 6.321            | 0.000            | 93 | 124278   | 10.0          | 9.80            |       |
| 39 N-Nitrosopyrrolidine       | 100 | 6.401        | 6.401            | 0.000            | 96 | 44141    | 10.0          | 9.57            |       |

| Compound                       | Sig | RT (min.) | Adj RT (min.) | Dlt RT (min.) | Q   | Response | Cal Amt ng | OnCol Amt ng | Flags |
|--------------------------------|-----|-----------|---------------|---------------|-----|----------|------------|--------------|-------|
| 40 Acetophenone                | 105 | 6.439     | 6.439         | 0.000         | 97  | 156260   | 10.0       | 9.80         |       |
| 42 4-Methylphenol              | 108 | 6.444     | 6.444         | 0.000         | 97  | 110627   | 10.0       | 10.2         |       |
| 41 N-Nitrosodi-n-propylamine   | 70  | 6.444     | 6.444         | 0.000         | 80  | 78829    | 10.0       | 9.90         |       |
| 43 Hexachloroethane            | 117 | 6.551     | 6.551         | 0.000         | 93  | 50350    | 10.0       | 9.83         |       |
| 44 Nitrobenzene                | 77  | 6.604     | 6.604         | 0.000         | 84  | 113742   | 10.0       | 9.79         |       |
| 46 Isophorone                  | 82  | 6.834     | 6.834         | 0.000         | 98  | 201822   | 10.0       | 9.92         |       |
| 47 2-Nitrophenol               | 139 | 6.920     | 6.920         | 0.000         | 90  | 66253    | 10.0       | 10.0         |       |
| 48 2,4-Dimethylphenol          | 107 | 6.957     | 6.957         | 0.000         | 94  | 112780   | 10.0       | 9.81         |       |
| 49 Benzoic acid                | 122 | 7.005     | 7.005         | 0.000         | 76  | 34309    | 10.0       | 9.93         | M     |
| 50 Bis(2-chloroethoxy)methane  | 93  | 7.048     | 7.048         | 0.000         | 99  | 128726   | 10.0       | 9.71         |       |
| 52 2,4-Dichlorophenol          | 162 | 7.149     | 7.149         | 0.000         | 93  | 100528   | 10.0       | 9.86         |       |
| 53 1,2,4-Trichlorobenzene      | 180 | 7.235     | 7.235         | 0.000         | 94  | 117956   | 10.0       | 9.72         |       |
| 56 Naphthalene                 | 128 | 7.310     | 7.310         | 0.000         | 97  | 369150   | 10.0       | 9.77         |       |
| 58 4-Chloroaniline             | 127 | 7.358     | 7.358         | 0.000         | 96  | 148176   | 10.0       | 10.1         |       |
| 59 2,6-Dichlorophenol          | 162 | 7.368     | 7.368         | 0.000         | 99  | 99953    | 10.0       | 9.94         |       |
| 61 Hexachlorobutadiene         | 225 | 7.438     | 7.438         | 0.000         | 96  | 65185    | 10.0       | 9.62         |       |
| 62 Caprolactam                 | 113 | 7.657     | 7.657         | 0.000         | 86  | 32499    | 10.0       | 9.52         |       |
| 63 4-Chloro-3-methylphenol     | 107 | 7.812     | 7.812         | 0.000         | 96  | 100727   | 10.0       | 10.0         |       |
| 67 2-Methylnaphthalene         | 142 | 7.972     | 7.972         | 0.000         | 92  | 259575   | 10.0       | 9.83         |       |
| 68 1-Methylnaphthalene         | 142 | 8.068     | 8.068         | 0.000         | 92  | 237343   | 10.0       | 9.69         |       |
| 69 Hexachlorocyclopentadiene   | 237 | 8.132     | 8.132         | 0.000         | 95  | 73394    | 10.0       | 9.60         |       |
| 70 1,2,4,5-Tetrachlorobenzene  | 216 | 8.138     | 8.138         | 0.000         | 97  | 117840   | 10.0       | 9.62         |       |
| 71 2,4,6-Trichlorophenol       | 196 | 8.239     | 8.239         | 0.000         | 91  | 74797    | 10.0       | 10.2         |       |
| 72 2,4,5-Trichlorophenol       | 196 | 8.271     | 8.271         | 0.000         | 96  | 77952    | 10.0       | 10.3         |       |
| 76 1,1'-Biphenyl               | 154 | 8.415     | 8.415         | 0.000         | 95  | 301701   | 10.0       | 9.69         |       |
| 78 2-Chloronaphthalene         | 162 | 8.442     | 8.442         | 0.000         | 95  | 256735   | 10.0       | 9.80         |       |
| 79 2-Nitroaniline              | 65  | 8.522     | 8.522         | 0.000         | 88  | 61063    | 10.0       | 9.66         |       |
| 82 Dimethyl phthalate          | 163 | 8.693     | 8.693         | 0.000         | 100 | 262470   | 10.0       | 10.1         |       |
| 83 1,3-Dinitrobenzene          | 168 | 8.720     | 8.720         | 0.000         | 95  | 41447    | 10.0       | 9.84         |       |
| 84 2,6-Dinitrotoluene          | 165 | 8.752     | 8.752         | 0.000         | 95  | 61281    | 10.0       | 10.3         |       |
| 85 Acenaphthylene              | 152 | 8.837     | 8.837         | 0.000         | 98  | 376973   | 10.0       | 9.85         |       |
| 86 3-Nitroaniline              | 138 | 8.912     | 8.912         | 0.000         | 96  | 59667    | 10.0       | 9.78         |       |
| 87 Acenaphthene                | 153 | 9.003     | 9.003         | 0.000         | 94  | 254184   | 10.0       | 9.81         |       |
| 88 2,4-Dinitrophenol           | 184 | 9.008     | 9.008         | 0.000         | 83  | 48501    | 20.0       | 14.0         |       |
| 89 4-Nitrophenol               | 109 | 9.057     | 9.057         | 0.000         | 87  | 42616    | 20.0       | 17.9         |       |
| 92 2,4-Dinitrotoluene          | 165 | 9.137     | 9.137         | 0.000         | 89  | 78593    | 10.0       | 10.6         |       |
| 93 Dibenzofuran                | 168 | 9.169     | 9.169         | 0.000         | 97  | 332433   | 10.0       | 9.86         |       |
| 95 2,3,5,6-Tetrachlorophenol   | 232 | 9.243     | 9.243         | 0.000         | 93  | 65111    | 10.0       | 9.85         |       |
| 96 2,3,4,6-Tetrachlorophenol   | 232 | 9.281     | 9.281         | 0.000         | 72  | 62319    | 10.0       | 10.1         |       |
| 97 2-Naphthylamine             | 143 | 9.313     | 9.313         | 0.000         | 97  | 216065   | 10.0       | 10.7         |       |
| 98 Diethyl phthalate           | 149 | 9.361     | 9.361         | 0.000         | 98  | 265517   | 10.0       | 10.3         |       |
| 99 Hexadecane                  | 57  | 9.377     | 9.377         | 0.000         | 92  | 164930   | 10.0       | 9.73         |       |
| 101 4-Chlorophenyl phenyl ethe | 204 | 9.484     | 9.484         | 0.000         | 92  | 132300   | 10.0       | 9.91         |       |
| 102 4-Nitroaniline             | 138 | 9.495     | 9.495         | 0.000         | 87  | 53610    | 10.0       | 9.67         |       |
| 103 Fluorene                   | 166 | 9.495     | 9.495         | 0.000         | 94  | 270755   | 10.0       | 10.1         |       |
| 104 4,6-Dinitro-2-methylphenol | 198 | 9.527     | 9.527         | 0.000         | 90  | 84452    | 20.0       | 18.4         |       |
| 106 N-Nitrosodiphenylamine     | 169 | 9.596     | 9.596         | 0.000         | 61  | 198189   | 10.0       | 9.89         |       |
| 108 1,2-Diphenylhydrazine      | 77  | 9.639     | 9.639         | 0.000         | 0   | 241618   | 10.0       | 10.0         |       |
| 107 Azobenzene                 | 77  | 9.639     | 9.639         | 0.000         | 96  | 241618   | 10.0       | 10.0         |       |
| 109 4-Bromophenyl phenyl ether | 248 | 9.954     | 9.954         | 0.000         | 63  | 71769    | 10.0       | 9.71         |       |
| 110 Hexachlorobenzene          | 284 | 10.034    | 10.034        | 0.000         | 96  | 82512    | 10.0       | 9.67         |       |
| 114 Atrazine                   | 200 | 10.088    | 10.088        | 0.000         | 96  | 64007    | 10.0       | 11.3         |       |

| Compound                       | Sig | RT<br>(min.) | Adj RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|--------------------------------|-----|--------------|------------------|------------------|-----|----------|---------------|-----------------|-------|
| 115 Pentachlorophenol          | 266 | 10.210       | 10.210           | 0.000            | 94  | 111463   | 20.0          | 19.5            |       |
| 117 n-Octadecane               | 57  | 10.253       | 10.253           | 0.000            | 95  | 168270   | 10.0          | 10.1            |       |
| 120 Phenanthrene               | 178 | 10.424       | 10.424           | 0.000            | 97  | 374124   | 10.0          | 9.83            |       |
| 123 Anthracene                 | 178 | 10.472       | 10.472           | 0.000            | 97  | 376999   | 10.0          | 9.96            |       |
| 125 Carbazole                  | 167 | 10.622       | 10.622           | 0.000            | 96  | 319499   | 10.0          | 10.1            |       |
| 128 Di-n-butyl phthalate       | 149 | 10.958       | 10.958           | 0.000            | 100 | 409520   | 10.0          | 10.1            |       |
| 133 Fluoranthene               | 202 | 11.765       | 11.765           | 0.000            | 98  | 374556   | 10.0          | 10.2            |       |
| 134 Benzidine                  | 184 | 11.915       | 11.915           | 0.000            | 99  | 83011    | 10.0          | 8.90            |       |
| 135 Pyrene                     | 202 | 12.075       | 12.075           | 0.000            | 97  | 381626   | 10.0          | 9.92            |       |
| 138 Butyl benzyl phthalate     | 149 | 13.031       | 13.031           | 0.000            | 97  | 150738   | 10.0          | 10.2            |       |
| 143 3,3'-Dichlorobenzidine     | 252 | 14.014       | 14.014           | 0.000            | 75  | 86795    | 10.0          | 8.98            |       |
| 144 Benzo[a]anthracene         | 228 | 14.062       | 14.062           | 0.000            | 99  | 299781   | 10.0          | 9.78            |       |
| 147 Bis(2-ethylhexyl) phthalat | 149 | 14.126       | 14.126           | 0.000            | 95  | 209613   | 10.0          | 10.1            |       |
| 146 Chrysene                   | 228 | 14.137       | 14.137           | 0.000            | 98  | 299322   | 10.0          | 10.0            |       |
| 152 Di-n-octyl phthalate       | 149 | 15.515       | 15.515           | 0.000            | 99  | 273056   | 10.0          | 9.22            |       |
| 153 7,12-Dimethylbenz(a)anthra | 256 | 16.300       | 16.300           | 0.000            | 91  | 113747   | 10.0          | 9.21            |       |
| 154 Benzo[b]fluoranthene       | 252 | 16.306       | 16.306           | 0.000            | 99  | 277582   | 10.0          | 10.1            |       |
| 155 Benzo[k]fluoranthene       | 252 | 16.365       | 16.365           | 0.000            | 99  | 266345   | 10.0          | 9.93            |       |
| 156 Benzo[e]pyrene             | 252 | 16.899       | 16.899           | 0.000            | 0   | 245781   | 10.0          | 10.1            |       |
| 157 Benzo[a]pyrene             | 252 | 17.006       | 17.006           | 0.000            | 78  | 239618   | 10.0          | 10.0            |       |
| 162 Indeno[1,2,3-cd]pyrene     | 276 | 19.458       | 19.458           | 0.000            | 99  | 252012   | 10.0          | 9.41            |       |
| 161 Dibenz(a,h)anthracene      | 278 | 19.511       | 19.511           | 0.000            | 90  | 212303   | 10.0          | 9.47            |       |
| 160 Benzo[g,h,i]perylene       | 276 | 20.093       | 20.093           | 0.000            | 96  | 213507   | 10.0          | 9.62            |       |
| S 206 Methyl Phenols, Total    | 108 |              |                  |                  | 0   |          | 20.0          | 20.2            |       |
| S 208 Total Cresols            | 108 |              |                  |                  | 0   |          | 20.0          | 20.2            |       |

**QC Flag Legend**

Review Flags

M - Manually Integrated

**Reagents:**

SVTAPSTD10i\_00095

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C4.D

Injection Date: 25-Mar-2015 01:02:30

Instrument ID: CH722

Operator ID: 007062

Lims ID: ICIS R10

Worklist Smp#: 5

Client ID:

Injection Vol: 2.0 ul

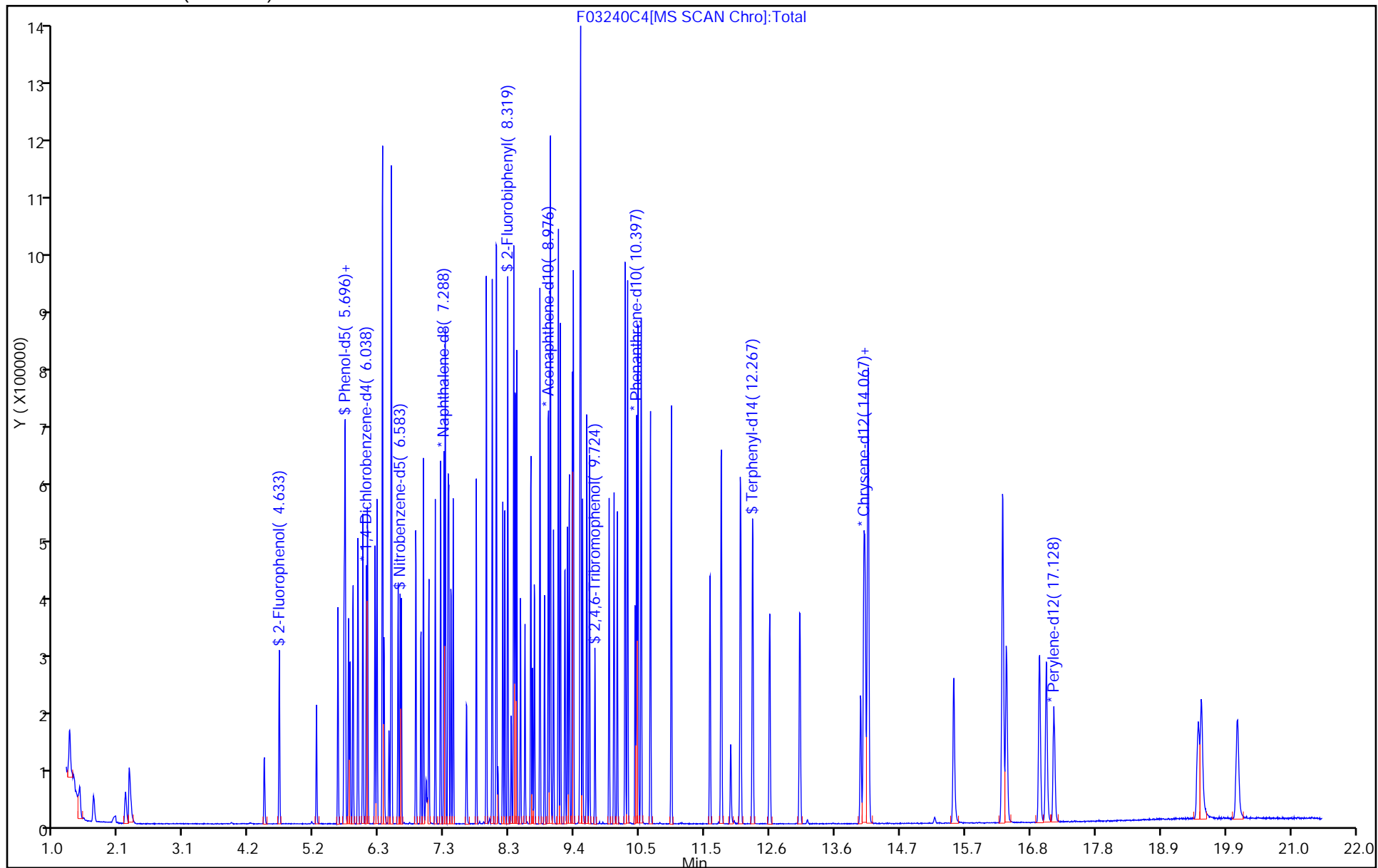
Dil. Factor: 1.0000

ALS Bottle#: 5

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C4.D

Injection Date: 25-Mar-2015 01:02:30

Instrument ID: CH722

Lims ID: ICIS R10

Client ID:

Operator ID: 007062

ALS Bottle#:

5

Worklist Smp#: 5

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

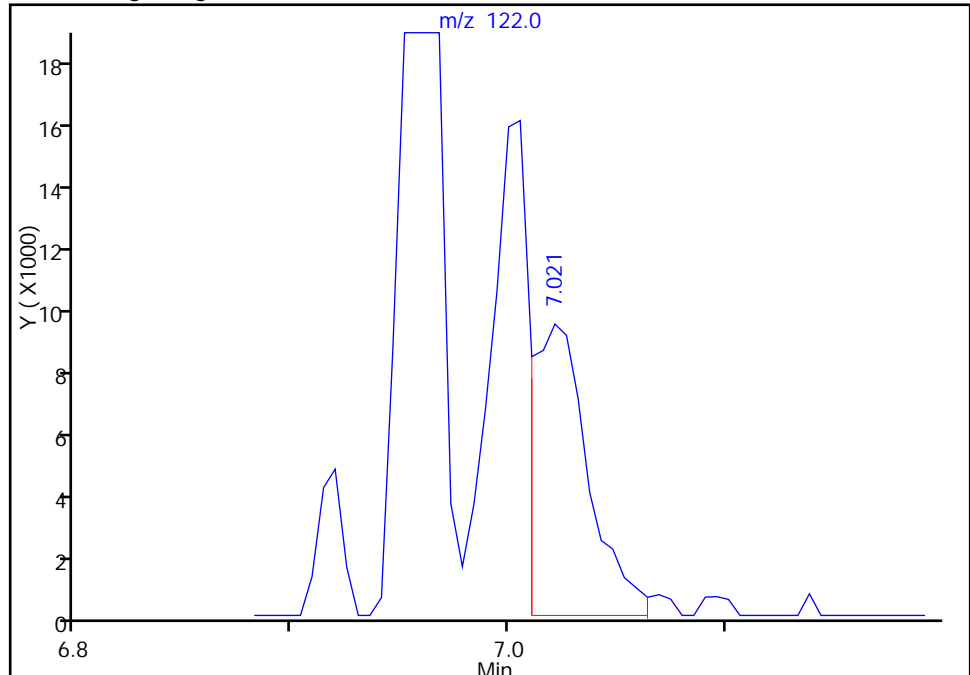
Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

## 49 Benzoic acid, CAS: 65-85-0

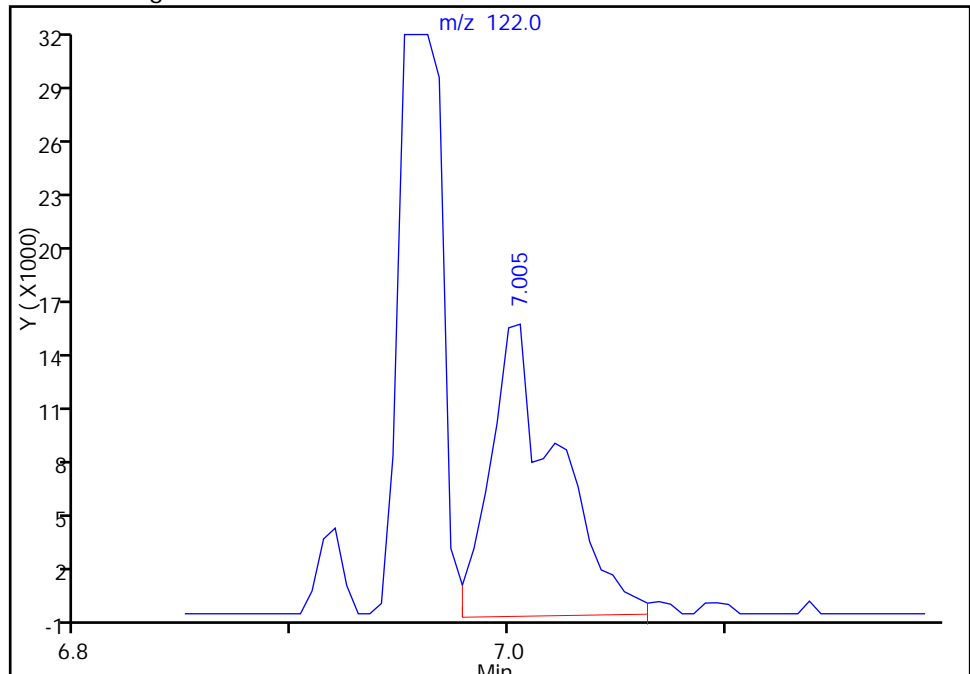
RT: 7.02  
Area: 16791  
Amount: 8.658600  
Amount Units: ng

## Processing Integration Results



RT: 7.01  
Area: 34309  
Amount: 9.931447  
Amount Units: ng

## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 02:31:01

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C5.D  
 Lims ID: IC R20  
 Client ID:  
 Sample Type: IC Calib Level: 5  
 Inject. Date: 25-Mar-2015 01:31:30 ALS Bottle#: 6 Worklist Smp#: 6  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006159-006  
 Misc. Info.: ,IC R20  
 Operator ID: 007062 Instrument ID: CH722  
 Sublist: chrom-BNA\_CH722\*sub5  
 Method: \\PITCHROM\ChromData\CH722\20150324-6159.b\BNA\_CH722.m  
 Limit Group: BNA 8270D ICAL  
 Last Update: 26-Mar-2015 07:46:39 Calib Date: 25-Mar-2015 02:57:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last Ical File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C8.D  
 Column 1 : Rxi-5SilMS ( 0.32 mm) Det: MS SCAN  
 Process Host: XAWRK025

First Level Reviewer: bungardf

Date: 25-Mar-2015 02:47:45

| Compound                      | Sig | RT<br>(min.) | Adj RT<br>(min.) | Dlt RT<br>(min.) | Q  | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-------------------------------|-----|--------------|------------------|------------------|----|----------|---------------|-----------------|-------|
| * 1 1,4-Dichlorobenzene-d4    | 152 | 6.040        | 6.038            | 0.002            | 94 | 64450    | 8.00          | 8.00            |       |
| * 2 Naphthalene-d8            | 136 | 7.296        | 7.288            | 0.008            | 99 | 273763   | 8.00          | 8.00            |       |
| * 3 Acenaphthene-d10          | 164 | 8.984        | 8.976            | 0.008            | 93 | 159213   | 8.00          | 8.00            |       |
| * 4 Phenanthrene-d10          | 188 | 10.410       | 10.397           | 0.013            | 97 | 259871   | 8.00          | 8.00            |       |
| * 5 Chrysene-d12              | 240 | 14.128       | 14.089           | 0.039            | 96 | 204627   | 8.00          | 8.00            |       |
| * 6 Perylene-d12              | 264 | 17.195       | 17.128           | 0.067            | 96 | 162934   | 8.00          | 8.00            |       |
| \$ 7 2-Fluorophenol           | 112 | 4.635        | 4.633            | 0.002            | 93 | 184934   | 20.0          | 21.3            |       |
| \$ 8 Phenol-d5                | 99  | 5.682        | 5.680            | 0.002            | 98 | 251361   | 20.0          | 21.6            |       |
| \$ 9 Nitrobenzene-d5          | 82  | 6.585        | 6.583            | 0.002            | 86 | 227231   | 20.0          | 20.8            |       |
| \$ 10 2-Fluorobiphenyl        | 172 | 8.327        | 8.319            | 0.008            | 99 | 557966   | 20.0          | 21.0            |       |
| \$ 11 2,4,6-Tribromophenol    | 330 | 9.737        | 9.724            | 0.013            | 94 | 73162    | 20.0          | 19.1            |       |
| \$ 12 Terphenyl-d14           | 244 | 12.296       | 12.267           | 0.029            | 99 | 519301   | 20.0          | 21.3            |       |
| 13 1,4-Dioxane                | 88  | 1.633        | 1.636            | -0.003           | 92 | 69973    | 20.0          | 20.5            |       |
| 14 N-Nitrosodimethylamine     | 74  | 2.151        | 2.154            | -0.003           | 92 | 99275    | 20.0          | 22.0            |       |
| 15 Pyridine                   | 79  | 2.205        | 2.213            | -0.008           | 98 | 178410   | 20.0          | 22.2            |       |
| 19 Methyl methanesulfonate    | 80  | 4.390        | 4.393            | -0.003           | 85 | 94393    | 20.0          | 21.6            |       |
| 25 Benzaldehyde               | 77  | 5.581        | 5.579            | 0.002            | 97 | 148143   | 20.0          | 24.4            |       |
| 26 Phenol                     | 94  | 5.693        | 5.691            | 0.002            | 93 | 275964   | 20.0          | 21.4            |       |
| 27 Aniline                    | 93  | 5.698        | 5.696            | 0.002            | 90 | 326780   | 20.0          | 22.6            |       |
| 29 Bis(2-chloroethyl)ether    | 93  | 5.773        | 5.776            | -0.003           | 97 | 197013   | 20.0          | 20.8            |       |
| 30 2-Chlorophenol             | 128 | 5.827        | 5.825            | 0.002            | 96 | 231492   | 20.0          | 21.4            |       |
| 31 n-Decane                   | 43  | 5.901        | 5.899            | 0.002            | 86 | 180819   | 20.0          | 20.9            |       |
| 32 1,3-Dichlorobenzene        | 146 | 5.981        | 5.979            | 0.002            | 98 | 258812   | 20.0          | 20.4            |       |
| 33 1,4-Dichlorobenzene        | 146 | 6.056        | 6.054            | 0.002            | 95 | 264695   | 20.0          | 20.8            |       |
| 34 Benzyl alcohol             | 108 | 6.179        | 6.177            | 0.002            | 93 | 137137   | 20.0          | 21.8            |       |
| 35 1,2-Dichlorobenzene        | 146 | 6.211        | 6.209            | 0.002            | 98 | 253769   | 20.0          | 21.0            |       |
| 36 Indene                     | 116 | 6.302        | 6.300            | 0.002            | 89 | 371142   | 20.0          | 21.2            |       |
| 37 2-Methylphenol             | 108 | 6.302        | 6.300            | 0.002            | 95 | 198434   | 20.0          | 21.5            |       |
| 38 2,2'-oxybis[1-chloropropan | 45  | 6.323        | 6.321            | 0.002            | 93 | 238263   | 20.0          | 21.0            |       |
| 39 N-Nitrosopyrrolidine       | 100 | 6.409        | 6.401            | 0.008            | 97 | 91351    | 20.0          | 22.2            |       |

| Compound                       | Sig | RT (min.) | Adj RT (min.) | Dlt RT (min.) | Q   | Response | Cal Amt ng | OnCol Amt ng | Flags |
|--------------------------------|-----|-----------|---------------|---------------|-----|----------|------------|--------------|-------|
| 40 Acetophenone                | 105 | 6.441     | 6.439         | 0.002         | 96  | 303373   | 20.0       | 21.3         |       |
| 42 4-Methylphenol              | 108 | 6.446     | 6.444         | 0.002         | 94  | 212290   | 20.0       | 21.8         |       |
| 41 N-Nitrosodi-n-propylamine   | 70  | 6.446     | 6.444         | 0.002         | 80  | 151232   | 20.0       | 21.3         |       |
| 43 Hexachloroethane            | 117 | 6.553     | 6.551         | 0.002         | 94  | 98949    | 20.0       | 21.6         |       |
| 44 Nitrobenzene                | 77  | 6.607     | 6.604         | 0.002         | 84  | 223691   | 20.0       | 20.7         |       |
| 46 Isophorone                  | 82  | 6.842     | 6.834         | 0.008         | 98  | 395311   | 20.0       | 20.9         |       |
| 47 2-Nitrophenol               | 139 | 6.922     | 6.920         | 0.002         | 90  | 133871   | 20.0       | 21.8         |       |
| 48 2,4-Dimethylphenol          | 107 | 6.964     | 6.957         | 0.007         | 94  | 224140   | 20.0       | 21.0         |       |
| 49 Benzoic acid                | 122 | 7.023     | 7.005         | 0.018         | 85  | 105483   | 20.0       | 20.3         | M     |
| 50 Bis(2-chloroethoxy)methane  | 93  | 7.050     | 7.048         | 0.002         | 99  | 254333   | 20.0       | 20.6         |       |
| 52 2,4-Dichlorophenol          | 162 | 7.151     | 7.149         | 0.002         | 95  | 197914   | 20.0       | 20.9         |       |
| 53 1,2,4-Trichlorobenzene      | 180 | 7.242     | 7.235         | 0.007         | 94  | 226536   | 20.0       | 20.1         |       |
| 56 Naphthalene                 | 128 | 7.317     | 7.310         | 0.007         | 97  | 709463   | 20.0       | 20.2         |       |
| 58 4-Chloroaniline             | 127 | 7.360     | 7.358         | 0.002         | 96  | 294778   | 20.0       | 21.6         |       |
| 59 2,6-Dichlorophenol          | 162 | 7.370     | 7.368         | 0.002         | 99  | 195870   | 20.0       | 20.9         |       |
| 61 Hexachlorobutadiene         | 225 | 7.445     | 7.438         | 0.007         | 95  | 127379   | 20.0       | 20.2         |       |
| 62 Caprolactam                 | 113 | 7.670     | 7.657         | 0.013         | 86  | 66351    | 20.0       | 20.9         |       |
| 63 4-Chloro-3-methylphenol     | 107 | 7.819     | 7.812         | 0.007         | 95  | 199456   | 20.0       | 21.3         |       |
| 67 2-Methylnaphthalene         | 142 | 7.979     | 7.972         | 0.007         | 92  | 506864   | 20.0       | 20.6         |       |
| 68 1-Methylnaphthalene         | 142 | 8.076     | 8.068         | 0.008         | 92  | 474082   | 20.0       | 20.8         |       |
| 69 Hexachlorocyclopentadiene   | 237 | 8.140     | 8.132         | 0.008         | 95  | 155412   | 20.0       | 21.6         |       |
| 70 1,2,4,5-Tetrachlorobenzene  | 216 | 8.145     | 8.138         | 0.007         | 96  | 231318   | 20.0       | 20.1         |       |
| 71 2,4,6-Trichlorophenol       | 196 | 8.247     | 8.239         | 0.008         | 90  | 148021   | 20.0       | 21.4         |       |
| 72 2,4,5-Trichlorophenol       | 196 | 8.279     | 8.271         | 0.008         | 97  | 160142   | 20.0       | 22.4         |       |
| 76 1,1'-Biphenyl               | 154 | 8.423     | 8.415         | 0.008         | 95  | 598805   | 20.0       | 20.5         |       |
| 78 2-Chloronaphthalene         | 162 | 8.444     | 8.442         | 0.002         | 95  | 505401   | 20.0       | 20.5         |       |
| 79 2-Nitroaniline              | 65  | 8.535     | 8.522         | 0.013         | 87  | 123841   | 20.0       | 20.9         |       |
| 82 Dimethyl phthalate          | 163 | 8.701     | 8.693         | 0.008         | 100 | 516159   | 20.0       | 21.1         |       |
| 83 1,3-Dinitrobenzene          | 168 | 8.727     | 8.720         | 0.007         | 93  | 83139    | 20.0       | 21.0         |       |
| 84 2,6-Dinitrotoluene          | 165 | 8.759     | 8.752         | 0.007         | 95  | 123366   | 20.0       | 22.1         |       |
| 85 Acenaphthylene              | 152 | 8.845     | 8.837         | 0.008         | 98  | 750864   | 20.0       | 20.9         |       |
| 86 3-Nitroaniline              | 138 | 8.925     | 8.912         | 0.013         | 95  | 119321   | 20.0       | 20.8         |       |
| 87 Acenaphthene                | 153 | 9.016     | 9.003         | 0.013         | 94  | 504543   | 20.0       | 20.7         |       |
| 88 2,4-Dinitrophenol           | 184 | 9.021     | 9.008         | 0.013         | 84  | 120660   | 40.0       | 37.0         |       |
| 89 4-Nitrophenol               | 109 | 9.069     | 9.057         | 0.012         | 85  | 96976    | 40.0       | 40.4         |       |
| 92 2,4-Dinitrotoluene          | 165 | 9.144     | 9.137         | 0.007         | 87  | 160672   | 20.0       | 23.2         |       |
| 93 Dibenzofuran                | 168 | 9.176     | 9.169         | 0.007         | 97  | 659713   | 20.0       | 20.8         |       |
| 95 2,3,5,6-Tetrachlorophenol   | 232 | 9.251     | 9.243         | 0.008         | 93  | 132614   | 20.0       | 21.4         |       |
| 96 2,3,4,6-Tetrachlorophenol   | 232 | 9.294     | 9.281         | 0.013         | 71  | 130022   | 20.0       | 22.4         |       |
| 97 2-Naphthylamine             | 143 | 9.320     | 9.313         | 0.007         | 97  | 434789   | 20.0       | 23.0         |       |
| 98 Diethyl phthalate           | 149 | 9.374     | 9.361         | 0.013         | 99  | 511446   | 20.0       | 21.2         |       |
| 99 Hexadecane                  | 57  | 9.384     | 9.377         | 0.007         | 92  | 322513   | 20.0       | 20.4         |       |
| 101 4-Chlorophenyl phenyl ethe | 204 | 9.497     | 9.484         | 0.013         | 91  | 258200   | 20.0       | 20.6         |       |
| 102 4-Nitroaniline             | 138 | 9.507     | 9.495         | 0.012         | 58  | 112808   | 20.0       | 21.6         |       |
| 103 Fluorene                   | 166 | 9.507     | 9.495         | 0.012         | 93  | 536018   | 20.0       | 21.4         |       |
| 104 4,6-Dinitro-2-methylphenol | 198 | 9.539     | 9.527         | 0.012         | 91  | 185501   | 40.0       | 41.6         |       |
| 106 N-Nitrosodiphenylamine     | 169 | 9.603     | 9.596         | 0.007         | 61  | 395322   | 20.0       | 20.4         |       |
| 108 1,2-Diphenylhydrazine      | 77  | 9.646     | 9.639         | 0.007         | 0   | 472285   | 20.0       | 20.2         |       |
| 107 Azobenzene                 | 77  | 9.646     | 9.639         | 0.007         | 97  | 472285   | 20.0       | 20.2         |       |
| 109 4-Bromophenyl phenyl ether | 248 | 9.967     | 9.954         | 0.013         | 62  | 149112   | 20.0       | 20.8         |       |
| 110 Hexachlorobenzene          | 284 | 10.047    | 10.034        | 0.013         | 95  | 158064   | 20.0       | 19.1         |       |
| 114 Atrazine                   | 200 | 10.100    | 10.088        | 0.012         | 96  | 116556   | 20.0       | 21.3         |       |



| Compound                       | Sig | RT (min.) | Adj RT (min.) | Dlt RT (min.) | Q   | Response | Cal Amt ng | OnCol Amt ng | Flags |
|--------------------------------|-----|-----------|---------------|---------------|-----|----------|------------|--------------|-------|
| 115 Pentachlorophenol          | 266 | 10.223    | 10.210        | 0.013         | 94  | 217389   | 40.0       | 39.3         |       |
| 117 n-Octadecane               | 57  | 10.266    | 10.253        | 0.013         | 96  | 326887   | 20.0       | 21.9         |       |
| 120 Phenanthrene               | 178 | 10.437    | 10.424        | 0.013         | 97  | 730444   | 20.0       | 19.8         |       |
| 123 Anthracene                 | 178 | 10.485    | 10.472        | 0.013         | 97  | 751092   | 20.0       | 20.5         |       |
| 125 Carbazole                  | 167 | 10.640    | 10.622        | 0.018         | 96  | 637352   | 20.0       | 20.7         |       |
| 128 Di-n-butyl phthalate       | 149 | 10.976    | 10.958        | 0.018         | 100 | 826609   | 20.0       | 21.1         |       |
| 133 Fluoranthene               | 202 | 11.788    | 11.765        | 0.023         | 98  | 742239   | 20.0       | 20.8         |       |
| 134 Benzidine                  | 184 | 11.943    | 11.915        | 0.028         | 99  | 196255   | 20.0       | 20.5         |       |
| 135 Pyrene                     | 202 | 12.098    | 12.075        | 0.023         | 97  | 739875   | 20.0       | 21.0         |       |
| 138 Butyl benzyl phthalate     | 149 | 13.070    | 13.031        | 0.039         | 97  | 302546   | 20.0       | 22.3         |       |
| 143 3,3'-Dichlorobenzidine     | 252 | 14.059    | 14.014        | 0.045         | 74  | 190079   | 20.0       | 20.2         |       |
| 144 Benzo[a]anthracene         | 228 | 14.107    | 14.062        | 0.045         | 99  | 591856   | 20.0       | 21.1         |       |
| 147 Bis(2-ethylhexyl) phthalat | 149 | 14.171    | 14.126        | 0.045         | 95  | 419019   | 20.0       | 22.1         |       |
| 146 Chrysene                   | 228 | 14.182    | 14.137        | 0.045         | 98  | 575745   | 20.0       | 21.0         |       |
| 152 Di-n-octyl phthalate       | 149 | 15.565    | 15.515        | 0.050         | 98  | 597927   | 20.0       | 19.8         |       |
| 153 7,12-Dimethylbenz(a)anthra | 256 | 16.361    | 16.300        | 0.061         | 90  | 252583   | 20.0       | 21.5         |       |
| 154 Benzo[b]fluoranthene       | 252 | 16.361    | 16.306        | 0.055         | 98  | 543274   | 20.0       | 20.8         |       |
| 155 Benzo[k]fluoranthene       | 252 | 16.415    | 16.365        | 0.050         | 99  | 537988   | 20.0       | 21.1         |       |
| 156 Benzo[e]pyrene             | 252 | 16.954    | 16.899        | 0.055         | 0   | 489580   | 20.0       | 21.0         |       |
| 157 Benzo[a]pyrene             | 252 | 17.072    | 17.006        | 0.066         | 78  | 483882   | 20.0       | 21.3         |       |
| 162 Indeno[1,2,3-cd]pyrene     | 276 | 19.545    | 19.458        | 0.087         | 98  | 522145   | 20.0       | 20.5         |       |
| 161 Dibenz(a,h)anthracene      | 278 | 19.604    | 19.511        | 0.093         | 96  | 437071   | 20.0       | 20.5         |       |
| 160 Benzo[g,h,i]perylene       | 276 | 20.192    | 20.093        | 0.099         | 96  | 436073   | 20.0       | 20.6         |       |
| S 206 Methyl Phenols, Total    | 108 |           |               |               | 0   |          | 40.0       | 43.4         |       |
| S 208 Total Cresols            | 108 |           |               |               | 0   |          | 40.0       | 43.4         |       |

**QC Flag Legend**

Review Flags

M - Manually Integrated

**Reagents:**

SVTAPSTD20i\_00006

Amount Added: 1.00

Units: mL



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C5.D

Injection Date: 25-Mar-2015 01:31:30

Instrument ID: CH722

Lims ID: IC R20

Client ID:

Operator ID: 007062

Worklist Smp#: 6

Injection Vol: 2.0 ul

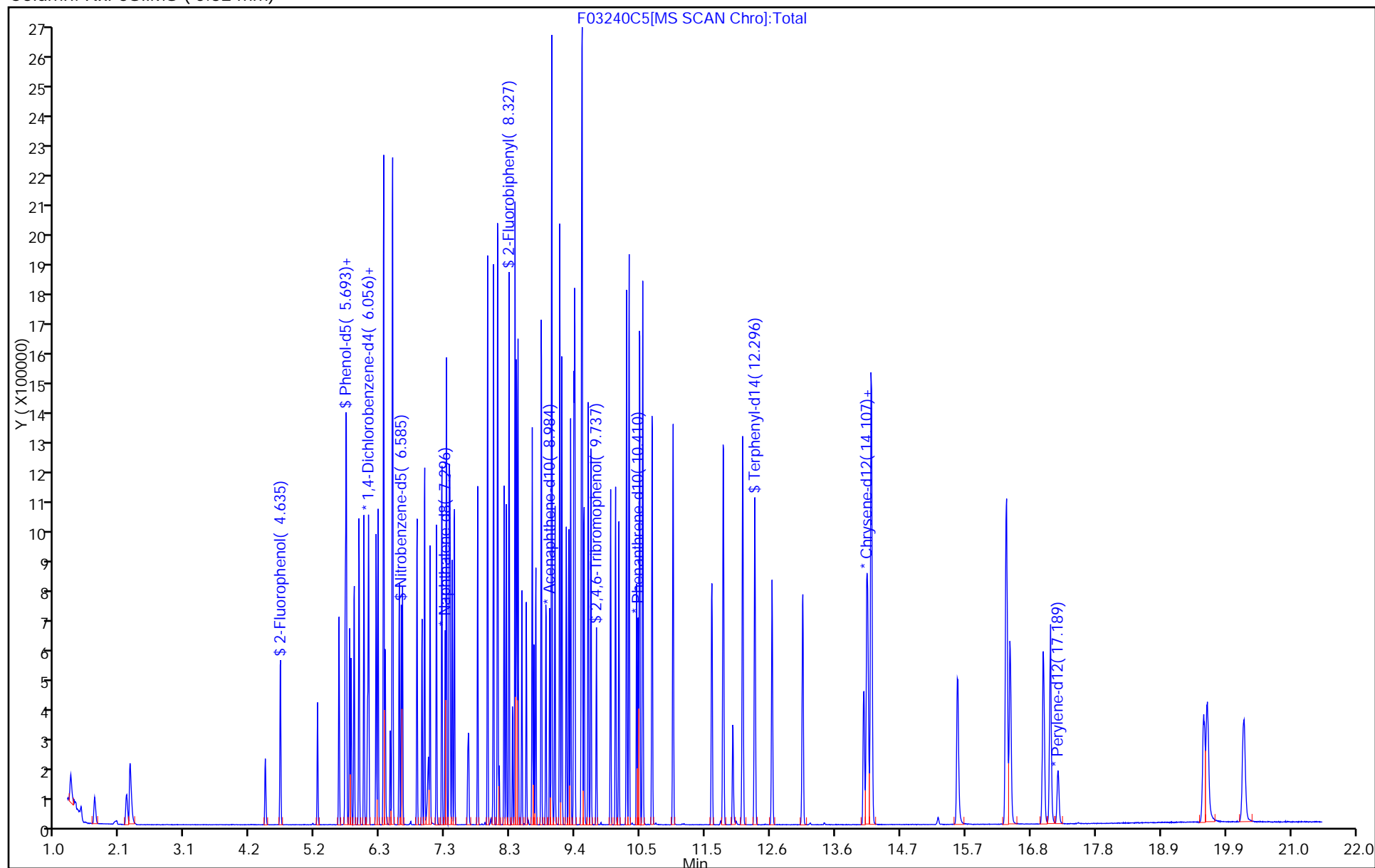
Dil. Factor: 1.0000

ALS Bottle#: 6

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C5.D

Injection Date: 25-Mar-2015 01:31:30

Instrument ID: CH722

Lims ID: IC R20

Client ID:

Operator ID: 007062

ALS Bottle#:

6

Worklist Smp#: 6

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

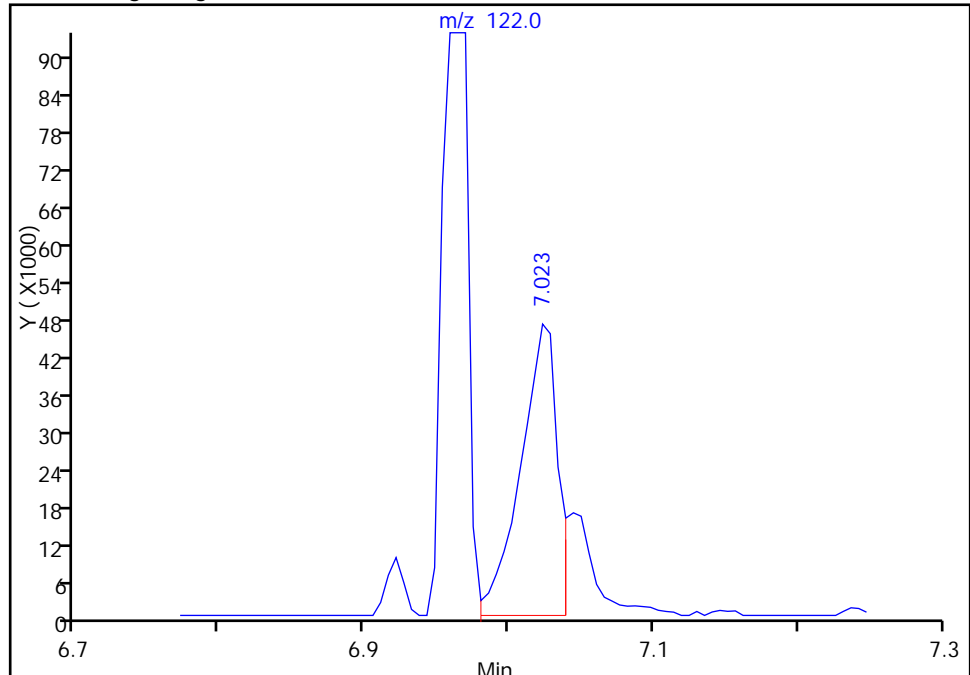
Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

## 49 Benzoic acid, CAS: 65-85-0

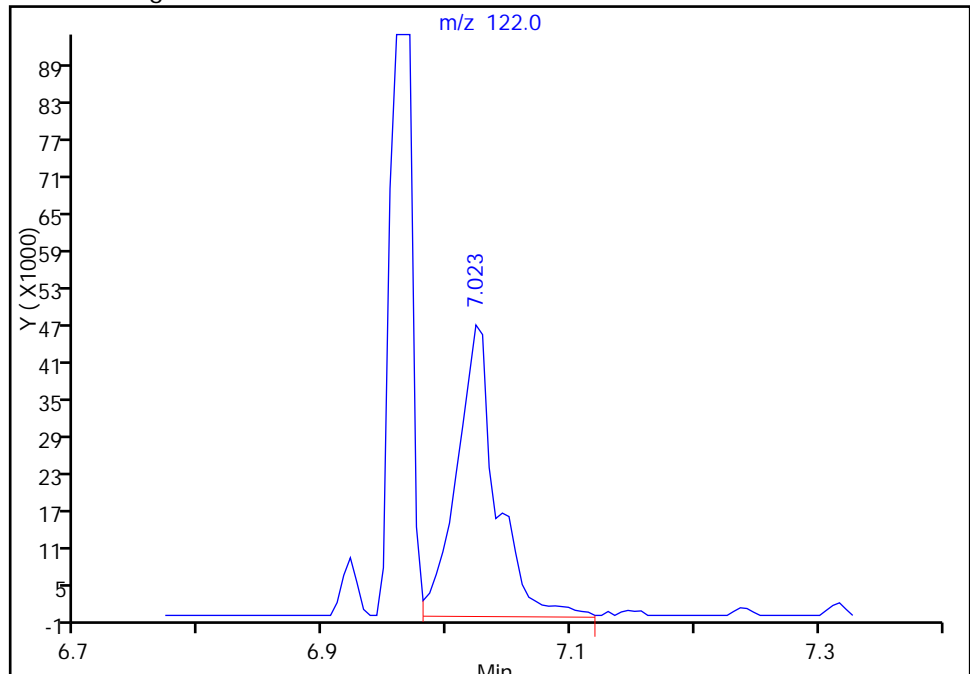
RT: 7.02  
Area: 83733  
Amount: 26.645237  
Amount Units: ng

## Processing Integration Results



RT: 7.02  
Area: 105483  
Amount: 20.334816  
Amount Units: ng

## Manual Integration Results



Reviewer: bungardf, 25-Mar-2015 02:47:45

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C6.D  
 Lims ID: IC R40  
 Client ID:  
 Sample Type: IC Calib Level: 6  
 Inject. Date: 25-Mar-2015 02:00:30 ALS Bottle#: 7 Worklist Smp#: 7  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006159-007  
 Misc. Info.: ,IC R40  
 Operator ID: 007062 Instrument ID: CH722  
 Sublist: chrom-BNA\_CH722\*sub5  
 Method: \\PITCHROM\ChromData\CH722\20150324-6159.b\BNA\_CH722.m  
 Limit Group: BNA 8270D ICAL  
 Last Update: 26-Mar-2015 07:46:40 Calib Date: 25-Mar-2015 02:57:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last Ical File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C8.D  
 Column 1 : Rxi-5SilMS ( 0.32 mm) Det: MS SCAN  
 Process Host: XAWRK025

First Level Reviewer: bungardf

Date: 25-Mar-2015 03:37:43

| Compound                      | Sig | RT<br>(min.) | Adj RT<br>(min.) | Dlt RT<br>(min.) | Q  | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-------------------------------|-----|--------------|------------------|------------------|----|----------|---------------|-----------------|-------|
| * 1 1,4-Dichlorobenzene-d4    | 152 | 6.045        | 6.038            | 0.007            | 93 | 67888    | 8.00          | 8.00            |       |
| * 2 Naphthalene-d8            | 136 | 7.295        | 7.288            | 0.007            | 99 | 284639   | 8.00          | 8.00            |       |
| * 3 Acenaphthene-d10          | 164 | 8.983        | 8.976            | 0.007            | 92 | 168673   | 8.00          | 8.00            |       |
| * 4 Phenanthrene-d10          | 188 | 10.415       | 10.397           | 0.018            | 96 | 268113   | 8.00          | 8.00            |       |
| * 5 Chrysene-d12              | 240 | 14.128       | 14.089           | 0.039            | 96 | 215916   | 8.00          | 8.00            |       |
| * 6 Perylene-d12              | 264 | 17.189       | 17.128           | 0.061            | 97 | 169216   | 8.00          | 8.00            |       |
| \$ 7 2-Fluorophenol           | 112 | 4.635        | 4.633            | 0.002            | 92 | 380803   | 40.0          | 41.6            |       |
| \$ 8 Phenol-d5                | 99  | 5.687        | 5.680            | 0.007            | 99 | 509889   | 40.0          | 41.6            |       |
| \$ 9 Nitrobenzene-d5          | 82  | 6.590        | 6.583            | 0.007            | 86 | 464230   | 40.0          | 40.8            |       |
| \$ 10 2-Fluorobiphenyl        | 172 | 8.331        | 8.319            | 0.012            | 99 | 1108504  | 40.0          | 39.4            |       |
| \$ 11 2,4,6-Tribromophenol    | 330 | 9.742        | 9.724            | 0.018            | 94 | 157778   | 40.0          | 39.6            |       |
| \$ 12 Terphenyl-d14           | 244 | 12.301       | 12.267           | 0.034            | 99 | 1075104  | 40.0          | 41.8            |       |
| 13 1,4-Dioxane                | 88  | 1.622        | 1.636            | -0.014           | 92 | 140586   | 40.0          | 39.1            |       |
| 14 N-Nitrosodimethylamine     | 74  | 2.145        | 2.154            | -0.009           | 90 | 207263   | 40.0          | 43.5            |       |
| 15 Pyridine                   | 79  | 2.199        | 2.213            | -0.014           | 98 | 360952   | 40.0          | 42.7            |       |
| 19 Methyl methanesulfonate    | 80  | 4.394        | 4.393            | 0.001            | 85 | 190235   | 40.0          | 41.3            |       |
| 25 Benzaldehyde               | 77  | 5.586        | 5.579            | 0.007            | 96 | 298636   | 40.0          | 46.7            |       |
| 26 Phenol                     | 94  | 5.698        | 5.691            | 0.007            | 96 | 555839   | 40.0          | 40.9            |       |
| 27 Aniline                    | 93  | 5.703        | 5.696            | 0.007            | 97 | 643910   | 40.0          | 42.2            |       |
| 29 Bis(2-chloroethyl)ether    | 93  | 5.783        | 5.776            | 0.007            | 97 | 403245   | 40.0          | 40.5            |       |
| 30 2-Chlorophenol             | 128 | 5.826        | 5.825            | 0.001            | 97 | 467207   | 40.0          | 40.9            |       |
| 31 n-Decane                   | 43  | 5.906        | 5.899            | 0.007            | 86 | 362583   | 40.0          | 39.8            |       |
| 32 1,3-Dichlorobenzene        | 146 | 5.986        | 5.979            | 0.007            | 97 | 529871   | 40.0          | 39.7            |       |
| 33 1,4-Dichlorobenzene        | 146 | 6.061        | 6.054            | 0.007            | 95 | 543108   | 40.0          | 40.4            |       |
| 34 Benzyl alcohol             | 108 | 6.184        | 6.177            | 0.007            | 93 | 281321   | 40.0          | 42.5            |       |
| 35 1,2-Dichlorobenzene        | 146 | 6.216        | 6.209            | 0.007            | 98 | 513715   | 40.0          | 40.3            |       |
| 36 Indene                     | 116 | 6.301        | 6.300            | 0.001            | 88 | 742766   | 40.0          | 40.2            |       |
| 37 2-Methylphenol             | 108 | 6.312        | 6.300            | 0.012            | 96 | 400088   | 40.0          | 41.2            |       |
| 38 2,2'-oxybis[1-chloropropan | 45  | 6.328        | 6.321            | 0.007            | 93 | 481087   | 40.0          | 40.3            |       |
| 39 N-Nitrosopyrrolidine       | 100 | 6.419        | 6.401            | 0.018            | 96 | 192584   | 40.0          | 44.4            |       |

| Compound                        | Sig | RT (min.) | Adj RT (min.) | Dlt RT (min.) | Q   | Response | Cal Amt ng | OnCol Amt ng | Flags |
|---------------------------------|-----|-----------|---------------|---------------|-----|----------|------------|--------------|-------|
| 40 Acetophenone                 | 105 | 6.446     | 6.439         | 0.007         | 97  | 602232   | 40.0       | 40.1         |       |
| 42 4-Methylphenol               | 108 | 6.456     | 6.444         | 0.012         | 96  | 422446   | 40.0       | 41.2         |       |
| 41 N-Nitrosodi-n-propylamine    | 70  | 6.451     | 6.444         | 0.007         | 79  | 306686   | 40.0       | 40.9         |       |
| 43 Hexachloroethane             | 117 | 6.553     | 6.551         | 0.002         | 96  | 199855   | 40.0       | 41.5         |       |
| 44 Nitrobenzene                 | 77  | 6.611     | 6.604         | 0.007         | 84  | 454009   | 40.0       | 40.4         |       |
| 46 Isophorone                   | 82  | 6.846     | 6.834         | 0.012         | 98  | 821248   | 40.0       | 41.7         |       |
| 47 2-Nitrophenol                | 139 | 6.926     | 6.920         | 0.006         | 89  | 283407   | 40.0       | 44.3         |       |
| 48 2,4-Dimethylphenol           | 107 | 6.964     | 6.957         | 0.007         | 94  | 462059   | 40.0       | 41.5         |       |
| 49 Benzoic acid                 | 122 | 7.055     | 7.005         | 0.050         | 33  | 255134   | 40.0       | 40.1         |       |
| 50 Bis(2-chloroethoxy)methane   | 93  | 7.055     | 7.048         | 0.007         | 99  | 528023   | 40.0       | 41.1         |       |
| 52 2,4-Dichlorophenol           | 162 | 7.156     | 7.149         | 0.007         | 93  | 412925   | 40.0       | 41.8         |       |
| 53 1,2,4-Trichlorobenzene       | 180 | 7.242     | 7.235         | 0.007         | 94  | 469824   | 40.0       | 40.0         |       |
| 56 Naphthalene                  | 128 | 7.316     | 7.310         | 0.006         | 97  | 1451784  | 40.0       | 39.7         |       |
| 58 4-Chloroaniline              | 127 | 7.365     | 7.358         | 0.007         | 97  | 614579   | 40.0       | 43.4         |       |
| 59 2,6-Dichlorophenol           | 162 | 7.375     | 7.368         | 0.007         | 99  | 406698   | 40.0       | 41.8         |       |
| 61 Hexachlorobutadiene          | 225 | 7.445     | 7.438         | 0.007         | 95  | 260375   | 40.0       | 39.7         |       |
| 62 Caprolactam                  | 113 | 7.690     | 7.657         | 0.033         | 87  | 141997   | 40.0       | 43.0         |       |
| 63 4-Chloro-3-methylphenol      | 107 | 7.824     | 7.812         | 0.012         | 95  | 426928   | 40.0       | 43.9         |       |
| 67 2-Methylnaphthalene          | 142 | 7.984     | 7.972         | 0.012         | 92  | 1044269  | 40.0       | 40.9         |       |
| 68 1-Methylnaphthalene          | 142 | 8.080     | 8.068         | 0.012         | 92  | 960309   | 40.0       | 40.5         |       |
| 69 Hexachlorocyclopentadiene    | 237 | 8.144     | 8.132         | 0.012         | 94  | 335667   | 40.0       | 44.1         |       |
| 70 1,2,4,5-Tetrachlorobenzene   | 216 | 8.150     | 8.138         | 0.012         | 96  | 467056   | 40.0       | 38.3         |       |
| 71 2,4,6-Trichlorophenol        | 196 | 8.251     | 8.239         | 0.012         | 91  | 315604   | 40.0       | 43.0         |       |
| 72 2,4,5-Trichlorophenol        | 196 | 8.289     | 8.271         | 0.018         | 96  | 323134   | 40.0       | 42.7         |       |
| 76 1,1'-Biphenyl                | 154 | 8.428     | 8.415         | 0.013         | 95  | 1229644  | 40.0       | 39.7         |       |
| 78 2-Chloronaphthalene          | 162 | 8.449     | 8.442         | 0.007         | 95  | 1062025  | 40.0       | 40.7         |       |
| 79 2-Nitroaniline               | 65  | 8.534     | 8.522         | 0.012         | 87  | 268812   | 40.0       | 42.7         |       |
| 82 Dimethyl phthalate           | 163 | 8.705     | 8.693         | 0.012         | 100 | 1040697  | 40.0       | 40.2         |       |
| 83 1,3-Dinitrobenzene           | 168 | 8.732     | 8.720         | 0.012         | 95  | 179777   | 40.0       | 42.9         |       |
| 84 2,6-Dinitrotoluene           | 165 | 8.764     | 8.752         | 0.012         | 96  | 251431   | 40.0       | 42.5         |       |
| 85 Acenaphthylene               | 152 | 8.850     | 8.837         | 0.013         | 98  | 1563589  | 40.0       | 41.0         |       |
| 86 3-Nitroaniline               | 138 | 8.924     | 8.912         | 0.012         | 95  | 260911   | 40.0       | 43.0         |       |
| 87 Acenaphthene                 | 153 | 9.015     | 9.003         | 0.012         | 94  | 1035298  | 40.0       | 40.1         |       |
| 88 2,4-Dinitrophenol            | 184 | 9.026     | 9.008         | 0.018         | 85  | 293957   | 80.0       | 85.1         |       |
| 89 4-Nitrophenol                | 109 | 9.074     | 9.057         | 0.017         | 85  | 212250   | 80.0       | 81.3         |       |
| 92 2,4-Dinitrotoluene           | 165 | 9.149     | 9.137         | 0.012         | 94  | 331563   | 40.0       | 45.1         |       |
| 93 Dibenzofuran                 | 168 | 9.181     | 9.169         | 0.012         | 97  | 1336167  | 40.0       | 39.8         |       |
| 95 2,3,5,6-Tetrachlorophenol    | 232 | 9.256     | 9.243         | 0.013         | 93  | 284919   | 40.0       | 43.3         |       |
| 96 2,3,4,6-Tetrachlorophenol    | 232 | 9.293     | 9.281         | 0.012         | 72  | 267599   | 40.0       | 43.5         |       |
| 97 2-Naphthylamine              | 143 | 9.325     | 9.313         | 0.012         | 97  | 854517   | 40.0       | 42.6         |       |
| 98 Diethyl phthalate            | 149 | 9.379     | 9.361         | 0.018         | 98  | 1013085  | 40.0       | 39.6         |       |
| 99 Hexadecane                   | 57  | 9.389     | 9.377         | 0.012         | 91  | 680302   | 40.0       | 41.4         |       |
| 101 4-Chlorophenyl phenyl ether | 204 | 9.496     | 9.484         | 0.012         | 91  | 548790   | 40.0       | 41.3         |       |
| 102 4-Nitroaniline              | 138 | 9.512     | 9.495         | 0.017         | 88  | 234632   | 40.0       | 42.5         |       |
| 103 Fluorene                    | 166 | 9.512     | 9.495         | 0.017         | 94  | 1063063  | 40.0       | 40.0         |       |
| 104 4,6-Dinitro-2-methylphenol  | 198 | 9.544     | 9.527         | 0.017         | 92  | 402659   | 80.0       | 87.6         |       |
| 106 N-Nitrosodiphenylamine      | 169 | 9.608     | 9.596         | 0.012         | 61  | 813190   | 40.0       | 40.6         |       |
| 108 1,2-Diphenylhydrazine       | 77  | 9.651     | 9.639         | 0.012         | 0   | 1009578  | 40.0       | 41.8         |       |
| 107 Azobenzene                  | 77  | 9.651     | 9.639         | 0.012         | 96  | 1009578  | 40.0       | 41.8         |       |
| 109 4-Bromophenyl phenyl ether  | 248 | 9.966     | 9.954         | 0.012         | 62  | 309187   | 40.0       | 41.9         |       |
| 110 Hexachlorobenzene           | 284 | 10.046    | 10.034        | 0.012         | 96  | 339492   | 40.0       | 39.8         |       |
| 114 Atrazine                    | 200 | 10.105    | 10.088        | 0.017         | 96  | 231176   | 40.0       | 40.9         |       |

| Compound                       | Sig | RT<br>(min.) | Adj RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|--------------------------------|-----|--------------|------------------|------------------|-----|----------|---------------|-----------------|-------|
| 115 Pentachlorophenol          | 266 | 10.228       | 10.210           | 0.018            | 94  | 465784   | 80.0          | 81.6            |       |
| 117 n-Octadecane               | 57  | 10.265       | 10.253           | 0.012            | 95  | 694854   | 40.0          | 44.3            |       |
| 120 Phenanthrene               | 178 | 10.436       | 10.424           | 0.012            | 97  | 1533255  | 40.0          | 40.3            |       |
| 123 Anthracene                 | 178 | 10.490       | 10.472           | 0.018            | 97  | 1585388  | 40.0          | 41.9            |       |
| 125 Carbazole                  | 167 | 10.639       | 10.622           | 0.017            | 96  | 1310250  | 40.0          | 41.3            |       |
| 128 Di-n-butyl phthalate       | 149 | 10.976       | 10.958           | 0.018            | 100 | 1684032  | 40.0          | 41.6            |       |
| 133 Fluoranthene               | 202 | 11.788       | 11.765           | 0.023            | 98  | 1461215  | 40.0          | 39.7            |       |
| 134 Benzidine                  | 184 | 11.943       | 11.915           | 0.028            | 99  | 420509   | 40.0          | 39.9            |       |
| 135 Pyrene                     | 202 | 12.098       | 12.075           | 0.023            | 97  | 1518626  | 40.0          | 40.9            |       |
| 138 Butyl benzyl phthalate     | 149 | 13.065       | 13.031           | 0.034            | 96  | 640520   | 40.0          | 44.8            |       |
| 143 3,3'-Dichlorobenzidine     | 252 | 14.053       | 14.014           | 0.039            | 74  | 419480   | 40.0          | 41.2            |       |
| 144 Benzo[a]anthracene         | 228 | 14.106       | 14.062           | 0.044            | 99  | 1220094  | 40.0          | 41.2            |       |
| 147 Bis(2-ethylhexyl) phthalat | 149 | 14.170       | 14.126           | 0.044            | 95  | 861524   | 40.0          | 43.1            |       |
| 146 Chrysene                   | 228 | 14.176       | 14.137           | 0.039            | 98  | 1174119  | 40.0          | 40.6            |       |
| 152 Di-n-octyl phthalate       | 149 | 15.559       | 15.515           | 0.044            | 99  | 1342018  | 40.0          | 41.5            |       |
| 153 7,12-Dimethylbenz(a)anthra | 256 | 16.355       | 16.300           | 0.055            | 91  | 537193   | 40.0          | 43.9            |       |
| 154 Benzo[b]fluoranthene       | 252 | 16.361       | 16.306           | 0.055            | 98  | 1153596  | 40.0          | 42.6            |       |
| 155 Benzo[k]fluoranthene       | 252 | 16.425       | 16.365           | 0.060            | 99  | 1116851  | 40.0          | 42.1            |       |
| 156 Benzo[e]pyrene             | 252 | 16.959       | 16.899           | 0.060            | 0   | 1031086  | 40.0          | 42.6            |       |
| 157 Benzo[a]pyrene             | 252 | 17.066       | 17.006           | 0.060            | 79  | 1018005  | 40.0          | 43.1            |       |
| 162 Indeno[1,2,3-cd]pyrene     | 276 | 19.539       | 19.458           | 0.081            | 98  | 1124036  | 40.0          | 42.4            |       |
| 161 Dibenz(a,h)anthracene      | 278 | 19.593       | 19.511           | 0.082            | 95  | 951548   | 40.0          | 42.9            |       |
| 160 Benzo[g,h,i]perylene       | 276 | 20.180       | 20.093           | 0.087            | 96  | 938855   | 40.0          | 42.7            |       |
| S 206 Methyl Phenols, Total    | 108 |              |                  |                  | 0   |          | 80.0          | 82.5            |       |
| S 208 Total Cresols            | 108 |              |                  |                  | 0   |          | 80.0          | 82.5            |       |

**Reagents:**

SVTAPSTD40i\_00006

Amount Added: 1.00

Units: mL

Report Date: 26-Mar-2015 07:46:41

Chrom Revision: 2.2 13-Mar-2015 11:20:44

TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C6.D

Injection Date: 25-Mar-2015 02:00:30

Instrument ID: CH722

Operator ID: 007062

Lims ID: IC R40

Worklist Smp#: 7

Client ID:

Injection Vol: 2.0 ul

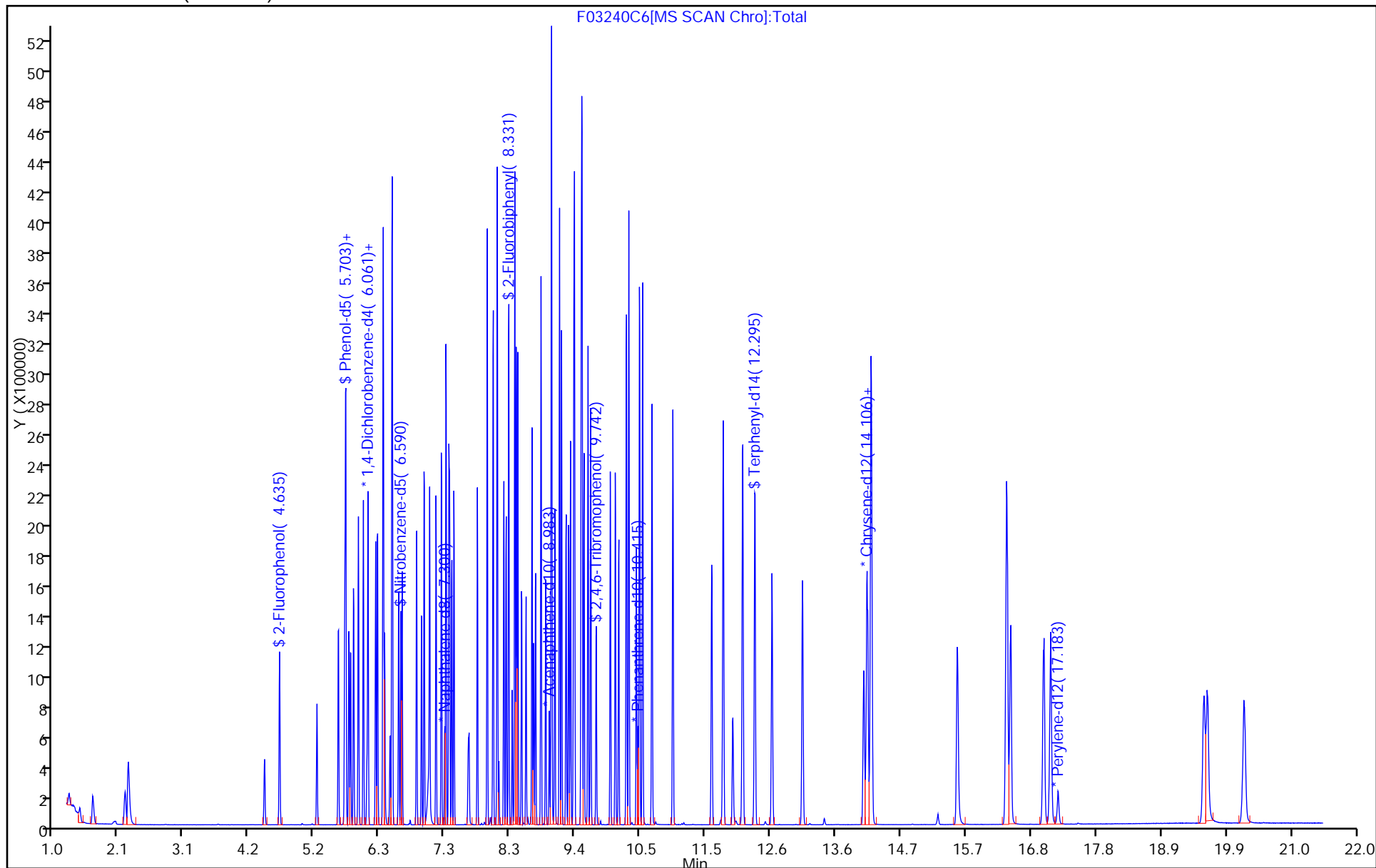
Dil. Factor: 1.0000

ALS Bottle#: 7

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C7.D  
 Lims ID: IC R60  
 Client ID:  
 Sample Type: IC Calib Level: 7  
 Inject. Date: 25-Mar-2015 02:28:30 ALS Bottle#: 8 Worklist Smp#: 8  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006159-008  
 Misc. Info.: ,IC R60  
 Operator ID: 007062 Instrument ID: CH722  
 Sublist: chrom-BNA\_CH722\*sub5  
 Method: \\PITCHROM\ChromData\CH722\20150324-6159.b\BNA\_CH722.m  
 Limit Group: BNA 8270D ICAL  
 Last Update: 26-Mar-2015 07:46:42 Calib Date: 25-Mar-2015 02:57:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last Ical File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C8.D  
 Column 1 : Rxi-5SilMS ( 0.32 mm) Det: MS SCAN  
 Process Host: XAWRK025

First Level Reviewer: bungardf

Date: 25-Mar-2015 03:43:24

| Compound                      | Sig | RT<br>(min.) | Adj RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-------------------------------|-----|--------------|------------------|------------------|-----|----------|---------------|-----------------|-------|
| * 1 1,4-Dichlorobenzene-d4    | 152 | 6.042        | 6.038            | 0.004            | 94  | 69413    | 8.00          | 8.00            |       |
| * 2 Naphthalene-d8            | 136 | 7.297        | 7.288            | 0.009            | 99  | 284897   | 8.00          | 8.00            |       |
| * 3 Acenaphthene-d10          | 164 | 8.985        | 8.976            | 0.009            | 92  | 164310   | 8.00          | 8.00            |       |
| * 4 Phenanthrene-d10          | 188 | 10.412       | 10.397           | 0.015            | 97  | 273513   | 8.00          | 8.00            |       |
| * 5 Chrysene-d12              | 240 | 14.114       | 14.089           | 0.025            | 96  | 214348   | 8.00          | 8.00            |       |
| * 6 Perylene-d12              | 264 | 17.169       | 17.128           | 0.041            | 97  | 175995   | 8.00          | 8.00            |       |
| \$ 7 2-Fluorophenol           | 112 | 4.637        | 4.633            | 0.004            | 93  | 571551   | 60.0          | 61.1            |       |
| \$ 8 Phenol-d5                | 99  | 5.689        | 5.680            | 0.009            | 99  | 754122   | 60.0          | 60.2            |       |
| \$ 9 Nitrobenzene-d5          | 82  | 6.592        | 6.583            | 0.009            | 86  | 698705   | 60.0          | 61.4            |       |
| \$ 10 2-Fluorobiphenyl        | 172 | 8.328        | 8.319            | 0.009            | 100 | 1629794  | 60.0          | 59.4            |       |
| \$ 11 2,4,6-Tribromophenol    | 330 | 9.738        | 9.724            | 0.014            | 93  | 247278   | 60.0          | 60.6            |       |
| \$ 12 Terphenyl-d14           | 244 | 12.292       | 12.267           | 0.025            | 99  | 1649691  | 60.0          | 64.6            |       |
| 13 1,4-Dioxane                | 88  | 1.629        | 1.636            | -0.007           | 91  | 213806   | 60.0          | 58.2            |       |
| 14 N-Nitrosodimethylamine     | 74  | 2.147        | 2.154            | -0.007           | 91  | 317212   | 60.0          | 65.1            |       |
| 15 Pyridine                   | 79  | 2.195        | 2.213            | -0.018           | 98  | 546425   | 60.0          | 63.2            |       |
| 19 Methyl methanesulfonate    | 80  | 4.396        | 4.393            | 0.003            | 85  | 279801   | 60.0          | 59.3            |       |
| 25 Benzaldehyde               | 77  | 5.582        | 5.579            | 0.003            | 97  | 415084   | 60.0          | 63.4            |       |
| 26 Phenol                     | 94  | 5.700        | 5.691            | 0.009            | 96  | 805922   | 60.0          | 58.0            |       |
| 27 Aniline                    | 93  | 5.705        | 5.696            | 0.009            | 93  | 948048   | 60.0          | 60.8            |       |
| 29 Bis(2-chloroethyl)ether    | 93  | 5.780        | 5.776            | 0.004            | 97  | 599928   | 60.0          | 58.9            |       |
| 30 2-Chlorophenol             | 128 | 5.828        | 5.825            | 0.003            | 96  | 700415   | 60.0          | 60.0            |       |
| 31 n-Decane                   | 43  | 5.903        | 5.899            | 0.004            | 86  | 550788   | 60.0          | 59.1            |       |
| 32 1,3-Dichlorobenzene        | 146 | 5.983        | 5.979            | 0.004            | 98  | 796817   | 60.0          | 58.4            |       |
| 33 1,4-Dichlorobenzene        | 146 | 6.058        | 6.054            | 0.004            | 94  | 792180   | 60.0          | 57.7            |       |
| 34 Benzyl alcohol             | 108 | 6.186        | 6.177            | 0.009            | 93  | 420762   | 60.0          | 62.2            |       |
| 35 1,2-Dichlorobenzene        | 146 | 6.213        | 6.209            | 0.004            | 98  | 761109   | 60.0          | 58.4            |       |
| 36 Indene                     | 116 | 6.303        | 6.300            | 0.003            | 89  | 1101907  | 60.0          | 58.3            |       |
| 37 2-Methylphenol             | 108 | 6.314        | 6.300            | 0.014            | 96  | 582240   | 60.0          | 58.7            |       |
| 38 2,2'-oxybis[1-chloropropan | 45  | 6.330        | 6.321            | 0.009            | 93  | 704556   | 60.0          | 57.7            |       |
| 39 N-Nitrosopyrrolidine       | 100 | 6.421        | 6.401            | 0.020            | 96  | 288891   | 60.0          | 65.1            |       |



| Compound                       | Sig | RT (min.) | Adj RT (min.) | Dlt RT (min.) | Q   | Response | Cal Amt ng | OnCol Amt ng | Flags |
|--------------------------------|-----|-----------|---------------|---------------|-----|----------|------------|--------------|-------|
| 40 Acetophenone                | 105 | 6.448     | 6.439         | 0.009         | 97  | 874207   | 60.0       | 57.0         |       |
| 42 4-Methylphenol              | 108 | 6.453     | 6.444         | 0.009         | 96  | 615077   | 60.0       | 58.7         |       |
| 41 N-Nitrosodi-n-propylamine   | 70  | 6.453     | 6.444         | 0.009         | 77  | 447569   | 60.0       | 58.4         |       |
| 43 Hexachloroethane            | 117 | 6.555     | 6.551         | 0.004         | 93  | 300540   | 60.0       | 61.0         |       |
| 44 Nitrobenzene                | 77  | 6.613     | 6.604         | 0.009         | 83  | 685234   | 60.0       | 60.9         |       |
| 46 Isophorone                  | 82  | 6.843     | 6.834         | 0.009         | 98  | 1215604  | 60.0       | 61.7         |       |
| 47 2-Nitrophenol               | 139 | 6.923     | 6.920         | 0.003         | 90  | 417102   | 60.0       | 65.2         |       |
| 48 2,4-Dimethylphenol          | 107 | 6.966     | 6.957         | 0.009         | 94  | 676249   | 60.0       | 60.7         |       |
| 49 Benzoic acid                | 122 | 7.073     | 7.005         | 0.068         | 87  | 394513   | 60.0       | 59.0         |       |
| 50 Bis(2-chloroethoxy)methane  | 93  | 7.057     | 7.048         | 0.009         | 98  | 787459   | 60.0       | 61.3         |       |
| 52 2,4-Dichlorophenol          | 162 | 7.158     | 7.149         | 0.009         | 92  | 609695   | 60.0       | 61.7         |       |
| 53 1,2,4-Trichlorobenzene      | 180 | 7.244     | 7.235         | 0.009         | 94  | 696462   | 60.0       | 59.2         |       |
| 56 Naphthalene                 | 128 | 7.318     | 7.310         | 0.008         | 97  | 2133707  | 60.0       | 58.3         |       |
| 58 4-Chloroaniline             | 127 | 7.367     | 7.358         | 0.009         | 96  | 892127   | 60.0       | 62.9         |       |
| 59 2,6-Dichlorophenol          | 162 | 7.377     | 7.368         | 0.009         | 99  | 581407   | 60.0       | 59.7         |       |
| 61 Hexachlorobutadiene         | 225 | 7.447     | 7.438         | 0.009         | 94  | 395056   | 60.0       | 60.2         |       |
| 62 Caprolactam                 | 113 | 7.698     | 7.657         | 0.041         | 86  | 211470   | 60.0       | 64.0         |       |
| 63 4-Chloro-3-methylphenol     | 107 | 7.826     | 7.812         | 0.014         | 95  | 623286   | 60.0       | 64.0         |       |
| 67 2-Methylnaphthalene         | 142 | 7.981     | 7.972         | 0.009         | 92  | 1535839  | 60.0       | 60.1         |       |
| 68 1-Methylnaphthalene         | 142 | 8.077     | 8.068         | 0.009         | 92  | 1429764  | 60.0       | 60.3         |       |
| 69 Hexachlorocyclopentadiene   | 237 | 8.141     | 8.132         | 0.009         | 95  | 491394   | 60.0       | 66.3         |       |
| 70 1,2,4,5-Tetrachlorobenzene  | 216 | 8.147     | 8.138         | 0.009         | 96  | 678877   | 60.0       | 57.1         |       |
| 71 2,4,6-Trichlorophenol       | 196 | 8.248     | 8.239         | 0.009         | 91  | 465496   | 60.0       | 65.2         |       |
| 72 2,4,5-Trichlorophenol       | 196 | 8.285     | 8.271         | 0.014         | 96  | 480705   | 60.0       | 65.2         |       |
| 76 1,1'-Biphenyl               | 154 | 8.424     | 8.415         | 0.009         | 95  | 1798008  | 60.0       | 59.5         |       |
| 78 2-Chloronaphthalene         | 162 | 8.451     | 8.442         | 0.009         | 96  | 1466587  | 60.0       | 57.8         |       |
| 79 2-Nitroaniline              | 65  | 8.536     | 8.522         | 0.014         | 86  | 402105   | 60.0       | 65.6         |       |
| 82 Dimethyl phthalate          | 163 | 8.707     | 8.693         | 0.014         | 100 | 1525852  | 60.0       | 60.5         |       |
| 83 1,3-Dinitrobenzene          | 168 | 8.734     | 8.720         | 0.014         | 94  | 267652   | 60.0       | 65.5         |       |
| 84 2,6-Dinitrotoluene          | 165 | 8.761     | 8.752         | 0.009         | 95  | 375627   | 60.0       | 65.2         |       |
| 85 Acenaphthylene              | 152 | 8.852     | 8.837         | 0.015         | 98  | 2290941  | 60.0       | 61.7         |       |
| 86 3-Nitroaniline              | 138 | 8.926     | 8.912         | 0.014         | 94  | 389382   | 60.0       | 65.8         |       |
| 87 Acenaphthene                | 153 | 9.017     | 9.003         | 0.014         | 94  | 1479288  | 60.0       | 58.9         |       |
| 88 2,4-Dinitrophenol           | 184 | 9.028     | 9.008         | 0.020         | 88  | 471124   | 120.0      | 140.0        |       |
| 89 4-Nitrophenol               | 109 | 9.076     | 9.057         | 0.019         | 84  | 327010   | 120.0      | 127.3        |       |
| 92 2,4-Dinitrotoluene          | 165 | 9.151     | 9.137         | 0.014         | 93  | 474116   | 60.0       | 66.2         |       |
| 93 Dibenzofuran                | 168 | 9.183     | 9.169         | 0.014         | 97  | 1978554  | 60.0       | 60.5         |       |
| 95 2,3,5,6-Tetrachlorophenol   | 232 | 9.252     | 9.243         | 0.009         | 93  | 417408   | 60.0       | 65.1         |       |
| 96 2,3,4,6-Tetrachlorophenol   | 232 | 9.295     | 9.281         | 0.014         | 72  | 394323   | 60.0       | 65.8         |       |
| 97 2-Naphthylamine             | 143 | 9.327     | 9.313         | 0.014         | 97  | 1194637  | 60.0       | 61.2         |       |
| 98 Diethyl phthalate           | 149 | 9.381     | 9.361         | 0.020         | 98  | 1509992  | 60.0       | 60.6         |       |
| 99 Hexadecane                  | 57  | 9.391     | 9.377         | 0.014         | 91  | 980849   | 60.0       | 59.7         |       |
| 101 4-Chlorophenyl phenyl ethe | 204 | 9.498     | 9.484         | 0.014         | 90  | 811519   | 60.0       | 62.7         |       |
| 102 4-Nitroaniline             | 138 | 9.514     | 9.495         | 0.019         | 90  | 370006   | 60.0       | 68.8         |       |
| 103 Fluorene                   | 166 | 9.509     | 9.495         | 0.014         | 94  | 1576735  | 60.0       | 60.9         |       |
| 104 4,6-Dinitro-2-methylphenol | 198 | 9.546     | 9.527         | 0.019         | 93  | 621514   | 120.0      | 132.5        |       |
| 106 N-Nitrosodiphenylamine     | 169 | 9.610     | 9.596         | 0.014         | 61  | 1213695  | 60.0       | 59.4         |       |
| 108 1,2-Diphenylhydrazine      | 77  | 9.653     | 9.639         | 0.014         | 0   | 1502799  | 60.0       | 61.0         |       |
| 107 Azobenzene                 | 77  | 9.653     | 9.639         | 0.014         | 95  | 1502799  | 60.0       | 61.0         |       |
| 109 4-Bromophenyl phenyl ether | 248 | 9.968     | 9.954         | 0.014         | 62  | 461441   | 60.0       | 61.2         |       |
| 110 Hexachlorobenzene          | 284 | 10.048    | 10.034        | 0.014         | 97  | 510773   | 60.0       | 58.7         |       |
| 114 Atrazine                   | 200 | 10.102    | 10.088        | 0.014         | 96  | 343554   | 60.0       | 59.6         |       |



| Compound                       | Sig | RT (min.) | Adj RT (min.) | Dlt RT (min.) | Q   | Response | Cal Amt ng | OnCol Amt ng | Flags |
|--------------------------------|-----|-----------|---------------|---------------|-----|----------|------------|--------------|-------|
| 115 Pentachlorophenol          | 266 | 10.225    | 10.210        | 0.015         | 94  | 691901   | 120.0      | 118.8        |       |
| 117 n-Octadecane               | 57  | 10.262    | 10.253        | 0.009         | 95  | 1043573  | 60.0       | 65.0         |       |
| 120 Phenanthrene               | 178 | 10.438    | 10.424        | 0.014         | 98  | 2243899  | 60.0       | 57.9         |       |
| 123 Anthracene                 | 178 | 10.486    | 10.472        | 0.014         | 98  | 2339354  | 60.0       | 60.6         |       |
| 125 Carbazole                  | 167 | 10.641    | 10.622        | 0.019         | 96  | 1981179  | 60.0       | 61.3         |       |
| 128 Di-n-butyl phthalate       | 149 | 10.973    | 10.958        | 0.014         | 100 | 2587357  | 60.0       | 62.7         |       |
| 133 Fluoranthene               | 202 | 11.785    | 11.765        | 0.019         | 98  | 2294423  | 60.0       | 61.2         |       |
| 134 Benzidine                  | 184 | 11.939    | 11.915        | 0.024         | 99  | 645823   | 60.0       | 60.9         |       |
| 135 Pyrene                     | 202 | 12.094    | 12.075        | 0.019         | 97  | 2262103  | 60.0       | 61.3         |       |
| 138 Butyl benzyl phthalate     | 149 | 13.056    | 13.031        | 0.025         | 96  | 976063   | 60.0       | 68.8         |       |
| 143 3,3'-Dichlorobenzidine     | 252 | 14.039    | 14.014        | 0.025         | 78  | 666785   | 60.0       | 65.4         |       |
| 144 Benzo[a]anthracene         | 228 | 14.098    | 14.062        | 0.036         | 99  | 1876537  | 60.0       | 63.9         |       |
| 147 Bis(2-ethylhexyl) phthalat | 149 | 14.151    | 14.126        | 0.025         | 95  | 1297056  | 60.0       | 65.4         |       |
| 146 Chrysene                   | 228 | 14.167    | 14.137        | 0.030         | 97  | 1817886  | 60.0       | 63.3         |       |
| 152 Di-n-octyl phthalate       | 149 | 15.545    | 15.515        | 0.030         | 99  | 2158956  | 60.0       | 63.6         |       |
| 153 7,12-Dimethylbenz(a)anthra | 256 | 16.347    | 16.300        | 0.047         | 90  | 844756   | 60.0       | 66.4         |       |
| 154 Benzo[b]fluoranthene       | 252 | 16.347    | 16.306        | 0.041         | 98  | 1746520  | 60.0       | 62.0         |       |
| 155 Benzo[k]fluoranthene       | 252 | 16.411    | 16.365        | 0.046         | 99  | 1728539  | 60.0       | 62.6         |       |
| 156 Benzo[e]pyrene             | 252 | 16.934    | 16.899        | 0.035         | 0   | 1633752  | 60.0       | 64.9         |       |
| 157 Benzo[a]pyrene             | 252 | 17.052    | 17.006        | 0.046         | 79  | 1610963  | 60.0       | 65.6         |       |
| 162 Indeno[1,2,3-cd]pyrene     | 276 | 19.520    | 19.458        | 0.062         | 99  | 1786038  | 60.0       | 64.8         | M     |
| 161 Dibenz(a,h)anthracene      | 278 | 19.573    | 19.511        | 0.062         | 95  | 1483824  | 60.0       | 64.3         |       |
| 160 Benzo[g,h,i]perylene       | 276 | 20.161    | 20.093        | 0.068         | 96  | 1491755  | 60.0       | 65.3         |       |
| S 206 Methyl Phenols, Total    | 108 |           |               |               | 0   |          | 120.0      | 117.4        |       |
| S 208 Total Cresols            | 108 |           |               |               | 0   |          | 120.0      | 117.4        |       |

**QC Flag Legend**

Review Flags

M - Manually Integrated

**Reagents:**

SVTAPSTD60i\_00006

Amount Added: 1.00

Units: mL

Report Date: 26-Mar-2015 07:46:42

Chrom Revision: 2.2 13-Mar-2015 11:20:44

TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C7.D

Injection Date: 25-Mar-2015 02:28:30

Instrument ID: CH722

Operator ID: 007062

Lims ID: IC R60

Worklist Smp#: 8

Client ID:

Injection Vol: 2.0 ul

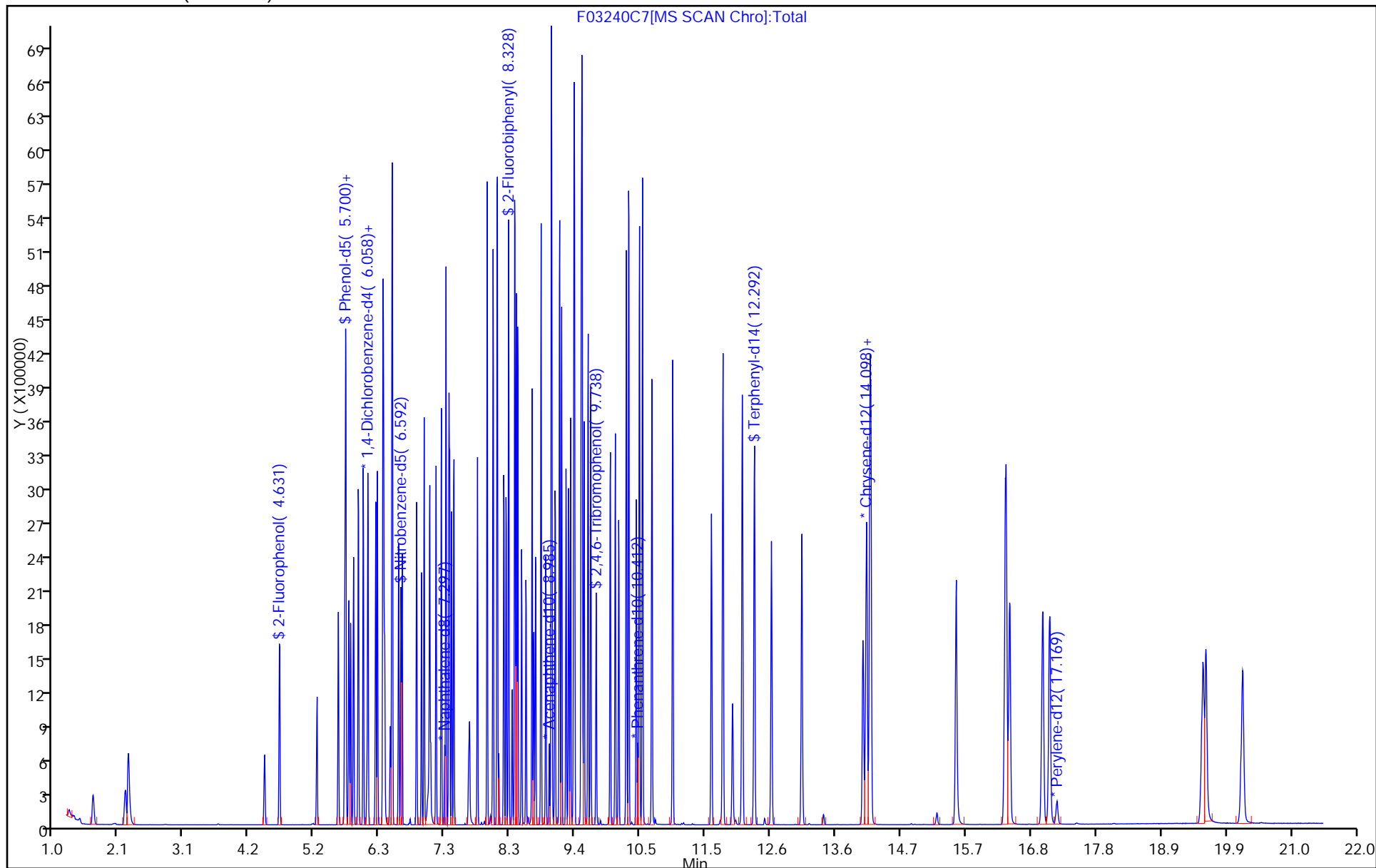
Dil. Factor: 1.0000

ALS Bottle#: 8

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C7.D

Injection Date: 25-Mar-2015 02:28:30

Instrument ID: CH722

Lims ID: IC R60

Client ID:

Operator ID: 007062

ALS Bottle#:

8

Worklist Smp#: 8

Injection Vol: 2.0 ul

Dil. Factor: 1.0000

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

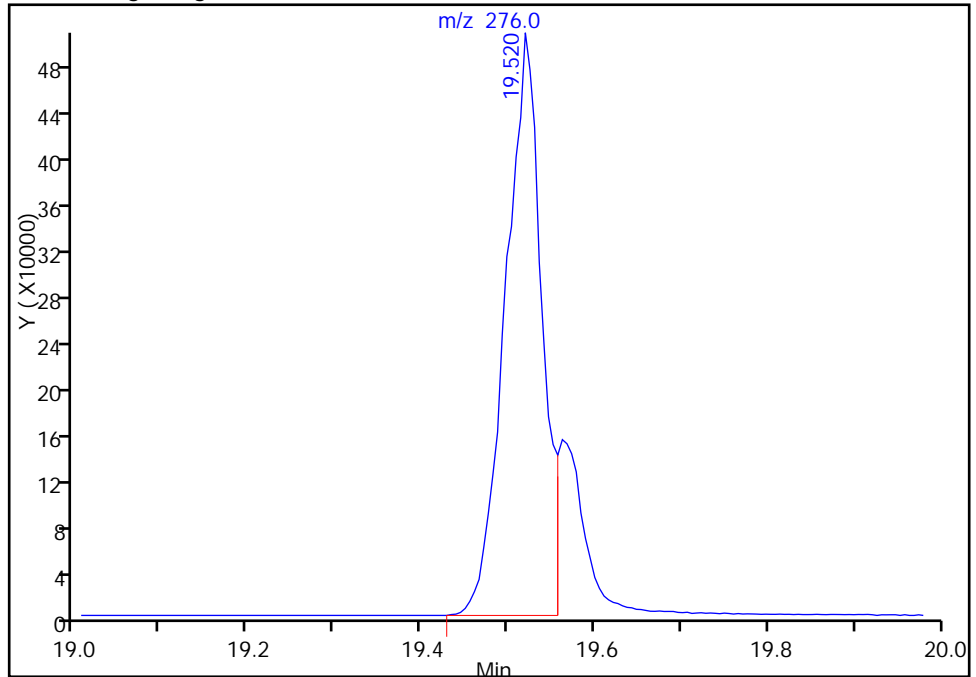
Column: Rxi-5SilMS (0.32 mm)

Detector: MS SCAN

## 162 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

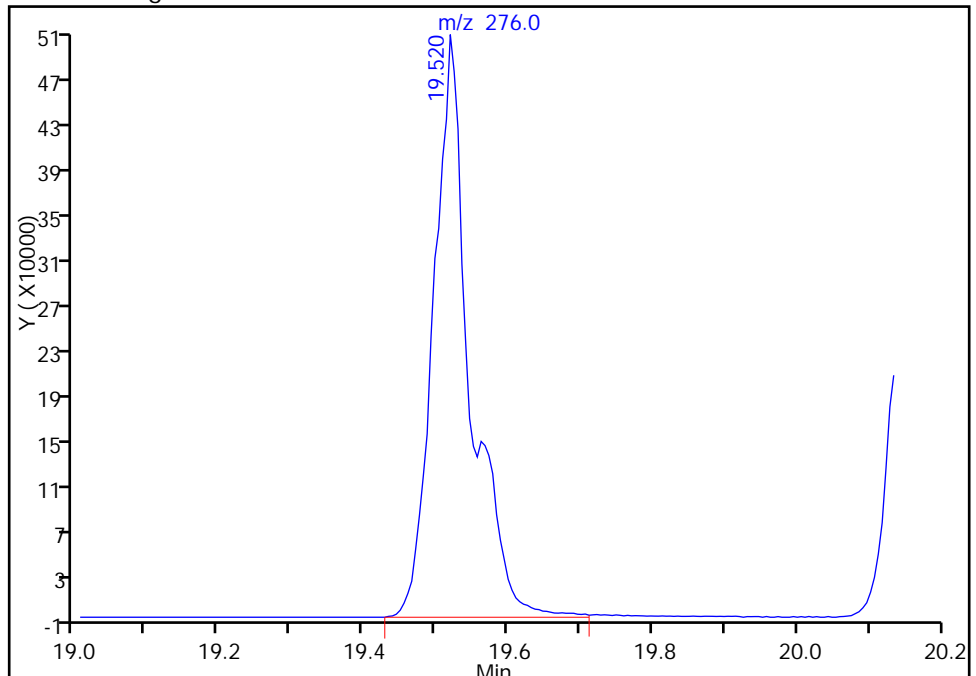
## Processing Integration Results

RT: 19.52  
Area: 1482494  
Amount: 58.764371  
Amount Units: ng



## Manual Integration Results

RT: 19.52  
Area: 1786038  
Amount: 64.767483  
Amount Units: ng



Reviewer: bungardf, 25-Mar-2015 03:43:24

Audit Action: Manually Integrated

Audit Reason: Poor chromatography

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C8.D  
 Lims ID: IC R80  
 Client ID:  
 Sample Type: IC Calib Level: 8  
 Inject. Date: 25-Mar-2015 02:57:30 ALS Bottle#: 9 Worklist Smp#: 9  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006159-009  
 Misc. Info.: ,IC R80  
 Operator ID: 007062 Instrument ID: CH722  
 Sublist: chrom-BNA\_CH722\*sub5  
 Method: \\PITCHROM\ChromData\CH722\20150324-6159.b\BNA\_CH722.m  
 Limit Group: BNA 8270D ICAL  
 Last Update: 26-Mar-2015 07:46:43 Calib Date: 25-Mar-2015 02:57:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last Ical File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C8.D  
 Column 1 : Rxi-5SilMS ( 0.32 mm) Det: MS SCAN  
 Process Host: XAWRK025

First Level Reviewer: bungardf

Date: 25-Mar-2015 04:39:49

| Compound                      | Sig | RT<br>(min.) | Adj RT<br>(min.) | Dlt RT<br>(min.) | Q  | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-------------------------------|-----|--------------|------------------|------------------|----|----------|---------------|-----------------|-------|
| * 1 1,4-Dichlorobenzene-d4    | 152 | 6.044        | 6.038            | 0.006            | 93 | 72277    | 8.00          | 8.00            |       |
| * 2 Naphthalene-d8            | 136 | 7.300        | 7.288            | 0.012            | 99 | 301393   | 8.00          | 8.00            |       |
| * 3 Acenaphthene-d10          | 164 | 8.983        | 8.976            | 0.006            | 92 | 177572   | 8.00          | 8.00            |       |
| * 4 Phenanthrene-d10          | 188 | 10.409       | 10.397           | 0.012            | 97 | 281219   | 8.00          | 8.00            |       |
| * 5 Chrysene-d12              | 240 | 14.100       | 14.089           | 0.011            | 96 | 231032   | 8.00          | 8.00            |       |
| * 6 Perylene-d12              | 264 | 17.151       | 17.128           | 0.023            | 97 | 185896   | 8.00          | 8.00            |       |
| \$ 7 2-Fluorophenol           | 112 | 4.634        | 4.633            | 0.001            | 93 | 788190   | 80.0          | 80.9            |       |
| \$ 8 Phenol-d5                | 99  | 5.692        | 5.680            | 0.012            | 99 | 1043728  | 80.0          | 80.0            |       |
| \$ 9 Nitrobenzene-d5          | 82  | 6.595        | 6.583            | 0.012            | 86 | 984647   | 80.0          | 81.8            |       |
| \$ 10 2-Fluorobiphenyl        | 172 | 8.331        | 8.319            | 0.012            | 99 | 2270259  | 80.0          | 76.6            |       |
| \$ 11 2,4,6-Tribromophenol    | 330 | 9.741        | 9.724            | 0.017            | 93 | 342581   | 80.0          | 81.6            |       |
| \$ 12 Terphenyl-d14           | 244 | 12.279       | 12.267           | 0.012            | 99 | 2215778  | 80.0          | 80.5            |       |
| 13 1,4-Dioxane                | 88  | 1.626        | 1.636            | -0.010           | 92 | 298777   | 80.0          | 78.1            |       |
| 14 N-Nitrosodimethylamine     | 74  | 2.155        | 2.154            | 0.001            | 91 | 441214   | 80.0          | 87.0            |       |
| 15 Pyridine                   | 79  | 2.198        | 2.213            | -0.015           | 98 | 710353   | 80.0          | 78.9            |       |
| 19 Methyl methanesulfonate    | 80  | 4.399        | 4.393            | 0.006            | 85 | 388406   | 80.0          | 79.1            |       |
| 25 Benzaldehyde               | 77  | 5.585        | 5.579            | 0.006            | 97 | 538202   | 80.0          | 79.0            |       |
| 26 Phenol                     | 94  | 5.702        | 5.691            | 0.011            | 90 | 1085895  | 80.0          | 75.1            |       |
| 27 Aniline                    | 93  | 5.708        | 5.696            | 0.012            | 70 | 1059532  | 80.0          | 65.2            |       |
| 29 Bis(2-chloroethyl)ether    | 93  | 5.783        | 5.776            | 0.007            | 97 | 820940   | 80.0          | 77.5            |       |
| 30 2-Chlorophenol             | 128 | 5.831        | 5.825            | 0.006            | 96 | 954189   | 80.0          | 78.5            |       |
| 31 n-Decane                   | 43  | 5.905        | 5.899            | 0.006            | 86 | 741836   | 80.0          | 76.4            |       |
| 32 1,3-Dichlorobenzene        | 146 | 5.986        | 5.979            | 0.007            | 98 | 1079353  | 80.0          | 75.9            |       |
| 33 1,4-Dichlorobenzene        | 146 | 6.060        | 6.054            | 0.006            | 94 | 1087326  | 80.0          | 76.0            |       |
| 34 Benzyl alcohol             | 108 | 6.189        | 6.177            | 0.012            | 92 | 585631   | 80.0          | 83.1            |       |
| 35 1,2-Dichlorobenzene        | 146 | 6.215        | 6.209            | 0.006            | 98 | 1041740  | 80.0          | 76.7            |       |
| 36 Indene                     | 116 | 6.301        | 6.300            | 0.001            | 88 | 1505427  | 80.0          | 76.5            |       |
| 37 2-Methylphenol             | 108 | 6.317        | 6.300            | 0.017            | 97 | 799282   | 80.0          | 77.4            |       |
| 38 2,2'-oxybis[1-chloropropan | 45  | 6.327        | 6.321            | 0.006            | 93 | 956822   | 80.0          | 75.3            |       |
| 39 N-Nitrosopyrrolidine       | 100 | 6.429        | 6.401            | 0.028            | 95 | 405799   | 80.0          | 87.8            |       |

| Compound                       | Sig | RT (min.) | Adj RT (min.) | Dlt RT (min.) | Q   | Response | Cal Amt ng | OnCol Amt ng | Flags |
|--------------------------------|-----|-----------|---------------|---------------|-----|----------|------------|--------------|-------|
| 40 Acetophenone                | 105 | 6.450     | 6.439         | 0.011         | 96  | 1205183  | 80.0       | 75.4         |       |
| 42 4-Methylphenol              | 108 | 6.456     | 6.444         | 0.012         | 95  | 822831   | 80.0       | 75.5         |       |
| 41 N-Nitrosodi-n-propylamine   | 70  | 6.456     | 6.444         | 0.012         | 78  | 604053   | 80.0       | 75.7         |       |
| 43 Hexachloroethane            | 117 | 6.552     | 6.551         | 0.001         | 96  | 414685   | 80.0       | 80.8         |       |
| 44 Nitrobenzene                | 77  | 6.616     | 6.604         | 0.012         | 83  | 955309   | 80.0       | 80.3         |       |
| 46 Isophorone                  | 82  | 6.846     | 6.834         | 0.012         | 98  | 1682270  | 80.0       | 80.7         |       |
| 47 2-Nitrophenol               | 139 | 6.926     | 6.920         | 0.006         | 89  | 584617   | 80.0       | 86.4         |       |
| 48 2,4-Dimethylphenol          | 107 | 6.969     | 6.957         | 0.011         | 94  | 825740   | 80.0       | 70.1         |       |
| 49 Benzoic acid                | 122 | 7.091     | 7.005         | 0.086         | 85  | 582396   | 80.0       | 80.2         |       |
| 50 Bis(2-chloroethoxy)methane  | 93  | 7.054     | 7.048         | 0.006         | 99  | 1074994  | 80.0       | 79.1         |       |
| 52 2,4-Dichlorophenol          | 162 | 7.161     | 7.149         | 0.012         | 93  | 841286   | 80.0       | 80.5         |       |
| 53 1,2,4-Trichlorobenzene      | 180 | 7.246     | 7.235         | 0.011         | 94  | 951953   | 80.0       | 76.5         |       |
| 56 Naphthalene                 | 128 | 7.321     | 7.310         | 0.011         | 97  | 2936567  | 80.0       | 75.8         |       |
| 58 4-Chloroaniline             | 127 | 7.364     | 7.358         | 0.006         | 96  | 1126956  | 80.0       | 75.2         |       |
| 59 2,6-Dichlorophenol          | 162 | 7.380     | 7.368         | 0.012         | 99  | 806673   | 80.0       | 78.3         |       |
| 61 Hexachlorobutadiene         | 225 | 7.444     | 7.438         | 0.006         | 94  | 540067   | 80.0       | 77.8         |       |
| 62 Caprolactam                 | 113 | 7.706     | 7.657         | 0.049         | 87  | 290177   | 80.0       | 83.0         |       |
| 63 4-Chloro-3-methylphenol     | 107 | 7.829     | 7.812         | 0.017         | 95  | 868451   | 80.0       | 84.3         |       |
| 67 2-Methylnaphthalene         | 142 | 7.984     | 7.972         | 0.012         | 92  | 2081242  | 80.0       | 76.9         |       |
| 68 1-Methylnaphthalene         | 142 | 8.080     | 8.068         | 0.012         | 92  | 1937370  | 80.0       | 77.2         |       |
| 69 Hexachlorocyclopentadiene   | 237 | 8.144     | 8.132         | 0.012         | 96  | 392929   | 80.0       | 49.1         |       |
| 70 1,2,4,5-Tetrachlorobenzene  | 216 | 8.149     | 8.138         | 0.011         | 97  | 943367   | 80.0       | 73.5         |       |
| 71 2,4,6-Trichlorophenol       | 196 | 8.251     | 8.239         | 0.012         | 91  | 636625   | 80.0       | 82.5         |       |
| 72 2,4,5-Trichlorophenol       | 196 | 8.288     | 8.271         | 0.017         | 96  | 659650   | 80.0       | 82.8         |       |
| 76 1,1'-Biphenyl               | 154 | 8.427     | 8.415         | 0.012         | 94  | 2515750  | 80.0       | 77.1         |       |
| 78 2-Chloronaphthalene         | 162 | 8.454     | 8.442         | 0.012         | 96  | 2142909  | 80.0       | 78.1         |       |
| 79 2-Nitroaniline              | 65  | 8.539     | 8.522         | 0.017         | 87  | 555897   | 80.0       | 83.9         |       |
| 82 Dimethyl phthalate          | 163 | 8.710     | 8.693         | 0.017         | 100 | 2072402  | 80.0       | 76.0         |       |
| 83 1,3-Dinitrobenzene          | 168 | 8.737     | 8.720         | 0.017         | 95  | 374473   | 80.0       | 84.9         |       |
| 84 2,6-Dinitrotoluene          | 165 | 8.763     | 8.752         | 0.011         | 95  | 514747   | 80.0       | 82.7         |       |
| 85 Acenaphthylene              | 152 | 8.849     | 8.837         | 0.012         | 98  | 3060307  | 80.0       | 76.3         |       |
| 86 3-Nitroaniline              | 138 | 8.929     | 8.912         | 0.017         | 95  | 531716   | 80.0       | 83.2         |       |
| 87 Acenaphthene                | 153 | 9.015     | 9.003         | 0.012         | 94  | 2052986  | 80.0       | 75.6         |       |
| 88 2,4-Dinitrophenol           | 184 | 9.025     | 9.008         | 0.017         | 85  | 665926   | 160.0      | 183.2        |       |
| 89 4-Nitrophenol               | 109 | 9.079     | 9.057         | 0.022         | 83  | 458102   | 160.0      | 164.5        |       |
| 92 2,4-Dinitrotoluene          | 165 | 9.153     | 9.137         | 0.016         | 95  | 657876   | 80.0       | 85.0         |       |
| 93 Dibenzofuran                | 168 | 9.180     | 9.169         | 0.011         | 97  | 2710967  | 80.0       | 76.7         |       |
| 95 2,3,5,6-Tetrachlorophenol   | 232 | 9.255     | 9.243         | 0.012         | 93  | 578454   | 80.0       | 83.5         |       |
| 96 2,3,4,6-Tetrachlorophenol   | 232 | 9.298     | 9.281         | 0.017         | 71  | 551433   | 80.0       | 85.1         |       |
| 97 2-Naphthylamine             | 143 | 9.324     | 9.313         | 0.011         | 97  | 941953   | 80.0       | 44.7         |       |
| 98 Diethyl phthalate           | 149 | 9.378     | 9.361         | 0.017         | 99  | 2046650  | 80.0       | 76.0         |       |
| 99 Hexadecane                  | 57  | 9.389     | 9.377         | 0.011         | 91  | 1372714  | 80.0       | 79.0         |       |
| 101 4-Chlorophenyl phenyl ethe | 204 | 9.495     | 9.484         | 0.011         | 90  | 1118259  | 80.0       | 80.0         |       |
| 102 4-Nitroaniline             | 138 | 9.522     | 9.495         | 0.027         | 89  | 484741   | 80.0       | 83.4         |       |
| 103 Fluorene                   | 166 | 9.511     | 9.495         | 0.016         | 94  | 2157406  | 80.0       | 77.1         |       |
| 104 4,6-Dinitro-2-methylphenol | 198 | 9.549     | 9.527         | 0.022         | 93  | 851941   | 160.0      | 176.7        |       |
| 106 N-Nitrosodiphenylamine     | 169 | 9.608     | 9.596         | 0.012         | 60  | 1685576  | 80.0       | 80.2         |       |
| 108 1,2-Diphenylhydrazine      | 77  | 9.650     | 9.639         | 0.011         | 0   | 2100199  | 80.0       | 82.9         |       |
| 107 Azobenzene                 | 77  | 9.650     | 9.639         | 0.011         | 95  | 2100199  | 80.0       | 82.9         |       |
| 109 4-Bromophenyl phenyl ether | 248 | 9.965     | 9.954         | 0.011         | 62  | 651992   | 80.0       | 84.2         |       |
| 110 Hexachlorobenzene          | 284 | 10.046    | 10.034        | 0.012         | 97  | 704654   | 80.0       | 78.8         |       |
| 114 Atrazine                   | 200 | 10.099    | 10.088        | 0.011         | 97  | 179737   | 80.0       | 30.3         |       |

| Compound                       | Sig | RT<br>(min.) | Adj RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|--------------------------------|-----|--------------|------------------|------------------|-----|----------|---------------|-----------------|-------|
| 115 Pentachlorophenol          | 266 | 10.227       | 10.210           | 0.017            | 95  | 958115   | 160.0         | 160.0           |       |
| 117 n-Octadecane               | 57  | 10.259       | 10.253           | 0.006            | 96  | 1458518  | 80.0          | 87.3            |       |
| 120 Phenanthrene               | 178 | 10.436       | 10.424           | 0.012            | 97  | 3130531  | 80.0          | 78.5            |       |
| 123 Anthracene                 | 178 | 10.484       | 10.472           | 0.012            | 97  | 3134403  | 80.0          | 79.0            |       |
| 125 Carbazole                  | 167 | 10.633       | 10.622           | 0.011            | 96  | 2721795  | 80.0          | 81.9            |       |
| 128 Di-n-butyl phthalate       | 149 | 10.970       | 10.958           | 0.012            | 100 | 3512394  | 80.0          | 82.8            |       |
| 133 Fluoranthene               | 202 | 11.776       | 11.765           | 0.011            | 98  | 3075595  | 80.0          | 79.8            |       |
| 134 Benzidine                  | 184 | 11.926       | 11.915           | 0.011            | 99  | 331511   | 80.0          | 29.8            |       |
| 135 Pyrene                     | 202 | 12.086       | 12.075           | 0.011            | 97  | 3053160  | 80.0          | 76.8            |       |
| 138 Butyl benzyl phthalate     | 149 | 13.043       | 13.031           | 0.012            | 96  | 1309981  | 80.0          | 85.7            |       |
| 143 3,3'-Dichlorobenzidine     | 252 | 14.025       | 14.014           | 0.011            | 74  | 890112   | 80.0          | 80.7            |       |
| 144 Benzo[a]anthracene         | 228 | 14.084       | 14.062           | 0.022            | 99  | 2544266  | 80.0          | 80.3            |       |
| 147 Bis(2-ethylhexyl) phthalat | 149 | 14.143       | 14.126           | 0.017            | 95  | 1843739  | 80.0          | 86.3            |       |
| 146 Chrysene                   | 228 | 14.154       | 14.137           | 0.017            | 98  | 2353168  | 80.0          | 76.1            |       |
| 152 Di-n-octyl phthalate       | 149 | 15.527       | 15.515           | 0.012            | 99  | 2966262  | 80.0          | 82.4            |       |
| 153 7,12-Dimethylbenz(a)anthra | 256 | 16.328       | 16.300           | 0.028            | 91  | 1165390  | 80.0          | 86.8            |       |
| 154 Benzo[b]fluoranthene       | 252 | 16.328       | 16.306           | 0.022            | 98  | 2410096  | 80.0          | 81.0            |       |
| 155 Benzo[k]fluoranthene       | 252 | 16.392       | 16.365           | 0.027            | 99  | 2412024  | 80.0          | 82.8            |       |
| 156 Benzo[e]pyrene             | 252 | 16.926       | 16.899           | 0.027            | 0   | 2196105  | 80.0          | 82.6            |       |
| 157 Benzo[a]pyrene             | 252 | 17.038       | 17.006           | 0.032            | 74  | 2145541  | 80.0          | 82.7            |       |
| 162 Indeno[1,2,3-cd]pyrene     | 276 | 19.485       | 19.458           | 0.027            | 99  | 2463621  | 80.0          | 84.6            | M     |
| 161 Dibenz(a,h)anthracene      | 278 | 19.549       | 19.511           | 0.038            | 95  | 2069095  | 80.0          | 84.9            |       |
| 160 Benzo[g,h,i]perylene       | 276 | 20.137       | 20.093           | 0.044            | 96  | 2046604  | 80.0          | 84.8            |       |
| S 206 Methyl Phenols, Total    | 108 |              |                  |                  | 0   |          | 160.0         | 152.8           |       |
| S 208 Total Cresols            | 108 |              |                  |                  | 0   |          | 160.0         | 152.8           |       |

**QC Flag Legend**

Review Flags

M - Manually Integrated

**Reagents:**

SVTAPSTD80i\_00006

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C8.D

Injection Date: 25-Mar-2015 02:57:30

Instrument ID: CH722

Operator ID: 007062

Lims ID: IC R80

Worklist Smp#: 9

Client ID:

Injection Vol: 2.0 ul

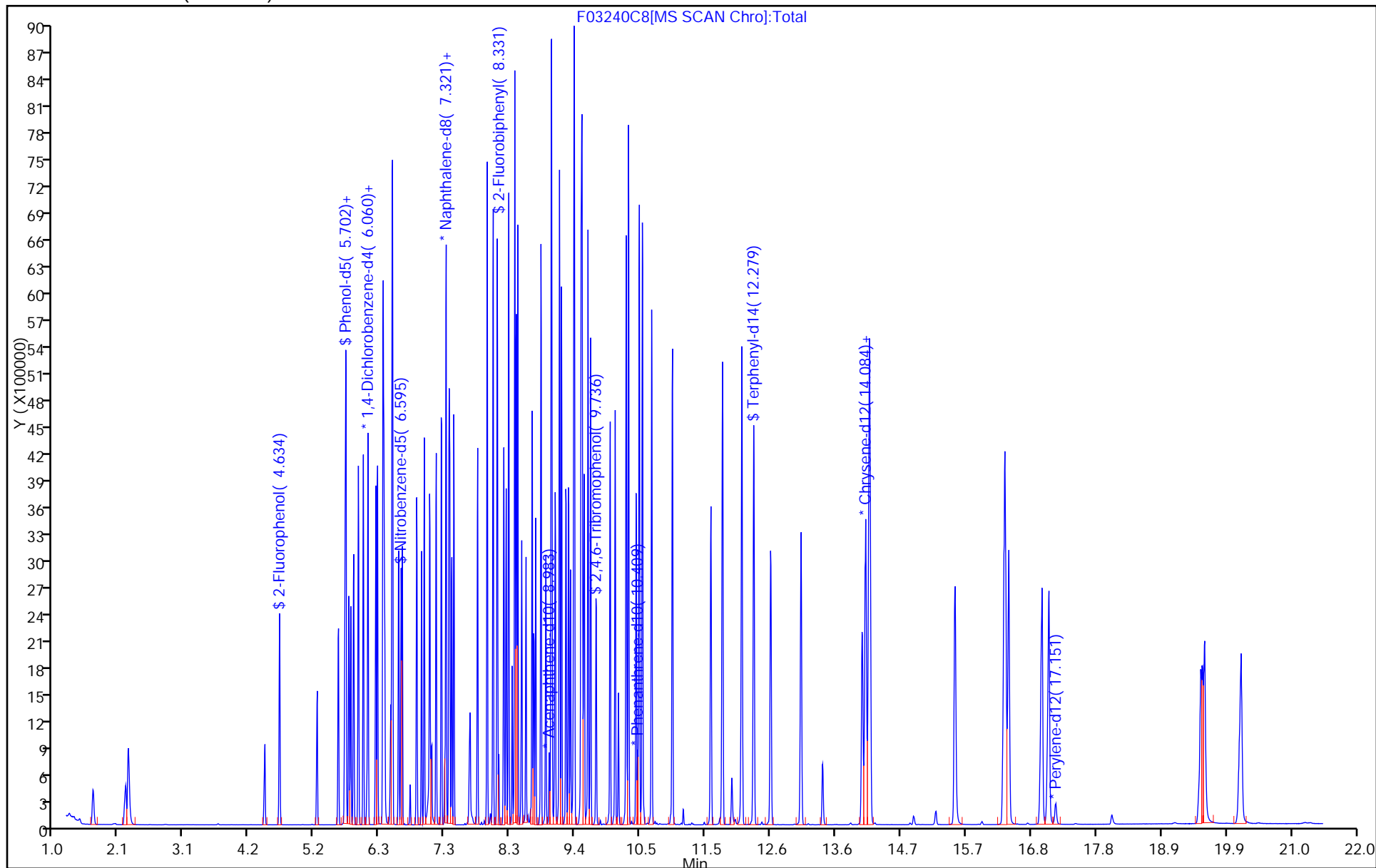
Dil. Factor: 1.0000

ALS Bottle#: 9

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)



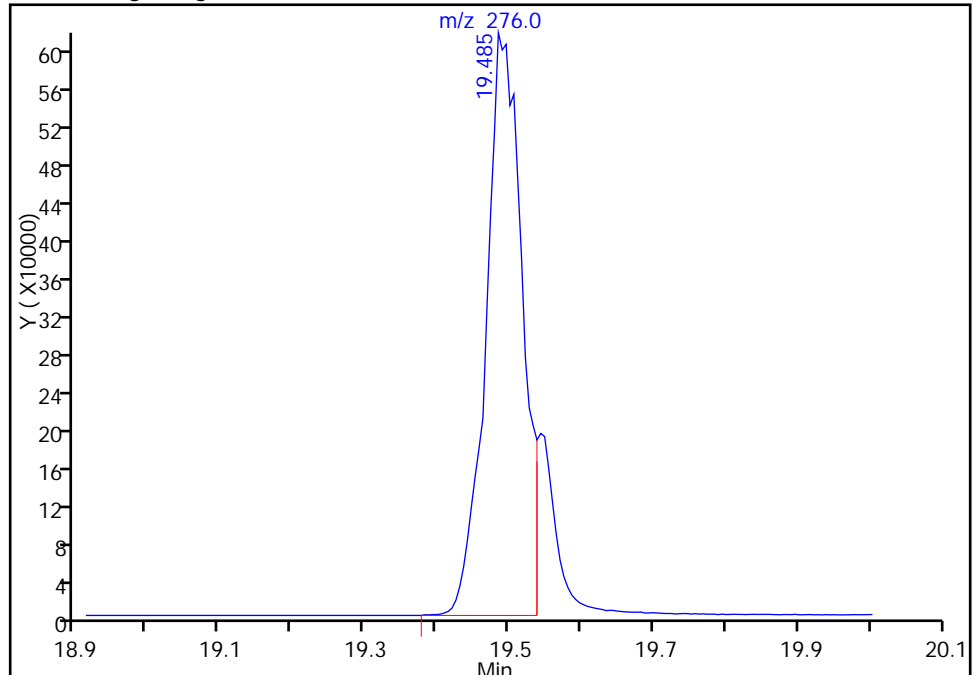
## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C8.D  
Injection Date: 25-Mar-2015 02:57:30 Instrument ID: CH722  
Lims ID: IC R80  
Client ID:  
Operator ID: 007062 ALS Bottle#: 9 Worklist Smp#: 9  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: BNA\_CH722 Limit Group: BNA 8270D ICAL  
Column: Rxi-5SilMS (0.32 mm) Detector: MS SCAN

## 162 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

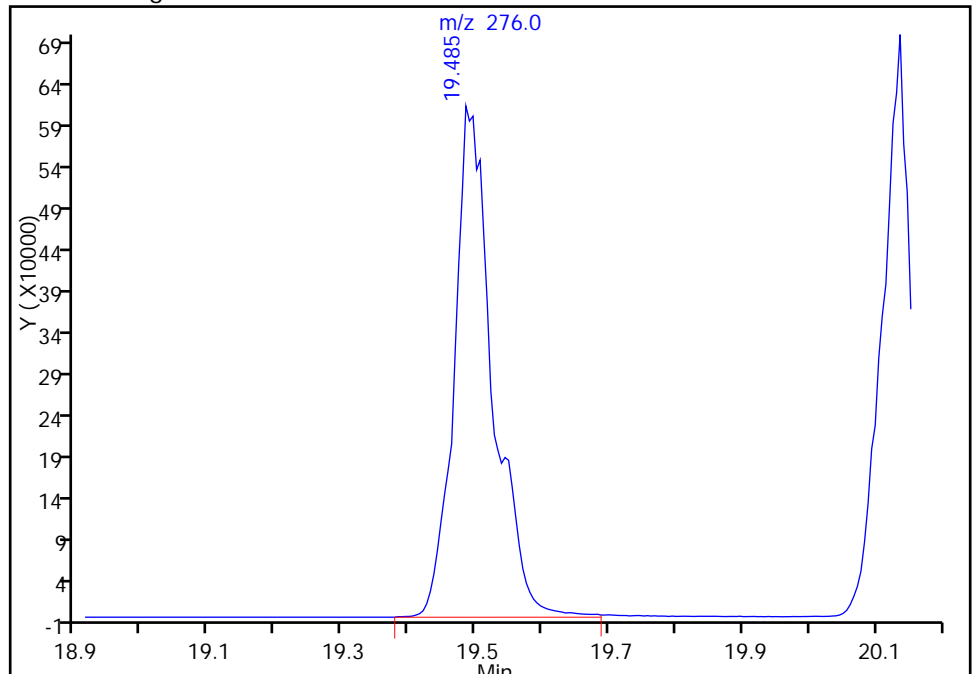
## Processing Integration Results

RT: 19.49  
Area: 2138925  
Amount: 77.196252  
Amount Units: ng



## Manual Integration Results

RT: 19.49  
Area: 2463621  
Amount: 84.580550  
Amount Units: ng



Reviewer: bungardf, 25-Mar-2015 04:39:49  
Audit Action: Manually Integrated  
Audit Reason: Poor chromatography



FORM VII  
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCVIS 180-141206/2 Calibration Date: 05/12/2015 04:49

Instrument ID: CH722 Calib Start Date: 03/24/2015 23:35

GC Column: Rxi-5SilMS ID: 0.32 (mm) Calib End Date: 03/25/2015 02:57

Lab File ID: F05110C1.D Conc. Units: ng/uL

| ANALYTE                      | CURVE<br>TYPE | AVE RRF | RRF    | MIN RRF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D    | MAX<br>%D |
|------------------------------|---------------|---------|--------|---------|----------------|-----------------|-------|-----------|
| 1,4-Dioxane                  | Ave           | 0.4235  | 0.5140 | 0.0100  | 6.07           | 5.00            | 21.4* | 20.0      |
| N-Nitrosodimethylamine       | Ave           | 0.5612  | 0.6850 | 0.0100  | 6.10           | 5.00            | 22.1* | 20.0      |
| Pyridine                     | Ave           | 0.997   | 1.208  | 0.0100  | 6.06           | 5.00            | 21.1* | 20.0      |
| Methyl methanesulfonate      | Ave           | 0.5434  | 0.5551 | 0.0100  | 5.11           | 5.00            | 2.2   | 20.0      |
| Benzaldehyde                 | Ave           | 0.7543  | 0.9862 | 0.0100  | 6.54           | 5.00            | 30.7* | 20.0      |
| Aniline                      | Ave           | 1.798   | 1.925  | 0.0100  | 5.35           | 5.00            | 7.1   | 20.0      |
| Phenol                       | Ave           | 1.601   | 1.633  | 0.8000  | 5.10           | 5.00            | 2.0   | 20.0      |
| Bis(2-chloroethyl)ether      | Ave           | 1.173   | 1.151  | 0.7000  | 4.90           | 5.00            | -1.9  | 20.0      |
| 2-Chlorophenol               | Ave           | 1.345   | 1.377  | 0.8000  | 5.12           | 5.00            | 2.4   | 20.0      |
| 1,3-Dichlorobenzene          | Ave           | 1.573   | 1.560  | 0.0100  | 4.96           | 5.00            | -0.8  | 20.0      |
| 1,4-Dichlorobenzene          | Ave           | 1.583   | 1.548  | 0.0100  | 4.89           | 5.00            | -2.3  | 20.0      |
| Benzyl alcohol               | Ave           | 0.7802  | 0.7731 | 0.0100  | 4.95           | 5.00            | -0.9  | 20.0      |
| 1,2-Dichlorobenzene          | Ave           | 1.503   | 1.504  | 0.0100  | 5.00           | 5.00            | 0.0   | 20.0      |
| Indene                       | Ave           | 2.178   | 2.167  | 0.0100  | 4.97           | 5.00            | -0.5  | 20.0      |
| 2-Methylphenol               | Ave           | 1.143   | 1.170  | 0.7000  | 5.12           | 5.00            | 2.4   | 20.0      |
| 2,2'-oxybis[1-chloropropane] | Ave           | 1.406   | 1.409  | 0.0100  | 5.01           | 5.00            | 0.2   | 20.0      |
| N-Nitrosopyrrolidine         | Ave           | 0.5115  | 0.5177 | 0.0100  | 5.06           | 5.00            | 1.2   | 20.0      |
| Acetophenone                 | Ave           | 1.769   | 1.674  | 0.0100  | 4.73           | 5.00            | -5.4  | 20.0      |
| N-Nitrosodi-n-propylamine    | Ave           | 0.8829  | 0.8096 | 0.5000  | 4.58           | 5.00            | -8.3  | 20.0      |
| Methylphenol, 3 & 4          | Ave           | 1.207   | 1.228  | 0.6000  | 5.09           | 5.00            | 1.8   | 20.0      |
| Hexachloroethane             | Ave           | 0.5680  | 0.5566 | 0.3000  | 4.90           | 5.00            | -2.0  | 20.0      |
| Nitrobenzene                 | Ave           | 0.3159  | 0.2943 | 0.2000  | 4.66           | 5.00            | -6.8  | 20.0      |
| Isophorone                   | Ave           | 0.5532  | 0.5198 | 0.4000  | 4.70           | 5.00            | -6.0  | 20.0      |
| 2-Nitrophenol                | Ave           | 0.1796  | 0.1889 | 0.1000  | 5.26           | 5.00            | 5.2   | 20.0      |
| 2,4-Dimethylphenol           | Ave           | 0.3126  | 0.3079 | 0.2000  | 4.92           | 5.00            | -1.5  | 20.0      |
| Benzoic acid                 | Lin2          |         | 0.1786 | 0.0100  | 7.03           | 5.00            | 40.6* | 20.0      |
| Bis(2-chloroethoxy)methane   | Ave           | 0.3606  | 0.3424 | 0.3000  | 4.75           | 5.00            | -5.1  | 20.0      |
| 2,4-Dichlorophenol           | Ave           | 0.2773  | 0.2758 | 0.2000  | 4.97           | 5.00            | -0.6  | 20.0      |
| 1,2,4-Trichlorobenzene       | Ave           | 0.3301  | 0.3117 | 0.0100  | 4.72           | 5.00            | -5.6  | 20.0      |
| Naphthalene                  | Ave           | 1.028   | 0.9785 | 0.7000  | 4.76           | 5.00            | -4.8  | 20.0      |
| 4-Chloroaniline              | Ave           | 0.3980  | 0.4121 | 0.0100  | 5.18           | 5.00            | 3.5   | 20.0      |
| 2,6-Dichlorophenol           | Ave           | 0.2736  | 0.2753 | 0.0100  | 5.03           | 5.00            | 0.6   | 20.0      |
| Hexachlorobutadiene          | Ave           | 0.1843  | 0.1632 | 0.0100  | 4.43           | 5.00            | -11.4 | 20.0      |
| Caprolactam                  | Ave           | 0.0928  | 0.0863 | 0.0100  | 4.65           | 5.00            | -7.0  | 20.0      |
| 4-Chloro-3-methylphenol      | Ave           | 0.2734  | 0.2641 | 0.2000  | 4.83           | 5.00            | -3.4  | 20.0      |
| 2-Methylnaphthalene          | Ave           | 0.7180  | 0.6805 | 0.4000  | 4.74           | 5.00            | -5.2  | 20.0      |
| 1-Methylnaphthalene          | Ave           | 0.6662  | 0.6193 | 0.0100  | 4.65           | 5.00            | -7.0  | 20.0      |
| Hexachlorocyclopentadiene    | Ave           | 0.3609  | 0.3331 | 0.0500  | 4.61           | 5.00            | -7.7  | 20.0      |
| 1,2,4,5-Tetrachlorobenzene   | Ave           | 0.5786  | 0.5154 | 0.0100  | 4.45           | 5.00            | -10.9 | 20.0      |
| 2,4,6-Trichlorophenol        | Ave           | 0.3477  | 0.3544 | 0.2000  | 5.10           | 5.00            | 1.9   | 20.0      |
| 2,4,5-Trichlorophenol        | Ave           | 0.3590  | 0.3756 | 0.2000  | 5.23           | 5.00            | 4.6   | 20.0      |

FORM VII  
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Lab Sample ID: CCVIS 180-141206/2 Calibration Date: 05/12/2015 04:49

Instrument ID: CH722 Calib Start Date: 03/24/2015 23:35

GC Column: Rxi-5SilMS ID: 0.32 (mm) Calib End Date: 03/25/2015 02:57

Lab File ID: F05110C1.D Conc. Units: ng/uL

| ANALYTE                               | CURVE<br>TYPE | AVE RRF | RRF    | MIN RRF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D    | MAX<br>%D |
|---------------------------------------|---------------|---------|--------|---------|----------------|-----------------|-------|-----------|
| 1,1'-Biphenyl                         | Ave           | 1.470   | 1.423  | 0.0100  | 4.84           | 5.00            | -3.2  | 20.0      |
| 2-Chloronaphthalene                   | Ave           | 1.236   | 1.173  | 0.8000  | 4.74           | 5.00            | -5.1  | 20.0      |
| 2-Nitroaniline                        | Ave           | 0.2984  | 0.2713 | 0.0100  | 4.55           | 5.00            | -9.1  | 20.0      |
| Dimethyl phthalate                    | Ave           | 1.228   | 1.150  | 0.0100  | 4.68           | 5.00            | -6.3  | 20.0      |
| 1,3-Dinitrobenzene                    | Ave           | 0.1988  | 0.1978 | 0.0100  | 4.97           | 5.00            | -0.5  | 20.0      |
| 2,6-Dinitrotoluene                    | Ave           | 0.2804  | 0.2839 | 0.2000  | 5.06           | 5.00            | 1.3   | 20.0      |
| Acenaphthylene                        | Ave           | 1.808   | 1.811  | 0.9000  | 5.01           | 5.00            | 0.2   | 20.0      |
| 3-Nitroaniline                        | Ave           | 0.2880  | 0.2989 | 0.0100  | 5.19           | 5.00            | 3.8   | 20.0      |
| Acenaphthene                          | Ave           | 1.224   | 1.157  | 0.9000  | 4.73           | 5.00            | -5.5  | 20.0      |
| 2,4-Dinitrophenol                     | Ave           | 0.1638  | 0.1876 | 0.0100  | 11.5           | 10.0            | 14.6  | 20.0      |
| 4-Nitrophenol                         | Lin2          |         | 0.1101 | 0.0100  | 9.68           | 10.0            | -3.2  | 20.0      |
| 2,4-Dinitrotoluene                    | Ave           | 0.3485  | 0.3762 | 0.2000  | 5.40           | 5.00            | 7.9   | 20.0      |
| Dibenzofuran                          | Ave           | 1.593   | 1.556  | 0.8000  | 4.88           | 5.00            | -2.3  | 20.0      |
| 2,3,5,6-Tetrachlorophenol             | Ave           | 0.3121  | 0.3030 | 0.0100  | 4.85           | 5.00            | -2.9  | 20.0      |
| 2,3,4,6-Tetrachlorophenol             | Ave           | 0.2918  | 0.2924 | 0.0100  | 5.01           | 5.00            | 0.2   | 20.0      |
| 2-Naphthylamine                       | Ave           | 0.9504  | 1.074  | 0.0100  | 5.65           | 5.00            | 13.0  | 20.0      |
| Diethyl phthalate                     | Ave           | 1.214   | 1.130  | 0.0100  | 4.65           | 5.00            | -6.9  | 20.0      |
| 4-Chlorophenyl phenyl ether           | Ave           | 0.6301  | 0.5950 | 0.4000  | 4.72           | 5.00            | -5.6  | 20.0      |
| 4-Nitroaniline                        | Ave           | 0.2618  | 0.2960 | 0.0100  | 5.65           | 5.00            | 13.0  | 20.0      |
| Fluorene                              | Ave           | 1.261   | 1.210  | 0.9000  | 4.80           | 5.00            | -4.1  | 20.0      |
| 4,6-Dinitro-2-methylphenol            | Ave           | 0.1372  | 0.1345 | 0.0100  | 9.81           | 10.0            | -1.9  | 20.0      |
| N-Nitrosodiphenylamine                | Ave           | 0.5976  | 0.5600 | 0.0100  | 4.69           | 5.00            | -6.3  | 20.0      |
| 1,2-Diphenylhydrazine (as Azobenzene) | Ave           | 0.7203  | 0.6533 | 0.0100  | 4.53           | 5.00            | -9.3  | 20.0      |
| 4-Bromophenyl phenyl ether            | Ave           | 0.2204  | 0.2010 | 0.1000  | 4.56           | 5.00            | -8.8  | 20.0      |
| Hexachlorobenzene                     | Ave           | 0.2543  | 0.2188 | 0.1000  | 4.30           | 5.00            | -14.0 | 20.0      |
| Atrazine                              | Ave           | 0.1687  | 0.1978 | 0.0100  | 5.86           | 5.00            | 17.2  | 20.0      |
| Pentachlorophenol                     | Ave           | 0.1703  | 0.1624 | 0.0500  | 9.53           | 10.0            | -4.7  | 20.0      |
| Phenanthrene                          | Ave           | 1.134   | 1.052  | 0.7000  | 4.64           | 5.00            | -7.2  | 20.0      |
| Anthracene                            | Ave           | 1.129   | 1.100  | 0.7000  | 4.87           | 5.00            | -2.5  | 20.0      |
| Carbazole                             | Ave           | 0.9459  | 0.9936 | 0.0100  | 5.25           | 5.00            | 5.0   | 20.0      |
| Di-n-butyl phthalate                  | Ave           | 1.207   | 1.229  | 0.0100  | 5.09           | 5.00            | 1.8   | 20.0      |
| Fluoranthene                          | Ave           | 1.097   | 1.130  | 0.6000  | 5.15           | 5.00            | 3.0   | 20.0      |
| Benzidine                             | Lin1          | 0.3049  | 0.4341 | 0.0100  | 6.14           | 5.00            | 22.7* | 20.0      |
| Pyrene                                | Ave           | 1.376   | 1.169  | 0.6000  | 4.25           | 5.00            | -15.1 | 20.0      |
| Butyl benzyl phthalate                | Ave           | 0.5295  | 0.5510 | 0.0100  | 5.20           | 5.00            | 4.1   | 20.0      |
| 3,3'-Dichlorobenzidine                | Lin2          |         | 0.3842 | 0.0100  | 5.44           | 5.00            | 8.9   | 20.0      |
| Benzo[a]anthracene                    | Ave           | 1.097   | 1.077  | 0.8000  | 4.91           | 5.00            | -1.8  | 20.0      |
| Chrysene                              | Ave           | 1.071   | 1.000  | 0.7000  | 4.67           | 5.00            | -6.7  | 20.0      |
| Bis(2-ethylhexyl) phthalate           | Ave           | 0.7402  | 0.8043 | 0.0100  | 5.43           | 5.00            | 8.7   | 20.0      |
| Di-n-octyl phthalate                  | Lin2          |         | 1.516  | 0.0100  | 5.37           | 5.00            | 7.4   | 20.0      |

FORM VII  
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVIS 180-141206/2 Calibration Date: 05/12/2015 04:49  
 Instrument ID: CH722 Calib Start Date: 03/24/2015 23:35  
 GC Column: Rxi-5SilMS ID: 0.32 (mm) Calib End Date: 03/25/2015 02:57  
 Lab File ID: F05110C1.D Conc. Units: ng/uL

| ANALYTE                          | CURVE<br>TYPE | AVE RRF | RRF    | MIN RRF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D    | MAX<br>%D |
|----------------------------------|---------------|---------|--------|---------|----------------|-----------------|-------|-----------|
| 7,12-Dimethylbenz (a) anthracene | Ave           | 0.5781  | 0.4857 | 0.0100  | 4.20           | 5.00            | -16.0 | 20.0      |
| Benzo[b]fluoranthene             | Ave           | 1.280   | 1.144  | 0.7000  | 4.47           | 5.00            | -10.6 | 20.0      |
| Benzo[k]fluoranthene             | Ave           | 1.254   | 1.104  | 0.7000  | 4.40           | 5.00            | -12.0 | 20.0      |
| Benzo[a]pyrene                   | Ave           | 1.117   | 1.061  | 0.7000  | 4.75           | 5.00            | -5.0  | 20.0      |
| Indeno[1,2,3-cd]pyrene           | Ave           | 1.253   | 1.211  | 0.5000  | 4.83           | 5.00            | -3.4  | 20.0      |
| Dibenz (a,h) anthracene          | Ave           | 1.048   | 1.021  | 0.4000  | 4.87           | 5.00            | -2.6  | 20.0      |
| Benzo[g,h,i]perylene             | Ave           | 1.038   | 1.022  | 0.5000  | 4.92           | 5.00            | -1.6  | 20.0      |
| 2-Fluorophenol (Surr)            | Ave           | 1.078   | 1.182  |         | 5.48           | 5.00            | 9.7   | 20.0      |
| Phenol-d5 (Surr)                 | Ave           | 1.444   | 1.493  |         | 5.17           | 5.00            | 3.4   | 20.0      |
| Nitrobenzene-d5 (Surr)           | Ave           | 0.3194  | 0.2947 |         | 4.61           | 5.00            | -7.7  | 20.0      |
| 2-Fluorobiphenyl                 | Ave           | 1.335   | 1.304  |         | 4.89           | 5.00            | -2.3  | 20.0      |
| 2,4,6-Tribromophenol (Surr)      | Lin1          |         | 0.1025 | 0.0100  | 4.44           | 5.00            | -11.1 | 20.0      |
| Terphenyl-d14 (Surr)             | Ave           | 0.9536  | 0.8273 |         | 4.34           | 5.00            | -13.2 | 20.0      |

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F05110C1.D  
 Lims ID: CCVIS R10  
 Client ID:  
 Sample Type: CCVIS  
 Inject. Date: 12-May-2015 04:49:30 ALS Bottle#: 2 Worklist Smp#: 2  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006870-002  
 Misc. Info.: ,CCVIS R10  
 Operator ID: 007062 Instrument ID: CH722  
 Sublist: chrom-BNA\_CH722\*sub5  
 Method: \\PITCHROM\ChromData\CH722\20150512-6870.b\BNA\_CH722.m  
 Limit Group: BNA 8270D ICAL  
 Last Update: 12-May-2015 14:23:46 Calib Date: 25-Mar-2015 02:57:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last Ical File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C8.D  
 Column 1 : Rxi-5SilMS ( 0.32 mm) Det: MS SCAN  
 Process Host: XAWRK019

First Level Reviewer: bachas

Date: 12-May-2015 14:23:46

| Compound                      | Sig | RT<br>(min.) | Adj RT<br>(min.) | Dlt RT<br>(min.) | Q  | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-------------------------------|-----|--------------|------------------|------------------|----|----------|---------------|-----------------|-------|
| * 1 1,4-Dichlorobenzene-d4    | 152 | 5.860        | 5.860            | 0.000            | 94 | 61485    | 8.00          | 8.00            |       |
| * 2 Naphthalene-d8            | 136 | 7.132        | 7.132            | 0.000            | 98 | 248834   | 8.00          | 8.00            |       |
| * 3 Acenaphthene-d10          | 164 | 8.825        | 8.825            | 0.000            | 92 | 138820   | 8.00          | 8.00            |       |
| * 4 Phenanthrene-d10          | 188 | 10.236       | 10.236           | 0.000            | 97 | 226055   | 8.00          | 8.00            |       |
| * 5 Chrysene-d12              | 240 | 13.804       | 13.804           | 0.000            | 96 | 221948   | 8.00          | 8.00            |       |
| * 6 Perylene-d12              | 264 | 16.785       | 16.785           | 0.000            | 95 | 205563   | 8.00          | 8.00            |       |
| \$ 7 2-Fluorophenol           | 112 | 4.429        | 4.429            | 0.000            | 92 | 90866    | 10.0          | 11.0            |       |
| \$ 8 Phenol-d5                | 99  | 5.508        | 5.508            | 0.000            | 97 | 114716   | 10.0          | 10.3            |       |
| \$ 9 Nitrobenzene-d5          | 82  | 6.416        | 6.416            | 0.000            | 85 | 91649    | 10.0          | 9.23            |       |
| \$ 10 2-Fluorobiphenyl        | 172 | 8.173        | 8.173            | 0.000            | 99 | 226336   | 10.0          | 9.77            |       |
| \$ 11 2,4,6-Tribromophenol    | 330 | 9.573        | 9.573            | 0.000            | 93 | 28974    | 10.0          | 8.89            |       |
| \$ 12 Terphenyl-d14           | 244 | 12.047       | 12.047           | 0.000            | 99 | 229525   | 10.0          | 8.68            |       |
| 13 1,4-Dioxane                | 88  | 1.400        | 1.400            | 0.000            | 94 | 39507    | 10.0          | 12.1            |       |
| 14 N-Nitrosodimethylamine     | 74  | 1.854        | 1.854            | 0.000            | 94 | 52643    | 10.0          | 12.2            |       |
| 15 Pyridine                   | 79  | 1.912        | 1.912            | 0.000            | 97 | 92822    | 10.0          | 12.1            |       |
| 19 Methyl methanesulfonate    | 80  | 4.156        | 4.156            | 0.000            | 84 | 42665    | 10.0          | 10.2            |       |
| 25 Benzaldehyde               | 77  | 5.385        | 5.385            | 0.000            | 96 | 75795    | 10.0          | 13.1            |       |
| 27 Aniline                    | 93  | 5.513        | 5.513            | 0.000            | 92 | 147954   | 10.0          | 10.7            |       |
| 26 Phenol                     | 94  | 5.524        | 5.524            | 0.000            | 97 | 125543   | 10.0          | 10.2            |       |
| 29 Bis(2-chloroethyl)ether    | 93  | 5.593        | 5.593            | 0.000            | 98 | 88429    | 10.0          | 9.81            |       |
| 30 2-Chlorophenol             | 128 | 5.641        | 5.641            | 0.000            | 95 | 105814   | 10.0          | 10.2            |       |
| 31 n-Decane                   | 43  | 5.727        | 5.727            | 0.000            | 88 | 86066    | 10.0          | 10.4            |       |
| 32 1,3-Dichlorobenzene        | 146 | 5.796        | 5.796            | 0.000            | 98 | 119894   | 10.0          | 9.92            |       |
| 33 1,4-Dichlorobenzene        | 146 | 5.876        | 5.876            | 0.000            | 95 | 118936   | 10.0          | 9.77            |       |
| 34 Benzyl alcohol             | 108 | 6.010        | 6.010            | 0.000            | 96 | 59421    | 10.0          | 9.91            |       |
| 35 1,2-Dichlorobenzene        | 146 | 6.031        | 6.031            | 0.000            | 99 | 115595   | 10.0          | 10.0            |       |
| 36 Indene                     | 116 | 6.122        | 6.122            | 0.000            | 87 | 166526   | 10.0          | 9.95            |       |
| 37 2-Methylphenol             | 108 | 6.138        | 6.138            | 0.000            | 93 | 89954    | 10.0          | 10.2            |       |
| 38 2,2'-oxybis[1-chloropropan | 45  | 6.159        | 6.159            | 0.000            | 93 | 108293   | 10.0          | 10.0            |       |
| 39 N-Nitrosopyrrolidine       | 100 | 6.234        | 6.234            | 0.000            | 97 | 39790    | 10.0          | 10.1            |       |

| Compound                       | Sig | RT (min.) | Adj RT (min.) | Dlt RT (min.) | Q   | Response | Cal Amt ng | OnCol Amt ng | Flags |
|--------------------------------|-----|-----------|---------------|---------------|-----|----------|------------|--------------|-------|
| 40 Acetophenone                | 105 | 6.266     | 6.266         | 0.000         | 98  | 128645   | 10.0       | 9.46         |       |
| 41 N-Nitrosodi-n-propylamine   | 70  | 6.277     | 6.277         | 0.000         | 80  | 62220    | 10.0       | 9.17         |       |
| 42 4-Methylphenol              | 108 | 6.293     | 6.293         | 0.000         | 96  | 94410    | 10.0       | 10.2         |       |
| 43 Hexachloroethane            | 117 | 6.379     | 6.379         | 0.000         | 95  | 42775    | 10.0       | 9.80         |       |
| 44 Nitrobenzene                | 77  | 6.437     | 6.437         | 0.000         | 84  | 91543    | 10.0       | 9.32         |       |
| 46 Isophorone                  | 82  | 6.678     | 6.678         | 0.000         | 98  | 161683   | 10.0       | 9.40         |       |
| 47 2-Nitrophenol               | 139 | 6.758     | 6.758         | 0.000         | 87  | 58766    | 10.0       | 10.5         |       |
| 48 2,4-Dimethylphenol          | 107 | 6.811     | 6.811         | 0.000         | 92  | 95756    | 10.0       | 9.85         |       |
| 49 Benzoic acid                | 122 | 6.875     | 6.875         | 0.000         | 86  | 55536    | 10.0       | 14.1         | M     |
| 50 Bis(2-chloroethoxy)methane  | 93  | 6.897     | 6.897         | 0.000         | 98  | 106486   | 10.0       | 9.49         |       |
| 52 2,4-Dichlorophenol          | 162 | 6.998     | 6.998         | 0.000         | 91  | 85779    | 10.0       | 9.94         |       |
| 53 1,2,4-Trichlorobenzene      | 180 | 7.078     | 7.078         | 0.000         | 94  | 96962    | 10.0       | 9.44         |       |
| 56 Naphthalene                 | 128 | 7.153     | 7.153         | 0.000         | 97  | 304340   | 10.0       | 9.52         |       |
| 58 4-Chloroaniline             | 127 | 7.201     | 7.201         | 0.000         | 97  | 128178   | 10.0       | 10.4         |       |
| 59 2,6-Dichlorophenol          | 162 | 7.217     | 7.217         | 0.000         | 98  | 85631    | 10.0       | 10.1         |       |
| 61 Hexachlorobutadiene         | 225 | 7.287     | 7.287         | 0.000         | 94  | 50768    | 10.0       | 8.86         |       |
| 62 Caprolactam                 | 113 | 7.506     | 7.506         | 0.000         | 85  | 26852    | 10.0       | 9.30         |       |
| 63 4-Chloro-3-methylphenol     | 107 | 7.677     | 7.677         | 0.000         | 94  | 82135    | 10.0       | 9.66         |       |
| 67 2-Methylnaphthalene         | 142 | 7.826     | 7.826         | 0.000         | 92  | 211662   | 10.0       | 9.48         |       |
| 68 1-Methylnaphthalene         | 142 | 7.917     | 7.917         | 0.000         | 92  | 192613   | 10.0       | 9.30         |       |
| 69 Hexachlorocyclopentadiene   | 237 | 7.987     | 7.987         | 0.000         | 94  | 57797    | 10.0       | 9.23         |       |
| 70 1,2,4,5-Tetrachlorobenzene  | 216 | 7.992     | 7.992         | 0.000         | 96  | 89442    | 10.0       | 8.91         |       |
| 71 2,4,6-Trichlorophenol       | 196 | 8.093     | 8.093         | 0.000         | 89  | 61491    | 10.0       | 10.2         |       |
| 72 2,4,5-Trichlorophenol       | 196 | 8.131     | 8.131         | 0.000         | 96  | 65170    | 10.0       | 10.5         |       |
| 76 1,1'-Biphenyl               | 154 | 8.270     | 8.270         | 0.000         | 95  | 246916   | 10.0       | 9.68         |       |
| 78 2-Chloronaphthalene         | 162 | 8.291     | 8.291         | 0.000         | 94  | 203580   | 10.0       | 9.49         |       |
| 79 2-Nitroaniline              | 65  | 8.376     | 8.376         | 0.000         | 90  | 47080    | 10.0       | 9.09         |       |
| 82 Dimethyl phthalate          | 163 | 8.547     | 8.547         | 0.000         | 100 | 199575   | 10.0       | 9.37         |       |
| 83 1,3-Dinitrobenzene          | 168 | 8.574     | 8.574         | 0.000         | 96  | 34326    | 10.0       | 9.95         |       |
| 84 2,6-Dinitrotoluene          | 165 | 8.606     | 8.606         | 0.000         | 93  | 49259    | 10.0       | 10.1         |       |
| 85 Acenaphthylene              | 152 | 8.686     | 8.686         | 0.000         | 98  | 314320   | 10.0       | 10.0         |       |
| 86 3-Nitroaniline              | 138 | 8.766     | 8.766         | 0.000         | 97  | 51862    | 10.0       | 10.4         |       |
| 87 Acenaphthene                | 153 | 8.852     | 8.852         | 0.000         | 94  | 200694   | 10.0       | 9.45         |       |
| 88 2,4-Dinitrophenol           | 184 | 8.863     | 8.863         | 0.000         | 85  | 65121    | 20.0       | 22.9         |       |
| 89 4-Nitrophenol               | 109 | 8.921     | 8.921         | 0.000         | 82  | 38198    | 20.0       | 19.4         |       |
| 92 2,4-Dinitrotoluene          | 165 | 8.991     | 8.991         | 0.000         | 95  | 65276    | 10.0       | 10.8         |       |
| 93 Dibenzofuran                | 168 | 9.018     | 9.018         | 0.000         | 98  | 269998   | 10.0       | 9.77         |       |
| 95 2,3,5,6-Tetrachlorophenol   | 232 | 9.092     | 9.092         | 0.000         | 93  | 52585    | 10.0       | 9.71         |       |
| 96 2,3,4,6-Tetrachlorophenol   | 232 | 9.135     | 9.135         | 0.000         | 71  | 50732    | 10.0       | 10.0         |       |
| 97 2-Naphthylamine             | 143 | 9.162     | 9.162         | 0.000         | 98  | 186383   | 10.0       | 11.3         |       |
| 98 Diethyl phthalate           | 149 | 9.215     | 9.215         | 0.000         | 99  | 196080   | 10.0       | 9.31         |       |
| 99 Hexadecane                  | 57  | 9.231     | 9.231         | 0.000         | 92  | 124972   | 10.0       | 8.71         |       |
| 101 4-Chlorophenyl phenyl ethe | 204 | 9.333     | 9.333         | 0.000         | 91  | 103253   | 10.0       | 9.44         |       |
| 102 4-Nitroaniline             | 138 | 9.343     | 9.343         | 0.000         | 57  | 51354    | 10.0       | 11.3         |       |
| 103 Fluorene                   | 166 | 9.343     | 9.343         | 0.000         | 93  | 209929   | 10.0       | 9.59         |       |
| 104 4,6-Dinitro-2-methylphenol | 198 | 9.375     | 9.375         | 0.000         | 92  | 76010    | 20.0       | 19.6         |       |
| 106 N-Nitrosodiphenylamine     | 169 | 9.440     | 9.440         | 0.000         | 61  | 158239   | 10.0       | 9.37         |       |
| 108 1,2-Diphenylhydrazine      | 77  | 9.482     | 9.482         | 0.000         | 0   | 184606   | 10.0       | 9.07         |       |
| 107 Azobenzene                 | 77  | 9.482     | 9.482         | 0.000         | 95  | 184606   | 10.0       | 9.07         |       |
| 109 4-Bromophenyl phenyl ether | 248 | 9.797     | 9.797         | 0.000         | 62  | 56790    | 10.0       | 9.12         |       |
| 110 Hexachlorobenzene          | 284 | 9.878     | 9.878         | 0.000         | 96  | 61818    | 10.0       | 8.60         |       |
| 114 Atrazine                   | 200 | 9.936     | 9.936         | 0.000         | 96  | 55893    | 10.0       | 11.7         |       |

| Compound                       | Sig | RT<br>(min.) | Adj RT<br>(min.) | Dlt RT<br>(min.) | Q   | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|--------------------------------|-----|--------------|------------------|------------------|-----|----------|---------------|-----------------|-------|
| 115 Pentachlorophenol          | 266 | 10.054       | 10.054           | 0.000            | 94  | 91751    | 20.0          | 19.1            |       |
| 117 n-Octadecane               | 57  | 10.102       | 10.102           | 0.000            | 95  | 128998   | 10.0          | 9.08            |       |
| 120 Phenanthrene               | 178 | 10.257       | 10.257           | 0.000            | 98  | 297360   | 10.0          | 9.28            |       |
| 123 Anthracene                 | 178 | 10.305       | 10.305           | 0.000            | 98  | 310831   | 10.0          | 9.75            |       |
| 125 Carbazole                  | 167 | 10.455       | 10.455           | 0.000            | 96  | 280764   | 10.0          | 10.5            |       |
| 128 Di-n-butyl phthalate       | 149 | 10.786       | 10.786           | 0.000            | 100 | 347144   | 10.0          | 10.2            |       |
| 133 Fluoranthene               | 202 | 11.550       | 11.550           | 0.000            | 99  | 319347   | 10.0          | 10.3            |       |
| 134 Benzidine                  | 184 | 11.699       | 11.699           | 0.000            | 99  | 120432   | 10.0          | 12.3            |       |
| 135 Pyrene                     | 202 | 11.849       | 11.849           | 0.000            | 96  | 324315   | 10.0          | 8.49            |       |
| 138 Butyl benzyl phthalate     | 149 | 12.789       | 12.789           | 0.000            | 96  | 152875   | 10.0          | 10.4            |       |
| 143 3,3'-Dichlorobenzidine     | 252 | 13.735       | 13.735           | 0.000            | 74  | 106602   | 10.0          | 10.9            |       |
| 144 Benzo[a]anthracene         | 228 | 13.783       | 13.783           | 0.000            | 99  | 298670   | 10.0          | 9.82            |       |
| 146 Chrysene                   | 228 | 13.852       | 13.852           | 0.000            | 98  | 277451   | 10.0          | 9.33            |       |
| 147 Bis(2-ethylhexyl) phthalat | 149 | 13.858       | 13.858           | 0.000            | 95  | 223133   | 10.0          | 10.9            |       |
| 152 Di-n-octyl phthalate       | 149 | 15.214       | 15.214           | 0.000            | 99  | 389665   | 10.0          | 10.7            |       |
| 153 7,12-Dimethylbenz(a)anthra | 256 | 15.973       | 15.973           | 0.000            | 87  | 124809   | 10.0          | 8.40            |       |
| 154 Benzo[b]fluoranthene       | 252 | 15.978       | 15.978           | 0.000            | 97  | 293984   | 10.0          | 8.94            |       |
| 155 Benzo[k]fluoranthene       | 252 | 16.032       | 16.032           | 0.000            | 99  | 283679   | 10.0          | 8.80            |       |
| 156 Benzo[e]pyrene             | 252 | 16.555       | 16.555           | 0.000            | 0   | 269771   | 10.0          | 9.18            |       |
| 157 Benzo[a]pyrene             | 252 | 16.667       | 16.667           | 0.000            | 80  | 272543   | 10.0          | 9.50            |       |
| 162 Indeno[1,2,3-cd]pyrene     | 276 | 19.045       | 19.045           | 0.000            | 98  | 311124   | 10.0          | 9.66            |       |
| 161 Dibenz(a,h)anthracene      | 278 | 19.093       | 19.093           | 0.000            | 91  | 262459   | 10.0          | 9.74            |       |
| 160 Benzo[g,h,i]perylene       | 276 | 19.643       | 19.643           | 0.000            | 90  | 262486   | 10.0          | 9.84            |       |
| S 206 Methyl Phenols, Total    | 108 |              |                  |                  | 0   |          | 20.0          | 20.4            |       |
| S 208 Total Cresols            | 108 |              |                  |                  | 0   |          | 20.0          | 20.4            |       |

**QC Flag Legend**

Review Flags

M - Manually Integrated

**Reagents:**

SVTAPSTD10i\_00103

Amount Added: 1.00

Units: mL

Report Date: 12-May-2015 14:23:47

Chrom Revision: 2.2 09-Apr-2015 10:05:40

TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F05110C1.D

Injection Date: 12-May-2015 04:49:30

Instrument ID: CH722

Operator ID: 007062

Lims ID: CCVIS R10

Worklist Smp#: 2

Client ID:

Injection Vol: 2.0 ul

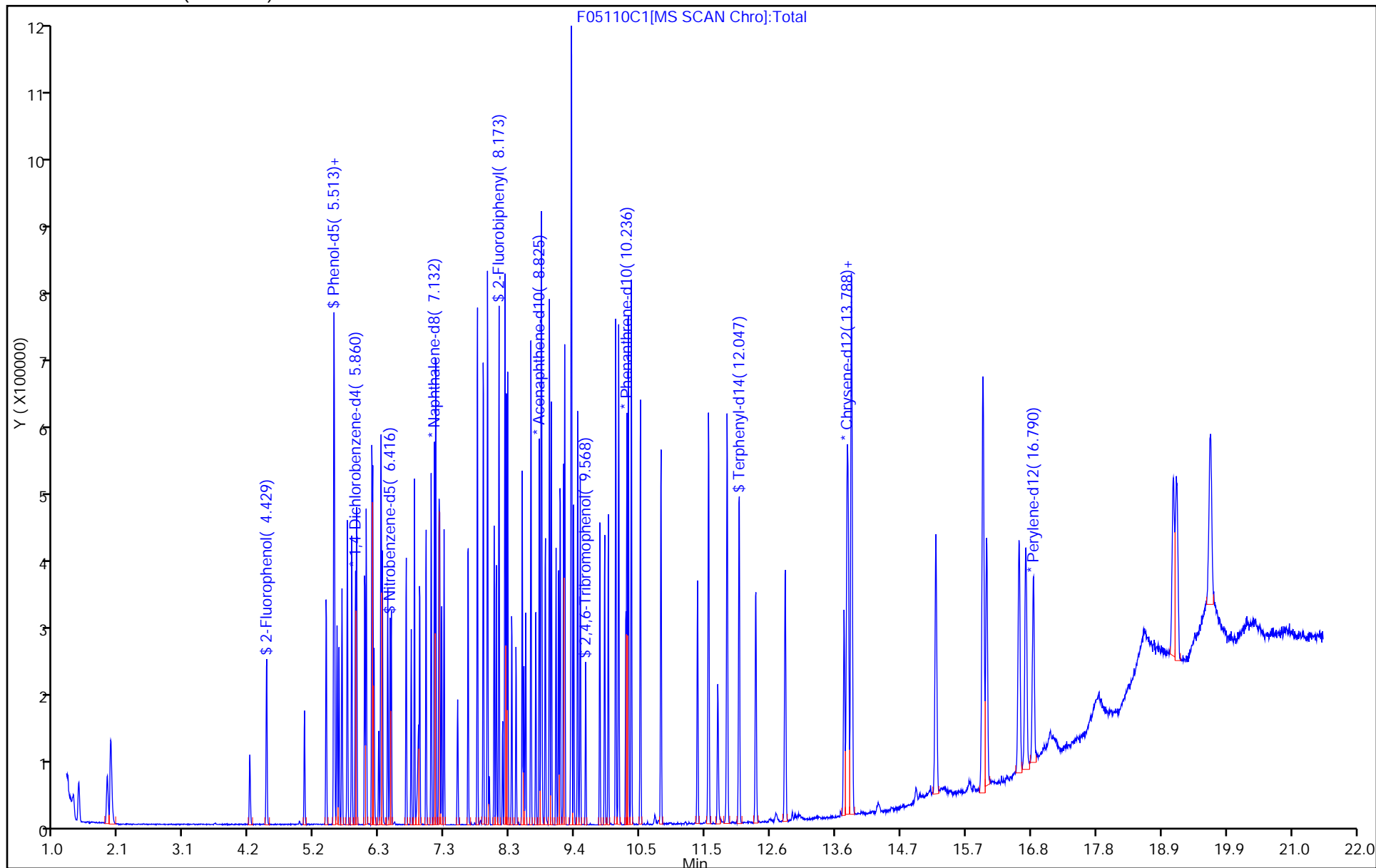
Dil. Factor: 1.0000

ALS Bottle#: 2

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)



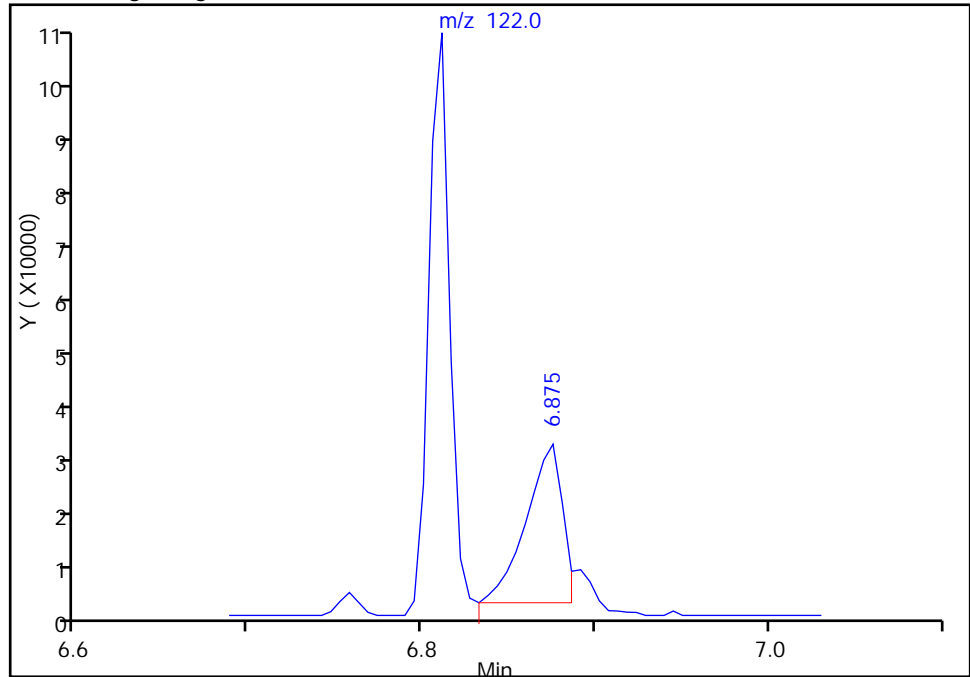
## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F05110C1.D  
Injection Date: 12-May-2015 04:49:30 Instrument ID: CH722  
Lims ID: CCVIS R10  
Client ID:  
Operator ID: 007062 ALS Bottle#: 2 Worklist Smp#: 2  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: BNA\_CH722 Limit Group: BNA 8270D ICAL  
Column: Rxi-5SilMS (0.32 mm) Detector: MS SCAN

## 49 Benzoic acid, CAS: 65-85-0

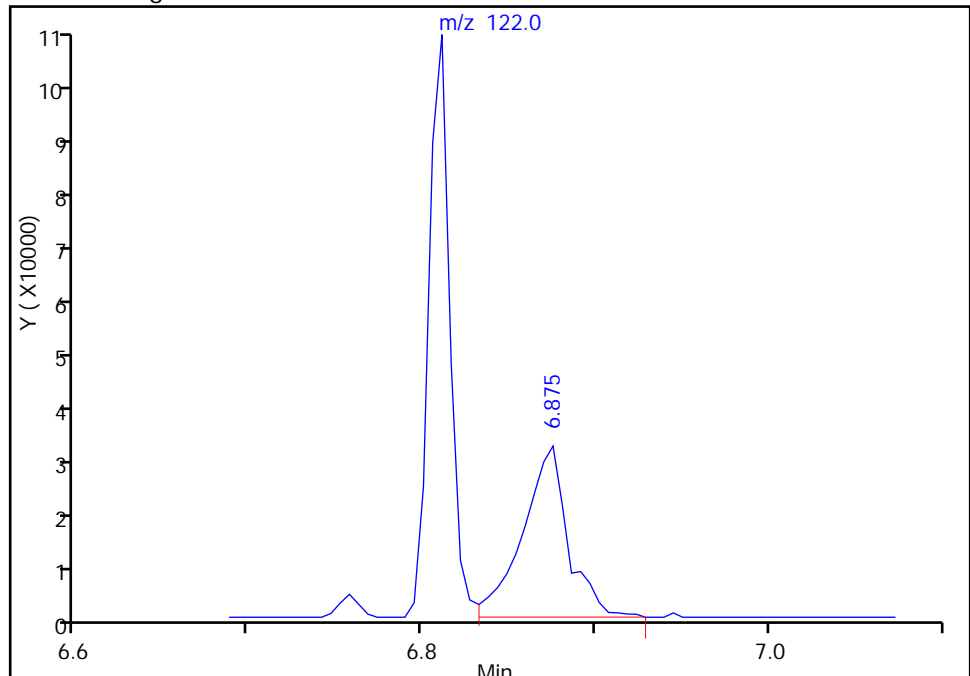
RT: 6.88  
Area: 41522  
Amount: 11.875783  
Amount Units: ng

## Processing Integration Results



RT: 6.88  
Area: 55536  
Amount: 14.056694  
Amount Units: ng

## Manual Integration Results



Reviewer: bachas, 12-May-2015 07:44:58  
Audit Action: Manually Integrated  
Audit Reason: Baseline



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F0324DF1.D  
Lims ID: DFTPP  
Client ID:  
Sample Type: DFTPP  
Inject. Date: 24-Mar-2015 23:16:30 ALS Bottle#: 1 Worklist Smp#: 1  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Sample Info: 180-0006159-001  
Misc. Info.: ,DFTPP  
Operator ID: 007062 Instrument ID: CH722  
Method: \\PITCHROM\ChromData\CH722\20150324-6159.b\BNA\_CH722.m  
Limit Group: BNA 8270D ICAL  
Last Update: 26-Mar-2015 07:51:53 Calib Date: 25-Mar-2015 02:57:30  
Integrator: RTE ID Type: Deconvolution ID  
Quant Method: Internal Standard Quant By: Initial Calibration  
Last ICal File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C8.D  
Column 1 : Rxi-5SiIMS ( 0.32 mm) Det: MS SCAN  
Process Host: XAWRK025

First Level Reviewer: bungardf

Date: 25-Mar-2015 00:19:54

| Compound                | Sig | RT<br>(min.) | Adj RT<br>(min.) | Dlt RT<br>(min.) | Q  | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-------------------------|-----|--------------|------------------|------------------|----|----------|---------------|-----------------|-------|
| 198 Pentachlorophenol_T | 266 | 5.602        | 5.602            | 0.000            | 94 | 167539   | NR            | NR              |       |
| 199 DFTPP               |     |              |                  |                  |    |          |               |                 |       |
| 200 Benzidine_T         | 184 | 8.348        | 8.348            | 0.000            | 99 | 847622   | NR            | NR              |       |
| 202 4,4'-DDE            | 246 |              | 8.805            |                  |    |          |               | ND              |       |
| 201 4,4'-DDD            | 235 | 9.459        | 9.459            | 0.000            | 77 | 4528     |               | NR              |       |
| 203 4,4'-DDT            | 235 | 10.073       | 10.073           | 0.000            | 99 | 431450   | NR            | NR              |       |

## QC Flag Legend

Processing Flags

NR - Missing Quant Standard

## Reagents:

SVDFTPP50i\_00021

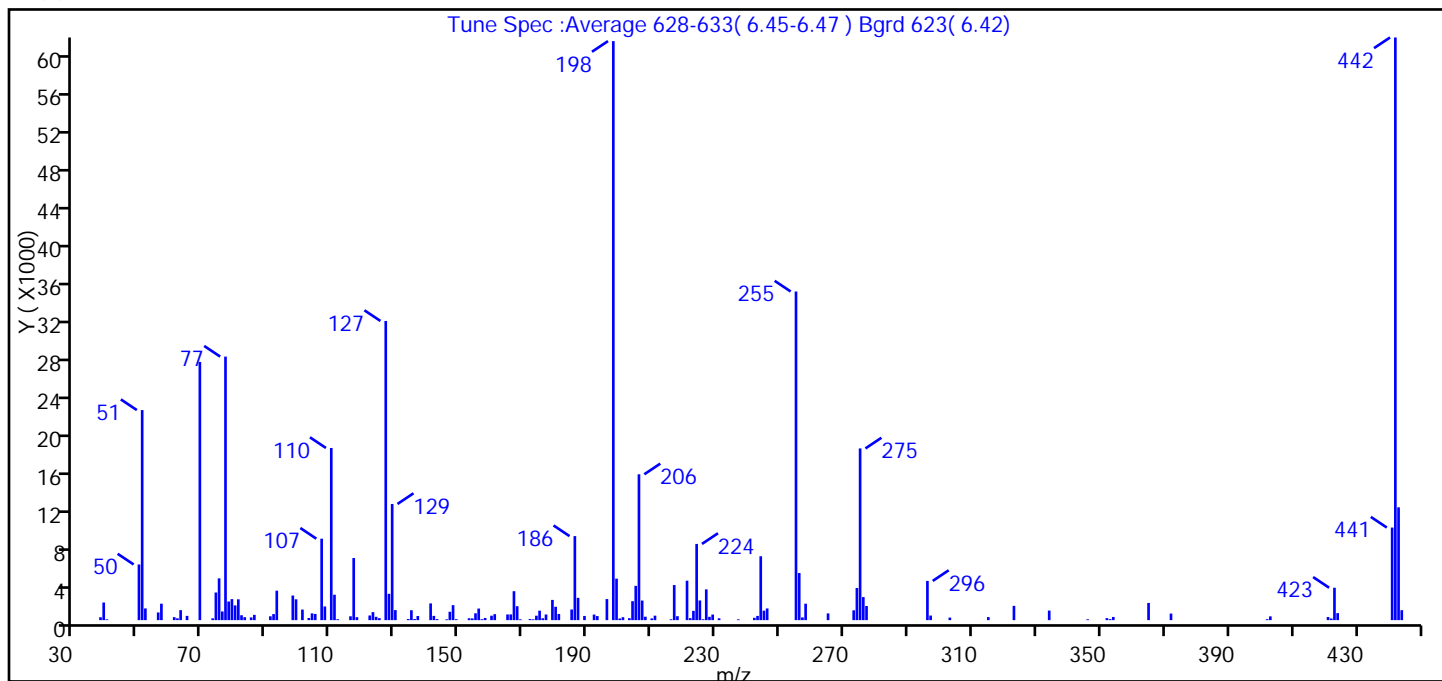
Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F0324DF1.D  
Injection Date: 24-Mar-2015 23:16:30 Instrument ID: CH722  
Lims ID: DFTPP  
Client ID:  
Operator ID: 007062 ALS Bottle#: 1 Worklist Smp#: 1  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: BNA\_CH722 Limit Group: BNA 8270D ICAL  
Tune Method: DFTPP Method 8270

## 199 DFTPP



| m/z | Ion Abundance Criteria             | % Relative Abundance |
|-----|------------------------------------|----------------------|
| 198 | Base peak, 100% relative abundance | 100.0                |
| 51  | 30-60% of mass 198                 | 36.3                 |
| 68  | <2% of mass 69                     | 0.0 (0.0)            |
| 69  | Present                            | 44.6                 |
| 70  | <2% of mass 69                     | 0.0 (0.0)            |
| 127 | 40-60% of mass 198                 | 51.7                 |
| 197 | <1% of mass 198                    | 0.0                  |
| 199 | 5-9% of mass 198                   | 7.2                  |
| 275 | 10-30% of mass 198                 | 29.7                 |
| 365 | >1% of mass 198                    | 3.0                  |
| 441 | Present but less than mass 443     | 16.0 (82.1)          |
| 442 | >40% of mass 198                   | 100.6                |
| 443 | 17-23% of mass 442                 | 19.5 (19.4)          |

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F0324DF1.D\BNA\_CH722.rslt\spectra.d  
Injection Date: 24-Mar-2015 23:16:30  
Spectrum: Tune Spec :Average 628-633( 6.45-6.47 ) Bgrd 623( 6.42)  
Base Peak: 442.00  
Minimum % Base Peak: 0  
Number of Points: 154

| m/z    | Y     | m/z    | Y     | m/z    | Y     | m/z    | Y     |
|--------|-------|--------|-------|--------|-------|--------|-------|
| 38.00  | 305   | 112.00 | 99    | 175.00 | 1004  | 242.00 | 247   |
| 39.00  | 1868  | 116.00 | 408   | 176.00 | 200   | 243.00 | 448   |
| 40.00  | 83    | 117.00 | 6579  | 177.00 | 599   | 244.00 | 6768  |
| 50.00  | 5900  | 118.00 | 313   | 179.00 | 2145  | 245.00 | 1004  |
| 51.00  | 22256 | 122.00 | 493   | 180.00 | 1418  | 246.00 | 1238  |
| 52.00  | 1241  | 123.00 | 850   | 181.00 | 648   | 255.00 | 34816 |
| 56.00  | 814   | 124.00 | 352   | 185.00 | 1129  | 256.00 | 4993  |
| 57.00  | 1741  | 125.00 | 212   | 186.00 | 8903  | 257.00 | 291   |
| 61.00  | 318   | 127.00 | 31696 | 187.00 | 2362  | 258.00 | 1744  |
| 62.00  | 195   | 128.00 | 2789  | 189.00 | 445   | 265.00 | 713   |
| 63.00  | 1061  | 129.00 | 12308 | 192.00 | 591   | 273.00 | 1041  |
| 65.00  | 452   | 130.00 | 1065  | 193.00 | 433   | 274.00 | 3403  |
| 69.00  | 27352 | 134.00 | 119   | 196.00 | 2234  | 275.00 | 18192 |
| 73.00  | 189   | 135.00 | 1051  | 198.00 | 61344 | 276.00 | 2444  |
| 74.00  | 2928  | 136.00 | 117   | 199.00 | 4396  | 277.00 | 1498  |
| 75.00  | 4428  | 137.00 | 436   | 200.00 | 173   | 296.00 | 4156  |
| 76.00  | 920   | 141.00 | 1774  | 201.00 | 311   | 297.00 | 486   |
| 77.00  | 27920 | 142.00 | 451   | 203.00 | 207   | 303.00 | 273   |
| 78.00  | 1973  | 143.00 | 111   | 204.00 | 2010  | 315.00 | 324   |
| 79.00  | 2228  | 146.00 | 86    | 205.00 | 3632  | 323.00 | 1513  |
| 80.00  | 1561  | 147.00 | 889   | 206.00 | 15452 | 334.00 | 1015  |
| 81.00  | 2206  | 148.00 | 1588  | 207.00 | 2075  | 346.00 | 90    |
| 82.00  | 519   | 149.00 | 99    | 208.00 | 364   | 352.00 | 214   |
| 83.00  | 313   | 153.00 | 199   | 210.00 | 183   | 353.00 | 108   |
| 85.00  | 290   | 154.00 | 185   | 211.00 | 474   | 354.00 | 338   |
| 86.00  | 559   | 155.00 | 727   | 216.00 | 91    | 365.00 | 1824  |
| 91.00  | 408   | 156.00 | 1228  | 217.00 | 3717  | 372.00 | 698   |
| 92.00  | 644   | 157.00 | 96    | 218.00 | 419   | 402.00 | 101   |
| 93.00  | 3122  | 158.00 | 230   | 221.00 | 4180  | 403.00 | 399   |
| 98.00  | 2609  | 160.00 | 472   | 222.00 | 210   | 421.00 | 335   |
| 99.00  | 2209  | 161.00 | 634   | 223.00 | 984   | 422.00 | 172   |
| 101.00 | 1121  | 165.00 | 602   | 224.00 | 8075  | 423.00 | 3434  |
| 103.00 | 227   | 166.00 | 608   | 225.00 | 2087  | 424.00 | 745   |

Report Date: 26-Mar-2015 07:51:54

Chrom Revision: 2.2 13-Mar-2015 11:20:44

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F0324DF1.D\BNA\_CH722.rslt\spectra.d

Injection Date: 24-Mar-2015 23:16:30

Spectrum: Tune Spec :Average 628-633( 6.45-6.47 ) Bgrd 623( 6.42)

Base Peak: 442.00

Minimum % Base Peak: 0

Number of Points: 154

| m/z    | Y     | m/z    | Y    | m/z    | Y    | m/z    | Y     |
|--------|-------|--------|------|--------|------|--------|-------|
| 104.00 | 715   | 167.00 | 3067 | 226.00 | 92   | 441.00 | 9809  |
| 105.00 | 658   | 168.00 | 1478 | 227.00 | 3261 | 442.00 | 61728 |
| 107.00 | 8630  | 169.00 | 88   | 228.00 | 354  | 443.00 | 11951 |
| 108.00 | 1449  | 172.00 | 112  | 229.00 | 594  | 444.00 | 1055  |
| 110.00 | 18240 | 173.00 | 87   | 231.00 | 197  |        |       |
| 111.00 | 2691  | 174.00 | 472  | 237.00 | 85   |        |       |

Report Date: 26-Mar-2015 07:51:54

Chrom Revision: 2.2 13-Mar-2015 11:20:44

TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F0324DF1.D

Injection Date: 24-Mar-2015 23:16:30

Instrument ID: CH722

Operator ID: 007062

Lims ID: DFTPP

Worklist Smp#: 1

Client ID:

Injection Vol: 2.0 ul

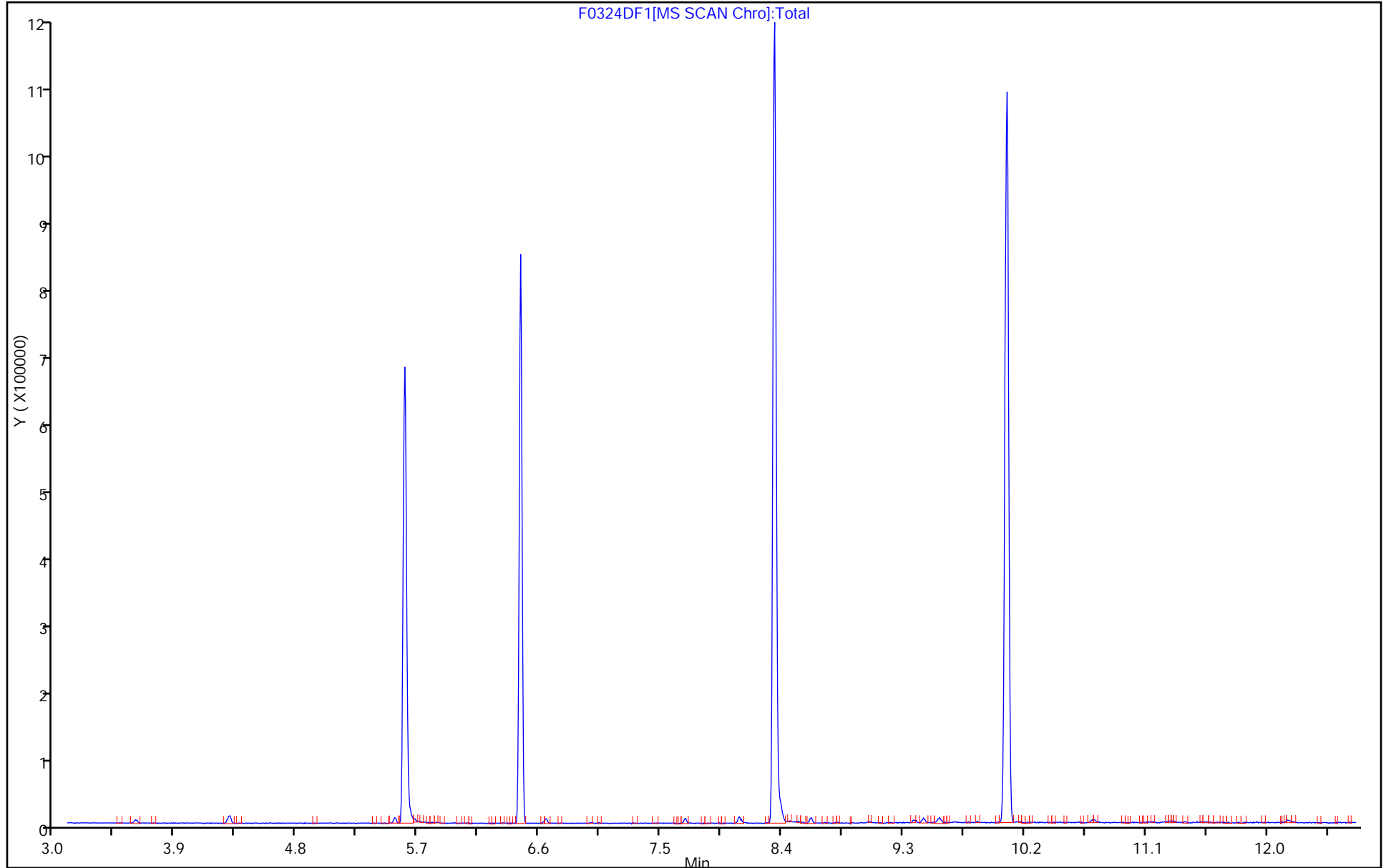
Dil. Factor: 1.0000

ALS Bottle#: 1

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F0324DF1.D  
Injection Date: 24-Mar-2015 23:16:30 Instrument ID: CH722  
Lims ID: DFTPP  
Client ID:  
Operator ID: 007062 ALS Bottle#: 1 Worklist Smp#: 1  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: BNA\_CH722 Limit Group: BNA 8270D ICAL

203 4,4'-DDT, Detector: MS SCAN

## SW-846 Method

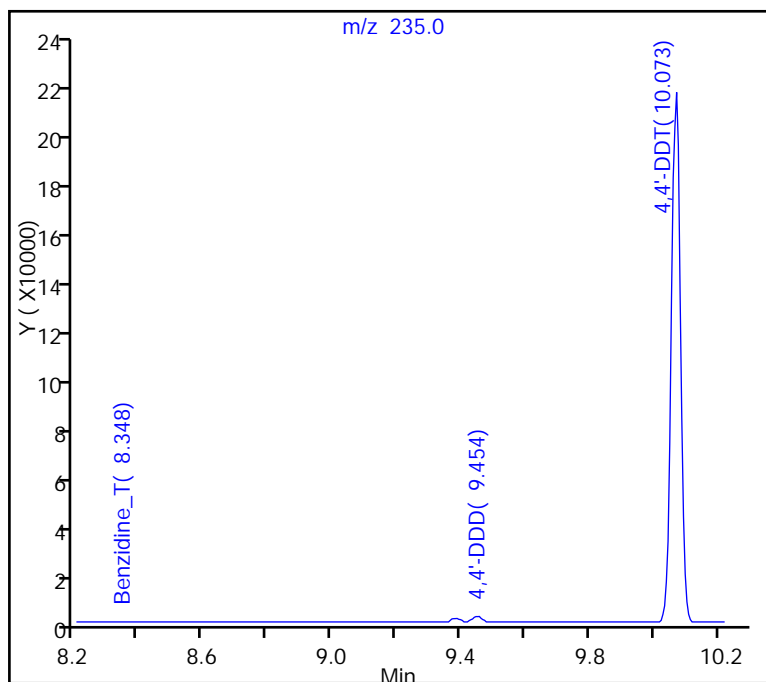
%Breakdown =  
(Area Breakdown Cpnds/  
Total Area Breakdown Cpnds) \* 100

203 4,4'-DDT, Area = 431450

202 4,4'-DDE, Area = 0

201 4,4'-DDD, Area = 4528

%Breakdown: 1.04%, Max Limit: 20.00%  
Passed



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F0324DF1.D  
Injection Date: 24-Mar-2015 23:16:30 Instrument ID: CH722  
Lims ID: DFTPP  
Client ID:  
Operator ID: 007062 ALS Bottle#: 1 Worklist Smp#: 1  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: BNA\_CH722 Limit Group: BNA 8270D ICAL

200 Benzidine\_T, Detector: MS SCAN

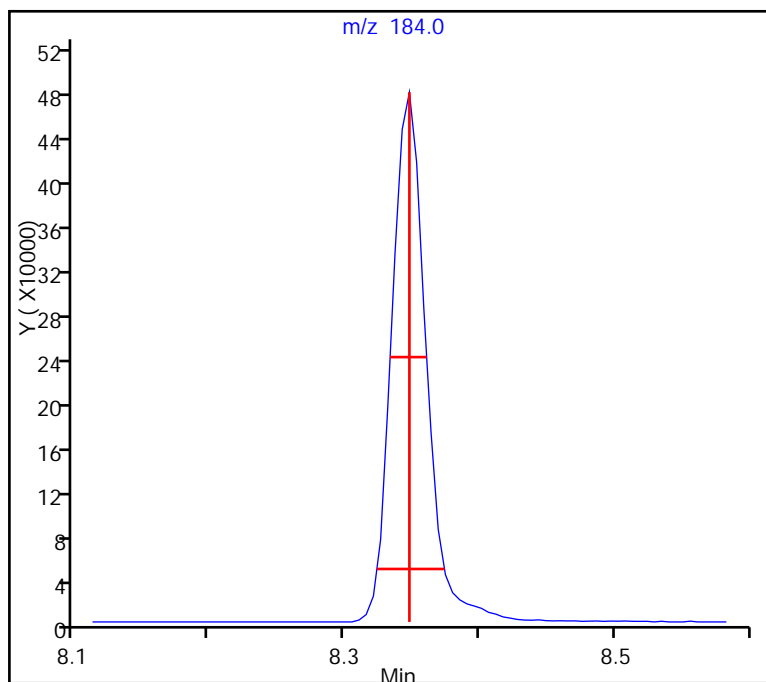
Peak Tailing Factor =  
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.026 (min.)

Front Width = 0.024 (min.)

Tailing Factor = 1.1, Max. Tailing < 2.00  
Passed

-----



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F0324DF1.D  
Injection Date: 24-Mar-2015 23:16:30 Instrument ID: CH722  
Lims ID: DFTPP  
Client ID:  
Operator ID: 007062 ALS Bottle#: 1 Worklist Smp#: 1  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: BNA\_CH722 Limit Group: BNA 8270D ICAL

198 Pentachlorophenol\_T, Detector: MS SCAN

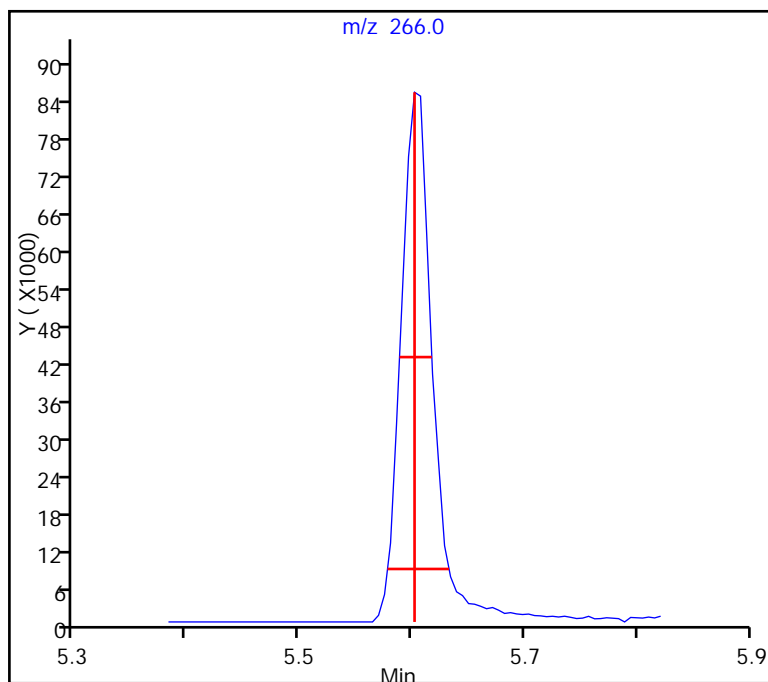
Peak Tailing Factor =  
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.031 (min.)

Front Width = 0.024 (min.)

Tailing Factor = 1.3, Max. Tailing < 2.00  
Passed

-----





TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511DF1.D  
 Lims ID: DFTPP  
 Client ID:  
 Sample Type: DFTPP  
 Inject. Date: 12-May-2015 04:33:30 ALS Bottle#: 1 Worklist Smp#: 1  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006870-001  
 Misc. Info.: ,DFTPP  
 Operator ID: 007062 Instrument ID: CH722  
 Method: \\PITCHROM\ChromData\CH722\20150512-6870.b\BNA\_CH722.m  
 Limit Group: BNA 8270D ICAL  
 Last Update: 12-May-2015 12:30:14 Calib Date: 25-Mar-2015 02:57:30  
 Integrator: RTE ID Type: Deconvolution ID  
 Quant Method: Internal Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CH722\20150324-6159.b\F03240C8.D  
 Column 1 : Rxi-5SiIMS ( 0.32 mm) Det: MS SCAN  
 Process Host: XAWRK019

First Level Reviewer: bungardf

Date: 12-May-2015 04:32:04

| Compound                | Sig | RT<br>(min.) | Adj RT<br>(min.) | Dlt RT<br>(min.) | Q  | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-------------------------|-----|--------------|------------------|------------------|----|----------|---------------|-----------------|-------|
| 198 Pentachlorophenol_T | 266 | 5.383        | 5.383            | 0.000            | 95 | 209825   | NR            | NR              |       |
| 199 DFTPP               |     |              |                  |                  |    |          |               |                 |       |
| 200 Benzidine_T         | 184 | 8.134        | 8.134            | 0.000            | 99 | 1260664  | NR            | NR              |       |
| 202 4,4'-DDE            | 246 |              | 8.832            |                  |    |          |               | ND              |       |
| 201 4,4'-DDD            | 235 | 9.214        | 9.214            | 0.000            | 93 | 7593     |               | NR              |       |
| 203 4,4'-DDT            | 235 | 9.812        | 9.812            | 0.000            | 99 | 604562   | NR            | NR              |       |

**QC Flag Legend**

Processing Flags

NR - Missing Quant Standard

**Reagents:**

SVDFTPP50i\_00022

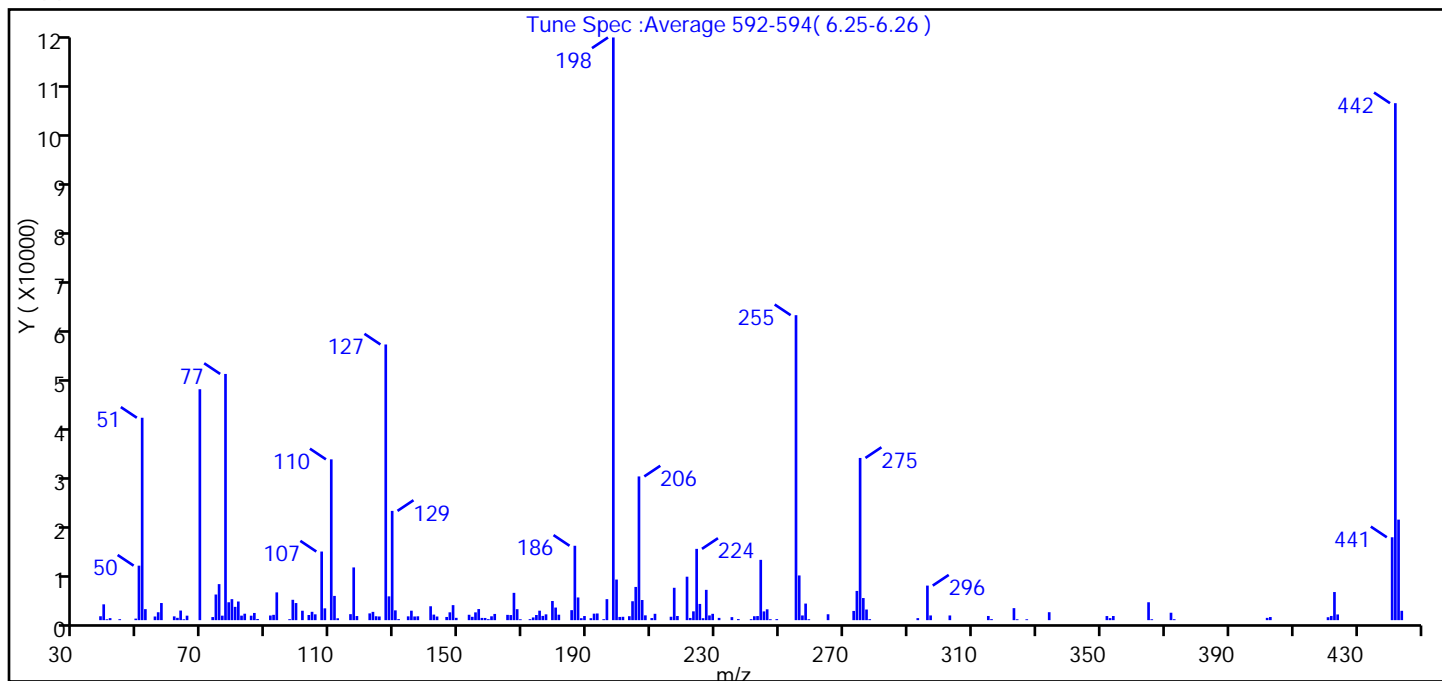
Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511DF1.D  
 Injection Date: 12-May-2015 04:33:30 Instrument ID: CH722  
 Lims ID: DFTPP  
 Client ID:  
 Operator ID: 007062 ALS Bottle#: 1 Worklist Smp#: 1  
 Injection Vol: 2.0 ul Dil. Factor: 1.0000  
 Method: BNA\_CH722 Limit Group: BNA 8270D ICAL  
 Tune Method: DFTPP Method 8270

## 199 DFTPP



| m/z | Ion Abundance Criteria             | % Relative Abundance |
|-----|------------------------------------|----------------------|
| 198 | Base peak, 100% relative abundance | 100.0                |
| 51  | 30-60% of mass 198                 | 34.7                 |
| 68  | <2% of mass 69                     | 0.0 (0.0)            |
| 69  | Present                            | 39.6                 |
| 70  | <2% of mass 69                     | 0.0 (0.0)            |
| 127 | 40-60% of mass 198                 | 47.3                 |
| 197 | <1% of mass 198                    | 0.0                  |
| 199 | 5-9% of mass 198                   | 7.0                  |
| 275 | 10-30% of mass 198                 | 27.8                 |
| 365 | >1% of mass 198                    | 3.1                  |
| 441 | Present but less than mass 443     | 14.2 (82.4)          |
| 442 | >40% of mass 198                   | 88.7                 |
| 443 | 17-23% of mass 442                 | 17.3 (19.4)          |

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511DF1.D\BNA\_CH722.rslt\spectra.d  
Injection Date: 12-May-2015 04:33:30  
Spectrum: Tune Spec :Average 592-594( 6.25-6.26 )  
Base Peak: 198.00  
Minimum % Base Peak: 0  
Number of Points: 177

| m/z   | Y     | m/z    | Y     | m/z    | Y      | m/z    | Y     |
|-------|-------|--------|-------|--------|--------|--------|-------|
| 38.00 | 750   | 111.00 | 4662  | 179.00 | 3682   | 246.00 | 2087  |
| 39.00 | 3045  | 112.00 | 358   | 180.00 | 2423   | 247.00 | 178   |
| 40.00 | 169   | 116.00 | 1152  | 181.00 | 1048   | 249.00 | 198   |
| 41.00 | 391   | 117.00 | 10148 | 185.00 | 1924   | 255.00 | 58704 |
| 44.00 | 185   | 118.00 | 790   | 186.00 | 14316  | 256.00 | 8604  |
| 49.00 | 295   | 122.00 | 1301  | 187.00 | 4368   | 257.00 | 904   |
| 50.00 | 10488 | 123.00 | 1593  | 188.00 | 373    | 258.00 | 3190  |
| 51.00 | 38960 | 124.00 | 750   | 189.00 | 792    | 259.00 | 168   |
| 52.00 | 2118  | 125.00 | 706   | 191.00 | 373    | 265.00 | 1135  |
| 55.00 | 704   | 127.00 | 53064 | 192.00 | 1247   | 273.00 | 1772  |
| 56.00 | 1520  | 128.00 | 4580  | 193.00 | 1284   | 274.00 | 5625  |
| 57.00 | 3296  | 129.00 | 21032 | 195.00 | 180    | 275.00 | 31224 |
| 61.00 | 729   | 130.00 | 1884  | 196.00 | 4043   | 276.00 | 4254  |
| 62.00 | 446   | 131.00 | 199   | 198.00 | 112160 | 277.00 | 2045  |
| 63.00 | 1846  | 134.00 | 731   | 199.00 | 7814   | 278.00 | 189   |
| 64.00 | 168   | 135.00 | 1820  | 200.00 | 619    | 293.00 | 388   |
| 65.00 | 862   | 136.00 | 708   | 201.00 | 645    | 296.00 | 6651  |
| 69.00 | 44448 | 137.00 | 742   | 203.00 | 759    | 297.00 | 904   |
| 73.00 | 593   | 141.00 | 2673  | 204.00 | 3639   | 303.00 | 901   |
| 74.00 | 4935  | 142.00 | 1066  | 205.00 | 6392   | 315.00 | 803   |
| 75.00 | 6935  | 143.00 | 699   | 206.00 | 27664  | 316.00 | 195   |
| 76.00 | 863   | 146.00 | 613   | 207.00 | 3874   | 323.00 | 2311  |
| 77.00 | 47392 | 147.00 | 1507  | 208.00 | 923    | 324.00 | 168   |
| 78.00 | 3443  | 148.00 | 2889  | 210.00 | 400    | 327.00 | 170   |
| 79.00 | 4040  | 149.00 | 445   | 211.00 | 1222   | 334.00 | 1529  |
| 80.00 | 2558  | 153.00 | 1035  | 216.00 | 652    | 352.00 | 788   |
| 81.00 | 3588  | 154.00 | 641   | 217.00 | 6229   | 353.00 | 390   |
| 82.00 | 867   | 155.00 | 1498  | 218.00 | 799    | 354.00 | 796   |
| 83.00 | 1239  | 156.00 | 2134  | 221.00 | 8363   | 365.00 | 3444  |
| 85.00 | 857   | 157.00 | 429   | 222.00 | 423    | 366.00 | 171   |
| 86.00 | 1383  | 158.00 | 421   | 223.00 | 1696   | 372.00 | 1427  |
| 87.00 | 224   | 159.00 | 185   | 224.00 | 13720  | 373.00 | 180   |
| 91.00 | 893   | 160.00 | 742   | 225.00 | 3120   | 402.00 | 438   |

Report Date: 12-May-2015 12:30:15

Chrom Revision: 2.2 09-Apr-2015 10:05:40

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511DF1.D\BNA\_CH722.rslt\spectra.d

Injection Date: 12-May-2015 04:33:30

Spectrum: Tune Spec :Average 592-594( 6.25-6.26 )

Base Peak: 198.00

Minimum % Base Peak: 0

Number of Points: 177

| m/z    | Y     | m/z    | Y    | m/z    | Y     | m/z    | Y     |
|--------|-------|--------|------|--------|-------|--------|-------|
| 92.00  | 1022  | 161.00 | 1195 | 226.00 | 372   | 403.00 | 600   |
| 93.00  | 5346  | 165.00 | 1017 | 227.00 | 5831  | 421.00 | 559   |
| 97.00  | 184   | 166.00 | 981  | 228.00 | 911   | 422.00 | 806   |
| 98.00  | 3916  | 167.00 | 5255 | 229.00 | 1218  | 423.00 | 5412  |
| 99.00  | 3291  | 168.00 | 2111 | 231.00 | 436   | 424.00 | 1096  |
| 101.00 | 1810  | 169.00 | 167  | 235.00 | 581   | 441.00 | 15953 |
| 103.00 | 988   | 172.00 | 190  | 237.00 | 204   | 442.00 | 99512 |
| 104.00 | 1606  | 173.00 | 521  | 241.00 | 181   | 443.00 | 19352 |
| 105.00 | 1121  | 174.00 | 987  | 242.00 | 752   | 444.00 | 1799  |
| 107.00 | 13206 | 175.00 | 1820 | 243.00 | 788   |        |       |
| 108.00 | 2272  | 176.00 | 818  | 244.00 | 11607 |        |       |
| 110.00 | 30952 | 177.00 | 1118 | 245.00 | 1684  |        |       |

Report Date: 12-May-2015 12:30:15

Chrom Revision: 2.2 09-Apr-2015 10:05:40

TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511DF1.D

Injection Date: 12-May-2015 04:33:30

Instrument ID: CH722

Operator ID: 007062

Lims ID: DFTPP

Worklist Smp#: 1

Client ID:

Injection Vol: 2.0 ul

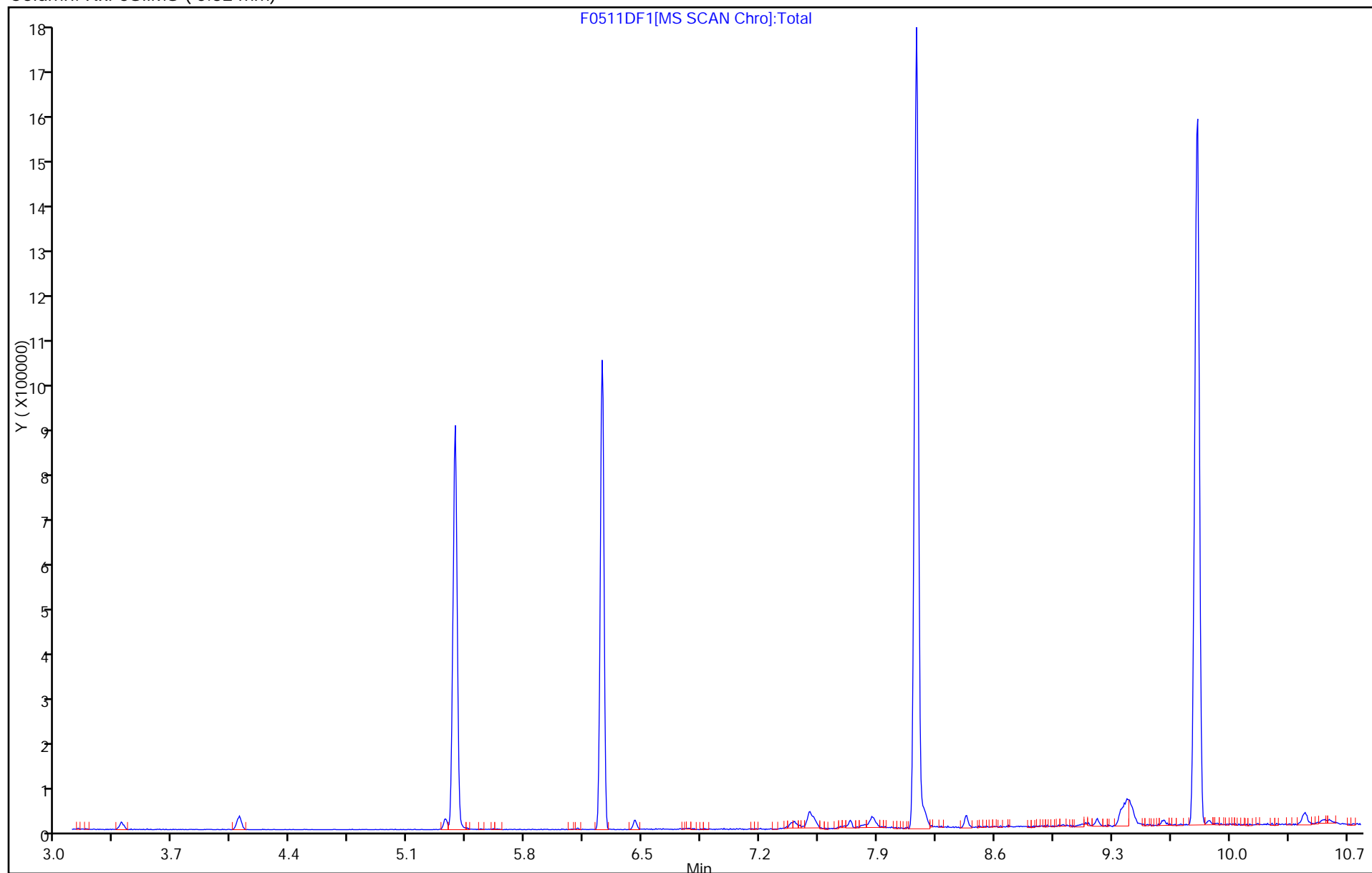
Dil. Factor: 1.0000

ALS Bottle#: 1

Method: BNA\_CH722

Limit Group: BNA 8270D ICAL

Column: Rxi-5SilMS (0.32 mm)



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511DF1.D  
Injection Date: 12-May-2015 04:33:30 Instrument ID: CH722  
Lims ID: DFTPP  
Client ID:  
Operator ID: 007062 ALS Bottle#: 1 Worklist Smp#: 1  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: BNA\_CH722 Limit Group: BNA 8270D ICAL

203 4,4'-DDT, Detector: MS SCAN

## SW-846 Method

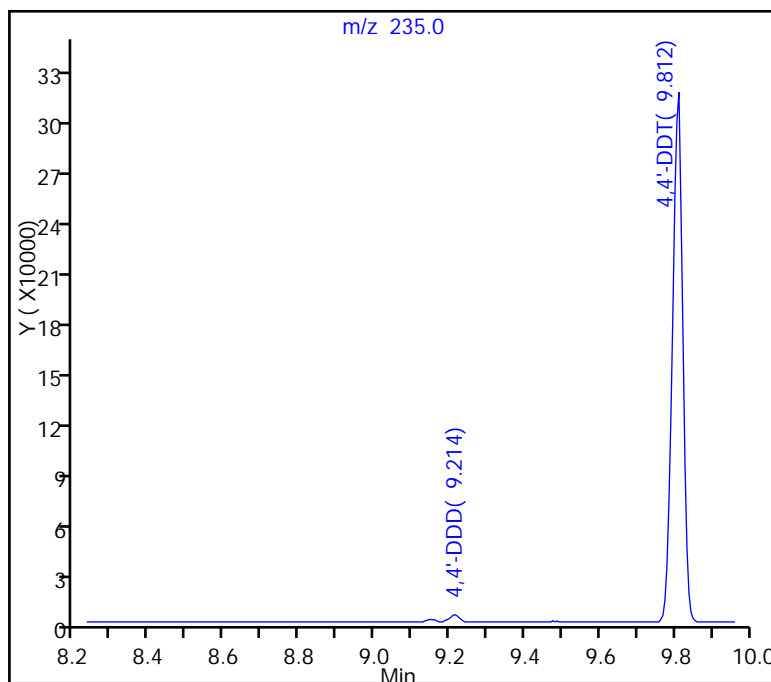
%Breakdown =  
(Area Breakdown Cpnds/  
Total Area Breakdown Cpnds) \* 100

203 4,4'-DDT, Area = 604562

202 4,4'-DDE, Area = 0

201 4,4'-DDD, Area = 7593

%Breakdown: 1.24%, Max Limit: 20.00%  
Passed



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511DF1.D  
Injection Date: 12-May-2015 04:33:30 Instrument ID: CH722  
Lims ID: DFTPP  
Client ID:  
Operator ID: 007062 ALS Bottle#: 1 Worklist Smp#: 1  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: BNA\_CH722 Limit Group: BNA 8270D ICAL

200 Benzidine\_T, Detector: MS SCAN

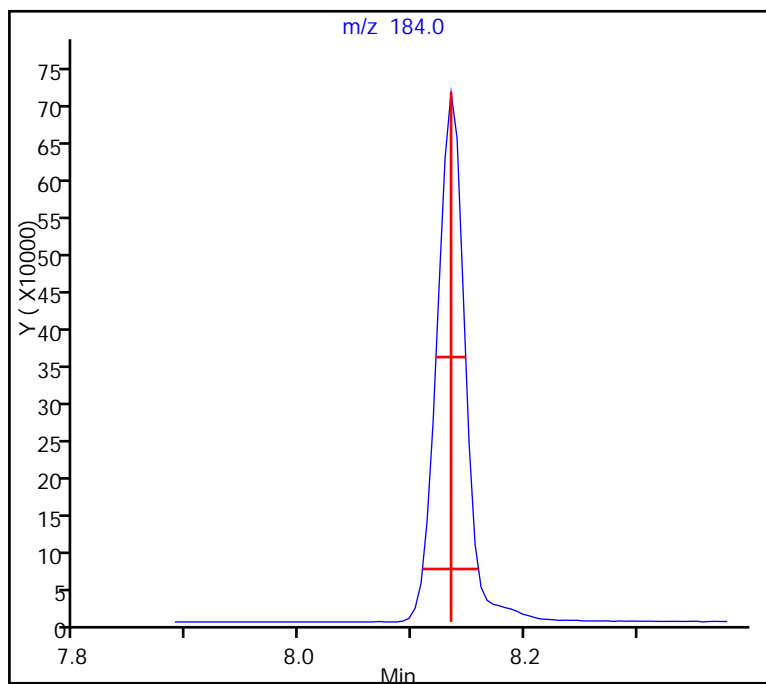
Peak Tailing Factor =  
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.024 (min.)

Front Width = 0.025 (min.)

Tailing Factor = 1.0, Max. Tailing < 2.00  
Passed

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## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CH722\20150512-6870.b\F0511DF1.D  
Injection Date: 12-May-2015 04:33:30 Instrument ID: CH722  
Lims ID: DFTPP  
Client ID:  
Operator ID: 007062 ALS Bottle#: 1 Worklist Smp#: 1  
Injection Vol: 2.0 ul Dil. Factor: 1.0000  
Method: BNA\_CH722 Limit Group: BNA 8270D ICAL

198 Pentachlorophenol\_T, Detector: MS SCAN

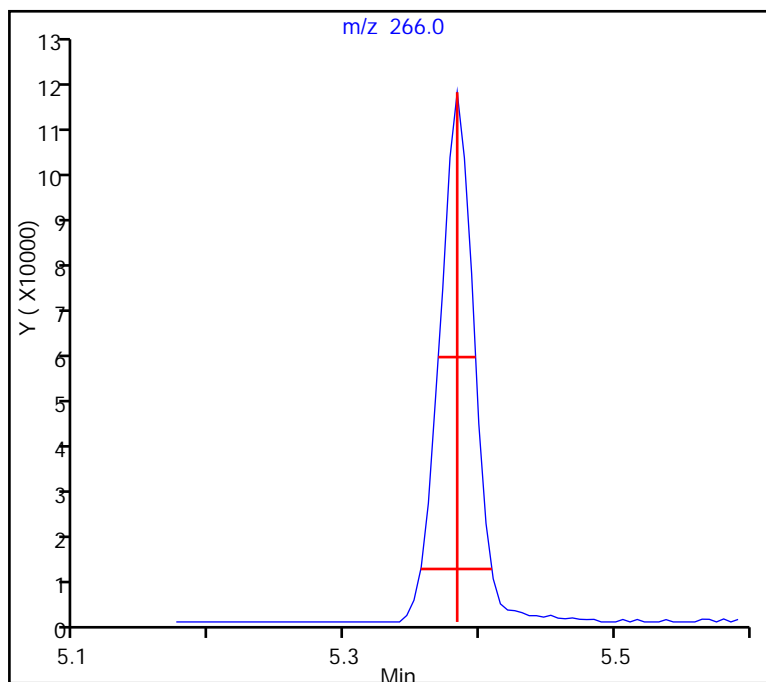
Peak Tailing Factor =  
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.026 (min.)

Front Width = 0.027 (min.)

Tailing Factor = 1.0, Max. Tailing < 2.00  
Passed

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## GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica PittsburghJob No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: CH722Start Date: 03/24/2015 23:16Analysis Batch Number: 136451End Date: 03/25/2015 09:42

| LAB SAMPLE ID      | CLIENT SAMPLE ID | DATE ANALYZED    | DILUTION<br>FACTOR | LAB FILE ID | COLUMN ID            |
|--------------------|------------------|------------------|--------------------|-------------|----------------------|
| DFTPP 180-136451/1 |                  | 03/24/2015 23:16 | 1                  | F0324DF1.D  | Rxi-5SilMS 0.32 (mm) |
| IC 180-136451/2    |                  | 03/24/2015 23:35 | 1                  | F03240C1.D  | Rxi-5SilMS 0.32 (mm) |
| IC 180-136451/3    |                  | 03/25/2015 00:04 | 1                  | F03240C2.D  | Rxi-5SilMS 0.32 (mm) |
| IC 180-136451/4    |                  | 03/25/2015 00:33 | 1                  | F03240C3.D  | Rxi-5SilMS 0.32 (mm) |
| ICIS 180-136451/5  |                  | 03/25/2015 01:02 | 1                  | F03240C4.D  | Rxi-5SilMS 0.32 (mm) |
| IC 180-136451/6    |                  | 03/25/2015 01:31 | 1                  | F03240C5.D  | Rxi-5SilMS 0.32 (mm) |
| IC 180-136451/7    |                  | 03/25/2015 02:00 | 1                  | F03240C6.D  | Rxi-5SilMS 0.32 (mm) |
| IC 180-136451/8    |                  | 03/25/2015 02:28 | 1                  | F03240C7.D  | Rxi-5SilMS 0.32 (mm) |
| IC 180-136451/9    |                  | 03/25/2015 02:57 | 1                  | F03240C8.D  | Rxi-5SilMS 0.32 (mm) |
| ICV 180-136451/10  |                  | 03/25/2015 03:26 | 1                  |             | Rxi-5SilMS 0.32 (mm) |
| ICV 180-136451/11  |                  | 03/25/2015 03:55 | 1                  |             | Rxi-5SilMS 0.32 (mm) |
| ICV 180-136451/12  |                  | 03/25/2015 04:24 | 1                  |             | Rxi-5SilMS 0.32 (mm) |
| ICV 180-136451/13  |                  | 03/25/2015 04:53 | 1                  |             | Rxi-5SilMS 0.32 (mm) |
| ZZZZZ              |                  | 03/25/2015 05:22 | 1                  |             | Rxi-5SilMS 0.32 (mm) |
| ZZZZZ              |                  | 03/25/2015 05:22 | 1                  |             | Rxi-5SilMS 0.32 (mm) |
| ZZZZZ              |                  | 03/25/2015 05:51 | 1                  |             | Rxi-5SilMS 0.32 (mm) |
| ZZZZZ              |                  | 03/25/2015 06:19 | 1                  |             | Rxi-5SilMS 0.32 (mm) |
| ZZZZZ              |                  | 03/25/2015 06:48 | 1                  |             | Rxi-5SilMS 0.32 (mm) |
| ZZZZZ              |                  | 03/25/2015 07:17 | 1                  |             | Rxi-5SilMS 0.32 (mm) |
| ZZZZZ              |                  | 03/25/2015 07:46 | 1                  |             | Rxi-5SilMS 0.32 (mm) |
| ZZZZZ              |                  | 03/25/2015 08:15 | 1                  |             | Rxi-5SilMS 0.32 (mm) |
| ZZZZZ              |                  | 03/25/2015 08:44 | 1                  |             | Rxi-5SilMS 0.32 (mm) |
| ZZZZZ              |                  | 03/25/2015 09:13 | 1                  |             | Rxi-5SilMS 0.32 (mm) |
| ZZZZZ              |                  | 03/25/2015 09:42 | 1                  |             | Rxi-5SilMS 0.32 (mm) |

## GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: CH722 Start Date: 05/12/2015 04:33Analysis Batch Number: 141206 End Date: 05/12/2015 16:21

| LAB SAMPLE ID      | CLIENT SAMPLE ID | DATE ANALYZED    | DILUTION<br>FACTOR | LAB FILE ID | COLUMN ID            |
|--------------------|------------------|------------------|--------------------|-------------|----------------------|
| DFTPP 180-141206/1 |                  | 05/12/2015 04:33 | 1                  | F0511DF1.D  | Rxi-5SilMS 0.32 (mm) |
| CCVIS 180-141206/2 |                  | 05/12/2015 04:49 | 1                  | F05110C1.D  | Rxi-5SilMS 0.32 (mm) |
| LODV 180-141206/3  |                  | 05/12/2015 05:16 | 1                  |             | Rxi-5SilMS 0.32 (mm) |
| ZZZZZ              |                  | 05/12/2015 06:38 | 1                  |             | Rxi-5SilMS 0.32 (mm) |
| ZZZZZ              |                  | 05/12/2015 07:06 | 1                  |             | Rxi-5SilMS 0.32 (mm) |
| ZZZZZ              |                  | 05/12/2015 08:57 | 1                  |             | Rxi-5SilMS 0.32 (mm) |
| ZZZZZ              |                  | 05/12/2015 09:25 | 1                  |             | Rxi-5SilMS 0.32 (mm) |
| ZZZZZ              |                  | 05/12/2015 10:21 | 10                 |             | Rxi-5SilMS 0.32 (mm) |
| ZZZZZ              |                  | 05/12/2015 10:48 | 5                  |             | Rxi-5SilMS 0.32 (mm) |
| ZZZZZ              |                  | 05/12/2015 11:16 | 10                 |             | Rxi-5SilMS 0.32 (mm) |
| ZZZZZ              |                  | 05/12/2015 11:43 | 10                 |             | Rxi-5SilMS 0.32 (mm) |
| 180-43411-1        | DE01-SD          | 05/12/2015 12:12 | 5                  | F0511015.D  | Rxi-5SilMS 0.32 (mm) |
| 180-43411-2        | F05-SD           | 05/12/2015 12:39 | 5                  | F0511016.D  | Rxi-5SilMS 0.32 (mm) |
| ZZZZZ              |                  | 05/12/2015 16:21 | 1                  |             | Rxi-5SilMS 0.32 (mm) |

## GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Batch Number: 140404 Batch Start Date: 05/04/15 03:00 Batch Analyst: Geehring, KevinBatch Method: 3541 Batch End Date: 05/04/15 09:25

| Lab Sample ID | Client Sample ID | Method Chain      | Basis | FinalAmount | InitialAmount | OPQL8270SURi<br>00029 |  |  |  |
|---------------|------------------|-------------------|-------|-------------|---------------|-----------------------|--|--|--|
| 180-43411-A-1 | DE01-SD          | 3541, 8270D<br>LL | T     | 0.5 mL      | 30.1 g        | 50 uL                 |  |  |  |
| 180-43411-A-2 | F05-SD           | 3541, 8270D<br>LL | T     | 0.5 mL      | 30.0 g        | 50 uL                 |  |  |  |

| Batch Notes                             |                     |
|---|---------------------|
| Balance ID                              | 1120122641          |
| Batch Comment                           | sox # 1 - 2 - 3 - 4 |
| Person's name who did the concentration | kg                  |
| Exchange Solvent Lot #                  | 1553462             |
| Exchange Solvent Name                   | Methylene chloride  |
| Magnesium Sulfate Lot #                 | 1543719             |
| N-evap #                                | 2                   |
| Na2SO4 Lot Number                       | 1558431             |
| Person's name who did the prep          | kg bp               |
| Solvent                                 | Mec12 / Acetone     |
| Solvent Lot #                           | 1226042             |
| Uncorrected N-evap Temperature          | 32 Degrees C        |

| Basis | Basis Description |
|-------|-------------------|
| T     | Total/NA          |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

8270D LL

Page 1 of 1

# Method 8082A Low Level

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Polychlorinated Biphenyls (PCBs)  
(GC) by Method 8082A Low Level

FORM II  
GC SEMI VOA SURROGATE RECOVERY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Matrix: Sediment Level: Low

GC Column (1): RTX-CLP1 ID: 0.53 (mm) GC Column (2): RTX-CLP2 ID: 0.53 (mm)

| Client Sample ID | Lab Sample ID         | TCX1 # | TCX2 # | DCB1 # | DCB2 # |
|------------------|-----------------------|--------|--------|--------|--------|
| F05-SD           | 180-43411-2           | 58     | 56     | 42 p   | 82     |
|                  | MB<br>180-140214/1-C  | 75     | 79     | 68     | 69     |
|                  | LCS<br>180-140214/2-C | 77     | 82     | 62     | 63     |

TCX = Tetrachloro-m-xylene (Surr)  
DCB = DCB Decachlorobiphenyl (Surr)

QC LIMITS  
30-150  
20-150

# Column to be used to flag recovery values

FORM III  
GC SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Matrix: Sediment Level: Low Lab File ID: 00501045.D  
Lab ID: LCS 180-140214/2-C Client ID: \_\_\_\_\_

| COMPOUND | SPIKE<br>ADDED<br>(ug/Kg) | LCS<br>CONCENTRATION<br>(ug/Kg) | LCS<br>%<br>REC | QC<br>LIMITS<br>REC | # |
|----------|---------------------------|---------------------------------|-----------------|---------------------|---|
| PCB-1016 | 33.3                      | 21.3                            | 64              | 50-120              |   |
| PCB-1260 | 33.3                      | 21.2                            | 63              | 50-120              |   |

# Column to be used to flag recovery and RPD values

FORM IV  
GC SEMI VOA METHOD BLANK SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: MB 180-140214/1-C  
Matrix: Sediment Date Extracted: 05/01/2015 03:16  
Lab File ID: (1) O0501026.D Lab File ID: (2) O0501026.D  
Date Analyzed: (1) 05/01/2015 18:20 Date Analyzed: (2) 05/01/2015 18:20  
Instrument ID: (1) CHGC8 Instrument ID: (2) CHGC8  
GC Column: (1) RTX-CLP1 ID: 0.53 (mm) GC Column: (2) RTX-CLP2 ID: 0.53 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

| CLIENT SAMPLE ID | LAB SAMPLE ID      | DATE<br>ANALYZED 1 | DATE<br>ANALYZED 2 |
|------------------|--------------------|--------------------|--------------------|
| F05-SD           | 180-43411-2        | 05/01/2015 23:37   | 05/01/2015 23:37   |
|                  | LCS 180-140214/2-C | 05/02/2015 00:36   | 05/02/2015 00:36   |

FORM VIII  
GC SEMI VOA ANALYTICAL SEQUENCE

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVRT 180-140301/2 Date Analyzed: 05/01/2015 18:01  
 Instrument ID: CHGC8 GC Column: RTX-CLP1 ID: 0.53 (mm)  
 Lab File ID (Standard): O0501025.D Heated Purge: (Y/N) N  
 Calibration ID: 23396

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, STANDARDS, MS/MSDs AND LCSS IS GIVEN BELOW:

|                                  |                  |                  |             | TCX  | DCB   |  |
|----------------------------------|------------------|------------------|-------------|------|-------|--|
|                                  |                  |                  |             | RT # | RT #  |  |
| CONTINUING CALIBRATION SURROGATE |                  |                  |             | 3.10 | 11.19 |  |
| UPPER LIMIT                      |                  |                  |             | 3.15 | 11.24 |  |
| LOWER LIMIT                      |                  |                  |             | 3.05 | 11.14 |  |
| LAB SAMPLE ID                    | CLIENT SAMPLE ID | DATE ANALYZED    | LAB FILE ID |      |       |  |
| CCVRT 180-140301/2               |                  | 05/01/2015 18:01 | O0501025.D  | 3.10 | 11.19 |  |
| MB 180-140214/1-C                |                  | 05/01/2015 18:20 | O0501026.D  | 3.10 | 11.19 |  |
| 180-43411-2                      | F05-SD           | 05/01/2015 23:37 | O0501042.D  | 3.10 | 11.21 |  |
| LCS 180-140214/2-C               |                  | 05/02/2015 00:36 | O0501045.D  | 3.10 | 11.19 |  |
| CCV 180-140301/23                |                  | 05/02/2015 00:56 | O0501046.D  | 3.10 | 11.19 |  |

TCX = Tetrachloro-m-xylene  
 DCB = DCB Decachlorobiphenyl (Surr)

TCX RT Limit =  $\pm$  0 minutes of surrogate RT  
 DCB RT Limit =  $\pm$  0 minutes of surrogate RT

# Column used to flag values outside QC limits



FORM VIII  
GC SEMI VOA ANALYTICAL SEQUENCE

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Sample No.: CCVRT 180-140301/2 Date Analyzed: 05/01/2015 18:01  
 Instrument ID: CHGC8 GC Column: RTX-CLP2 ID: 0.53 (mm)  
 Lab File ID (Standard): O0501025.D Heated Purge: (Y/N) N  
 Calibration ID: 23397

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, STANDARDS, MS/MSDs AND LCSS IS GIVEN BELOW:

|                                  |                  |                  |             | TCX  | DCB   |  |
|----------------------------------|------------------|------------------|-------------|------|-------|--|
|                                  |                  |                  |             | RT # | RT #  |  |
| CONTINUING CALIBRATION SURROGATE |                  |                  |             | 3.57 | 12.71 |  |
| UPPER LIMIT                      |                  |                  |             | 3.62 | 12.76 |  |
| LOWER LIMIT                      |                  |                  |             | 3.52 | 12.66 |  |
| LAB SAMPLE ID                    | CLIENT SAMPLE ID | DATE ANALYZED    | LAB FILE ID |      |       |  |
| CCVRT 180-140301/2               |                  | 05/01/2015 18:01 | O0501025.D  | 3.57 | 12.71 |  |
| MB 180-140214/1-C                |                  | 05/01/2015 18:20 | O0501026.D  | 3.57 | 12.71 |  |
| 180-43411-2                      | F05-SD           | 05/01/2015 23:37 | O0501042.D  | 3.57 | 12.72 |  |
| LCS 180-140214/2-C               |                  | 05/02/2015 00:36 | O0501045.D  | 3.57 | 12.71 |  |
| CCV 180-140301/23                |                  | 05/02/2015 00:56 | O0501046.D  | 3.57 | 12.71 |  |

TCX = Tetrachloro-m-xylene  
 DCB = DCB Decachlorobiphenyl (Surr)

TCX RT Limit =  $\pm$  0 minutes of surrogate RT  
 DCB RT Limit =  $\pm$  0 minutes of surrogate RT

# Column used to flag values outside QC limits

FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: F05-SD Lab Sample ID: 180-43411-2  
 Instrument ID (1): CHGC8 Instrument ID (2): CHGC8  
 Date Analyzed (1): 05/01/2015 23:37 Date Analyzed (2): 05/01/2015 23:37  
 GC Column (1): RTX-CLP1 ID: 0.53 (mm) GC Column (2): RTX-CLP2 ID: 0.53 (mm)

| ANALYTE  | COL | PEAK | RT   | RT WINDOW |      | CONCENTRATION |      | RPD |
|----------|-----|------|------|-----------|------|---------------|------|-----|
|          |     |      |      | FROM      | TO   | PEAK          | MEAN |     |
| PCB-1254 | 1   | 1    | 5.36 | 5.28      | 5.42 | 32.0          | 36   | 5.9 |
|          |     | 4    | 6.85 | 6.77      | 6.91 | 35.4          |      |     |
|          |     | 5    | 7.34 | 7.26      | 7.40 | 40.4          |      |     |
|          | 2   | 3    | 7.94 | 7.86      | 8.00 | 30.9          | 38   |     |
|          |     | 4    | 8.63 | 8.55      | 8.69 | 23.7          |      |     |
|          |     | 5    | 8.96 | 8.88      | 9.02 | 59.7          |      |     |

FORM X  
IDENTIFICATION SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 180-140214/2-C  
 Instrument ID (1): CHGC8 Instrument ID (2): CHGC8  
 Date Analyzed (1): 05/02/2015 00:36 Date Analyzed (2): 05/02/2015 00:36  
 GC Column (1): RTX-CLP1 ID: 0.53 (mm) GC Column (2): RTX-CLP2 ID: 0.53 (mm)

| ANALYTE  | COL | PEAK | RT    | RT WINDOW |       | CONCENTRATION |      | RPD |
|----------|-----|------|-------|-----------|-------|---------------|------|-----|
|          |     |      |       | FROM      | TO    | PEAK          | MEAN |     |
| PCB-1016 | 1   | 1    | 3.40  | 3.36      | 3.46  | 20.5          | 20.4 | 4.4 |
|          |     | 2    | 3.73  | 3.69      | 3.79  | 20.5          |      |     |
|          |     | 3    | 4.36  | 4.31      | 4.41  | 20.0          |      |     |
|          |     | 4    | 4.43  | 4.39      | 4.49  | 20.4          |      |     |
|          |     | 5    | 4.84  | 4.80      | 4.90  | 20.6          |      |     |
|          | 2   | 1    | 5.40  | 5.35      | 5.45  | 21.5          | 21.3 |     |
|          |     | 2    | 5.55  | 5.51      | 5.61  | 22.0          |      |     |
|          |     | 3    | 6.13  | 6.09      | 6.19  | 22.0          |      |     |
|          |     | 4    | 6.87  | 6.83      | 6.93  | 20.8          |      |     |
|          |     | 5    | 7.22  | 7.18      | 7.28  | 20.2          |      |     |
| PCB-1260 | 1   | 1    | 6.66  | 6.62      | 6.72  | 21.5          | 21.2 | 9.5 |
|          |     | 2    | 7.16  | 7.12      | 7.22  | 21.4          |      |     |
|          |     | 3    | 7.70  | 7.65      | 7.75  | 21.4          |      |     |
|          |     | 4    | 8.42  | 8.38      | 8.48  | 21.0          |      |     |
|          |     | 5    | 9.01  | 8.96      | 9.06  | 20.3          |      |     |
|          | 2   | 1    | 9.25  | 9.20      | 9.30  | 20.4          | 19.2 |     |
|          |     | 2    | 9.58  | 9.54      | 9.64  | 19.5          |      |     |
|          |     | 3    | 9.73  | 9.69      | 9.79  | 19.2          |      |     |
|          |     | 4    | 10.21 | 10.17     | 10.27 | 18.4          |      |     |
|          |     | 5    | 10.60 | 10.56     | 10.66 | 18.7          |      |     |

FORM I  
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

|   |   |
|---|---|
| Lab Name: <u>TestAmerica Pittsburgh</u> | Job No.: <u>180-43411-1</u>                     |
| SDG No.: _____                          |   |
| Client Sample ID: <u>F05-SD</u>         | Lab Sample ID: <u>180-43411-2</u>               |
| Matrix: <u>Sediment</u>                 | Lab File ID: <u>O0501042.D</u>                  |
| Analysis Method: <u>8082A</u>           | Date Collected: <u>04/23/2015 16:00</u>         |
| Extraction Method: <u>3541</u>          | Date Extracted: <u>05/01/2015 03:16</u>         |
| Sample wt/vol: <u>30.4(g)</u>           | Date Analyzed: <u>05/01/2015 23:37</u>          |
| Con. Extract Vol.: <u>1.0 (mL)</u>      | Dilution Factor: <u>5</u>                       |
| Injection Volume: <u>1 (uL)</u>         | GC Column: <u>RTX-CLP1</u> ID: <u>0.53 (mm)</u> |
| % Moisture: <u>28.7</u>                 | GPC Cleanup: (Y/N) <u>N</u>                     |
| Analysis Batch No.: <u>140301</u>       | Units: <u>ug/Kg</u>                             |

| CAS NO.    | COMPOUND NAME | RESULT | Q | RL  | MDL  |
|------------|---------------|--------|---|-----|------|
| 12674-11-2 | PCB-1016      | ND     |   | 2.9 | 0.59 |
| 11104-28-2 | PCB-1221      | ND     |   | 2.9 | 0.72 |
| 11141-16-5 | PCB-1232      | ND     |   | 2.9 | 1.0  |
| 53469-21-9 | PCB-1242      | ND     |   | 2.9 | 0.73 |
| 12672-29-6 | PCB-1248      | ND     |   | 2.9 | 0.72 |
| 11096-82-5 | PCB-1260      | ND     |   | 2.9 | 0.63 |

| CAS NO.   | SURROGATE                     | %REC | Q | LIMITS |
|-----------|-------------------------------|------|---|--------|
| 2051-24-3 | DCB Decachlorobiphenyl (Surr) | 42   | p | 20-150 |
| 877-09-8  | Tetrachloro-m-xylene (Surr)   | 58   |   | 30-150 |

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501042.D  
 Lims ID: 180-43411-A-2-H Lab Sample ID: 180-43411-2  
 Client ID: F05-SD  
 Sample Type: Client  
 Inject. Date: 01-May-2015 23:37:10 ALS Bottle#: 43 Worklist Smp#: 19  
 Injection Vol: 1.0 ul Dil. Factor: 5.0000  
 Sample Info: 180-0006723-019  
 Operator ID: 402360 Instrument ID: CHGC8  
 Method: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 04-May-2015 13:11:04 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B  
 Process Host: XAWRK001

First Level Reviewer: guptaa Date: 04-May-2015 09:32:23

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|-----------------|-------|

\$ 1 Tetrachloro-m-xylene

|   |       |       |        |          |          |  |
|---|-------|-------|--------|----------|----------|--|
| 1 | 3.102 | 3.102 | 0.000  | 5140777H | 0.002308 |  |
| 2 | 3.569 | 3.571 | -0.002 | 8466009H | 0.002236 |  |

RPD = 3.17

2 PCB-1221

|   |       |  |  |    |  |  |
|---|-------|--|--|----|--|--|
| 1 | 3.236 |  |  | ND |  |  |
| 1 | 3.365 |  |  |    |  |  |
| 1 | 3.401 |  |  |    |  |  |
| 2 | 3.859 |  |  |    |  |  |
| 2 | 4.015 |  |  |    |  |  |
| 2 | 4.086 |  |  |    |  |  |

5 PCB-1232

|   |       |  |  |    |  |   |
|---|-------|--|--|----|--|---|
| 1 | 3.237 |  |  | ND |  | M |
| 1 | 3.914 |  |  |    |  |   |
| 1 | 4.600 |  |  |    |  |   |
| 1 | 5.353 |  |  |    |  |   |
| 1 | 6.143 |  |  |    |  |   |
| 2 | 3.860 |  |  |    |  |   |
| 2 | 4.016 |  |  |    |  |   |
| 2 | 4.905 |  |  |    |  |   |
| 2 | 5.555 |  |  |    |  |   |
| 2 | 6.346 |  |  |    |  |   |

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501042.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|-----------------|-------|

## 4 PCB-1016

|   |       |  |  |    |  |  |
|---|-------|--|--|----|--|--|
| 1 | 3.407 |  |  | ND |  |  |
| 1 | 3.736 |  |  |    |  |  |
| 1 | 4.364 |  |  |    |  |  |
| 1 | 4.436 |  |  |    |  |  |
| 1 | 4.850 |  |  |    |  |  |
| 2 | 5.402 |  |  |    |  |  |
| 2 | 5.560 |  |  |    |  |  |
| 2 | 6.141 |  |  |    |  |  |
| 2 | 6.878 |  |  |    |  |  |
| 2 | 7.231 |  |  |    |  |  |

## 6 PCB-1248

|   |       |  |  |    |  |   |
|---|-------|--|--|----|--|---|
| 1 | 4.213 |  |  | ND |  | M |
| 1 | 4.433 |  |  |    |  |   |
| 1 | 5.298 |  |  |    |  |   |
| 1 | 5.689 |  |  |    |  |   |
| 1 | 6.361 |  |  |    |  |   |
| 2 | 6.349 |  |  |    |  |   |
| 2 | 6.688 |  |  |    |  |   |
| 2 | 7.935 |  |  |    |  |   |
| 2 | 8.176 |  |  |    |  |   |
| 2 | 9.264 |  |  |    |  |   |

## 3 PCB-1242

|   |       |  |  |    |  |   |
|---|-------|--|--|----|--|---|
| 1 | 4.360 |  |  | ND |  | M |
| 1 | 4.432 |  |  |    |  |   |
| 1 | 4.847 |  |  |    |  |   |
| 1 | 4.957 |  |  |    |  |   |
| 1 | 5.417 |  |  |    |  |   |
| 2 | 5.399 |  |  |    |  |   |
| 2 | 5.695 |  |  |    |  |   |
| 2 | 6.137 |  |  |    |  |   |
| 2 | 6.348 |  |  |    |  |   |
| 2 | 6.885 |  |  |    |  |   |

## 7 PCB-1254

|                           |       |       |        |           |        |   |
|---------------------------|-------|-------|--------|-----------|--------|---|
| 1                         | 5.358 | 5.349 | 0.009  | 6594025H  | 0.1386 | M |
| 1                         | 0.000 | 5.788 | -5.788 | 0H        | 0      |   |
| 1                         | 0.000 | 6.087 | -6.087 | 0H        | 0      |   |
| 1                         | 6.846 | 6.835 | 0.011  | 6454889H  | 0.1534 | M |
| 1                         | 7.343 | 7.330 | 0.013  | 3749737H  | 0.1754 | M |
| Average of Peak Amounts = |       |       |        |           | 0.1558 |   |
| 2                         | 0.000 | 6.134 | -6.134 | 0H        | 0      |   |
| 2                         | 0.000 | 6.796 | -6.796 | 0H        | 0      |   |
| 2                         | 7.935 | 7.931 | 0.004  | 7794060H  | 0.1338 |   |
| 2                         | 8.628 | 8.620 | 0.008  | 7361548H  | 0.1030 |   |
| 2                         | 8.959 | 8.949 | 0.010  | 12908033H | 0.2588 |   |
| Average of Peak Amounts = |       |       |        |           | 0.1652 |   |

RPD = 5.87

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501042.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|-----------------|-------|

## 8 PCB-1260

M

|   |        |  |  |  |    |  |
|---|--------|--|--|--|----|--|
| 1 | 6.670  |  |  |  | ND |  |
| 1 | 7.169  |  |  |  |    |  |
| 1 | 7.702  |  |  |  |    |  |
| 1 | 8.426  |  |  |  |    |  |
| 1 | 9.012  |  |  |  |    |  |
| 2 | 9.251  |  |  |  |    |  |
| 2 | 9.586  |  |  |  |    |  |
| 2 | 9.739  |  |  |  |    |  |
| 2 | 10.216 |  |  |  |    |  |
| 2 | 10.606 |  |  |  |    |  |

## 9 PCB-1262

|   |        |  |  |  |    |  |
|---|--------|--|--|--|----|--|
| 1 | 7.394  |  |  |  | ND |  |
| 1 | 8.032  |  |  |  |    |  |
| 1 | 8.500  |  |  |  |    |  |
| 1 | 10.084 |  |  |  |    |  |
| 1 | 10.497 |  |  |  |    |  |
| 2 | 9.577  |  |  |  |    |  |
| 2 | 9.825  |  |  |  |    |  |
| 2 | 10.324 |  |  |  |    |  |
| 2 | 11.725 |  |  |  |    |  |
| 2 | 11.945 |  |  |  |    |  |

## 10 PCB-1268

|   |        |  |  |  |    |  |
|---|--------|--|--|--|----|--|
| 1 | 9.560  |  |  |  | ND |  |
| 1 | 9.625  |  |  |  |    |  |
| 1 | 9.938  |  |  |  |    |  |
| 1 | 10.920 |  |  |  |    |  |
| 2 | 11.132 |  |  |  |    |  |
| 2 | 11.199 |  |  |  |    |  |
| 2 | 11.555 |  |  |  |    |  |
| 2 | 12.377 |  |  |  |    |  |

## \$ 11 DCB Decachlorobiphenyl (Surr)

|   |        |        |       |          |          |
|---|--------|--------|-------|----------|----------|
| 1 | 11.205 | 11.189 | 0.016 | 2058373H | 0.001682 |
| 2 | 12.717 | 12.713 | 0.004 | 5197319H | 0.003299 |

RPD = 64.92

## QC Flag Legend

Review Flags

M - Manually Integrated

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501042.D

Injection Date: 01-May-2015 23:37:10

Instrument ID: CHGC8

Lims ID: 180-43411-A-2-H

Lab Sample ID: 180-43411-2

Client ID: F05-SD

Operator ID: 402360

ALS Bottle#: 43

Worklist Smp#: 19

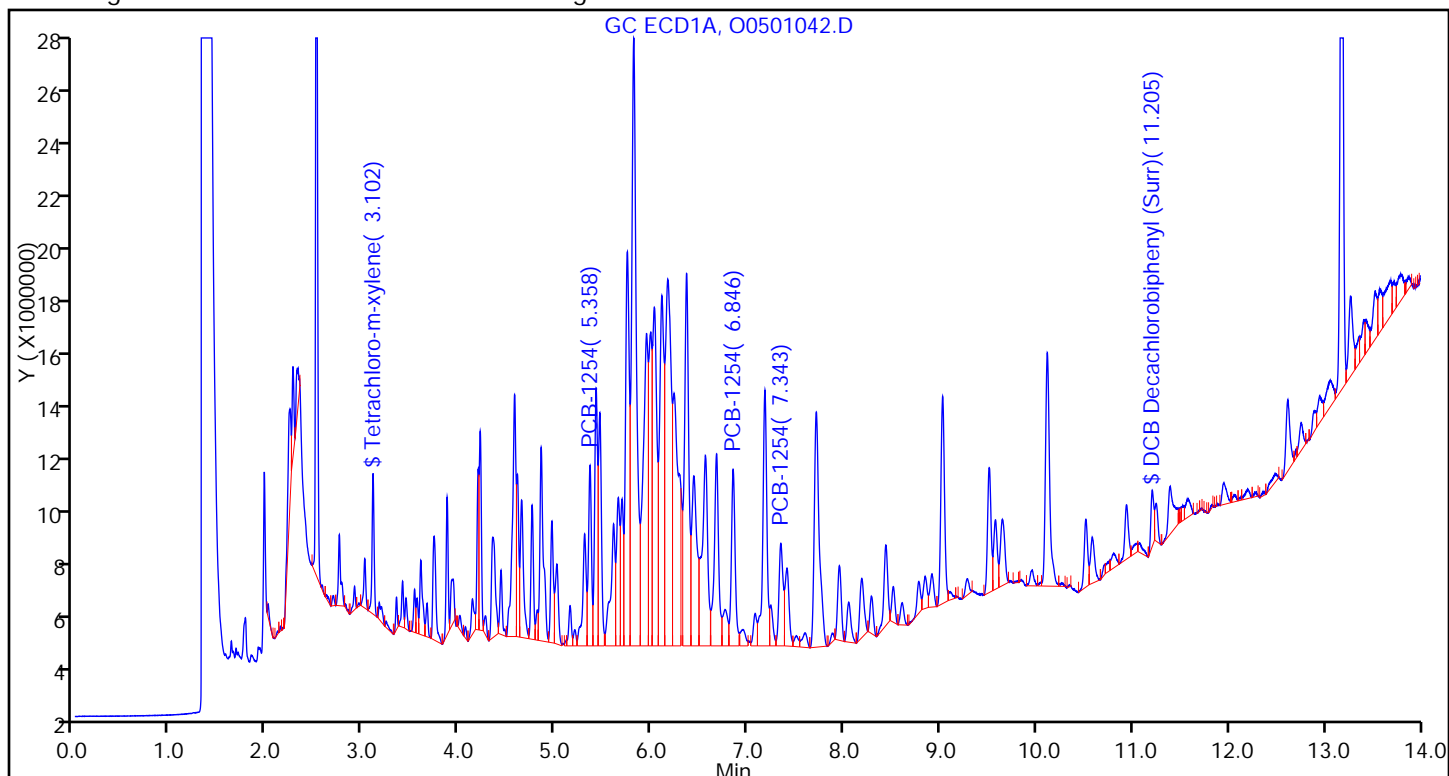
Injection Vol: 1.0 ul

Dil. Factor: 5.0000

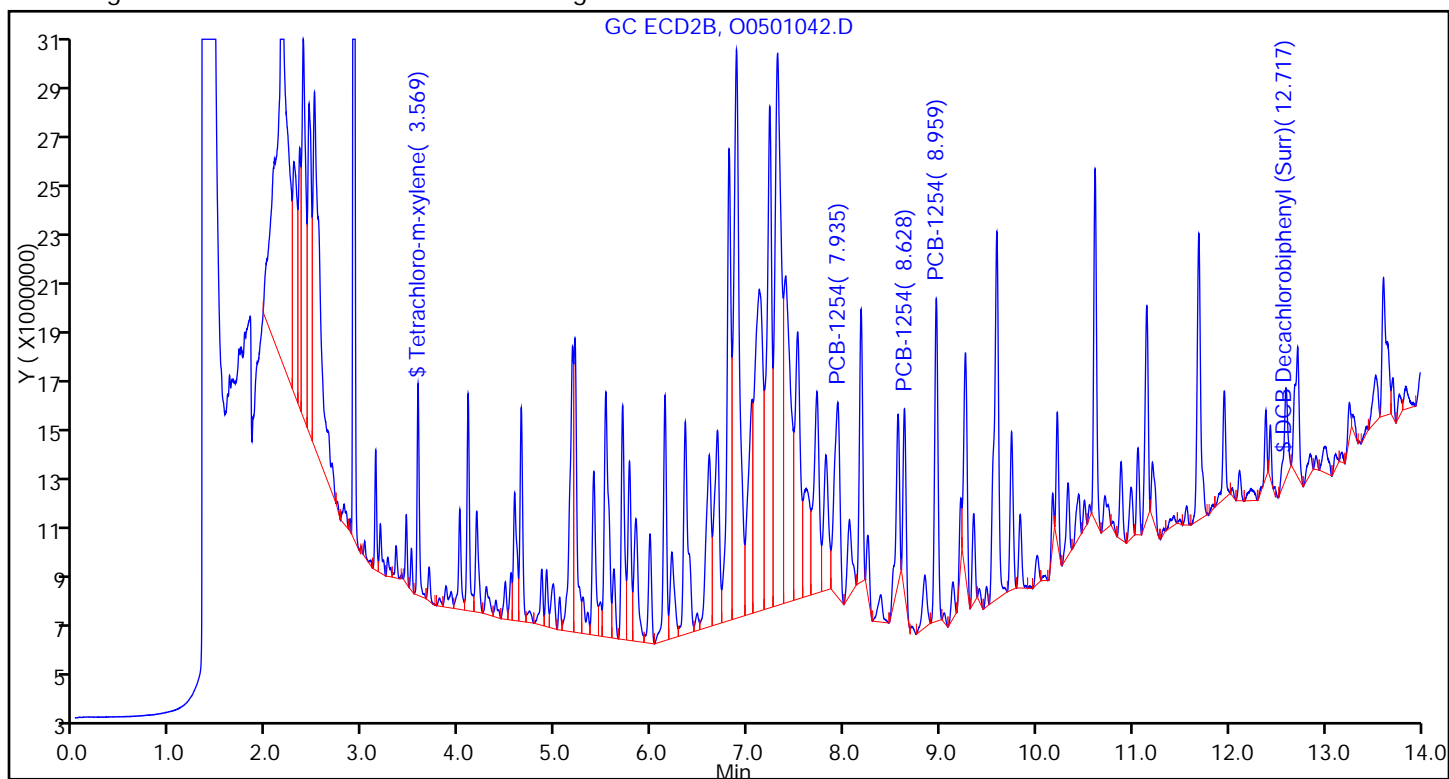
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3





Report Date: 04-May-2015 13:11:14

Chrom Revision: 2.2 09-Apr-2015 10:05:40

TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501042.D

Injection Date: 01-May-2015 23:37:10

Instrument ID: CHGC8

Lims ID: 180-43411-A-2-H

Lab Sample ID: 180-43411-2

Client ID: F05-SD

Operator ID: 402360

ALS Bottle#: 43

Worklist Smp#: 19

Injection Vol: 1.0 ul

Dil. Factor: 5.0000

Method: PCB\_CHGC8DUAL

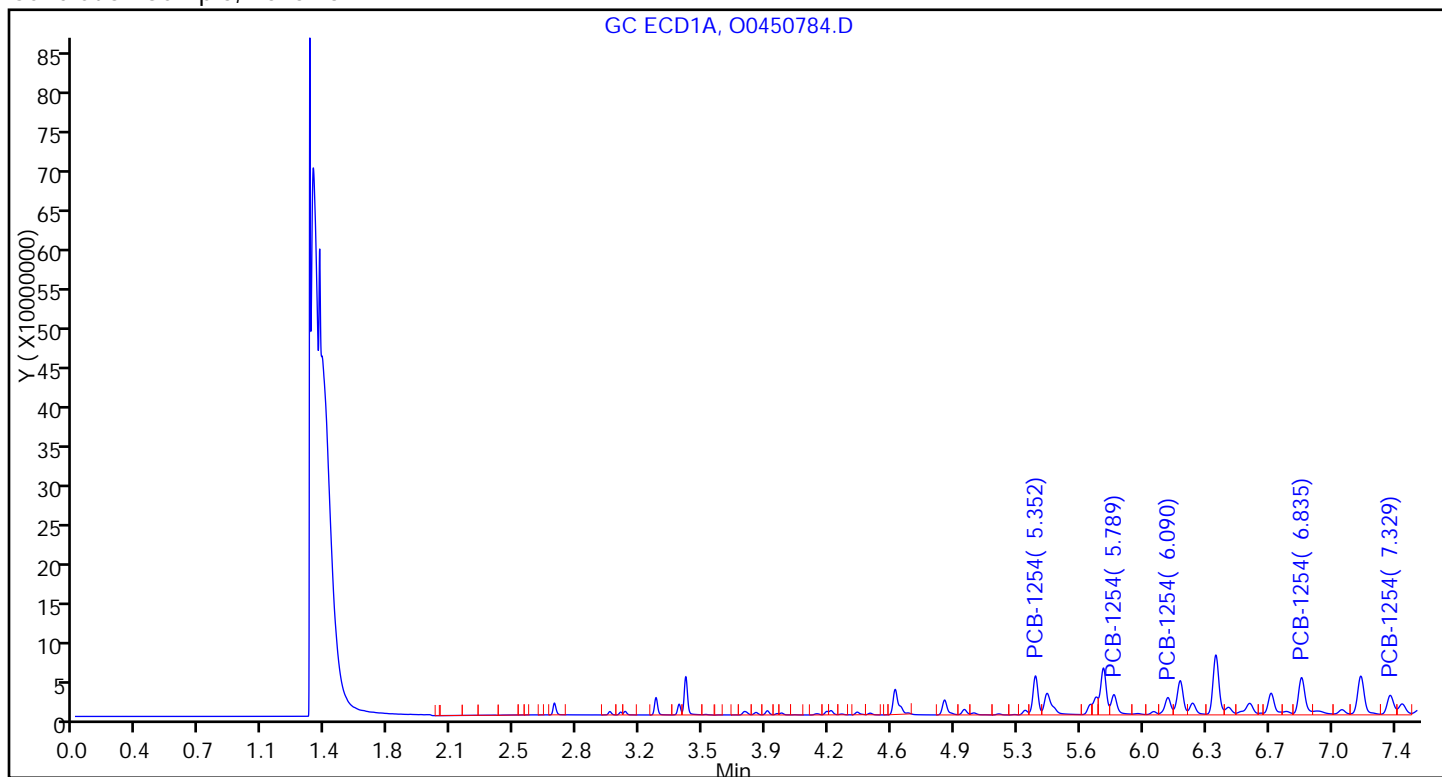
Limit Group: GCS 8082A ICAL

Column:

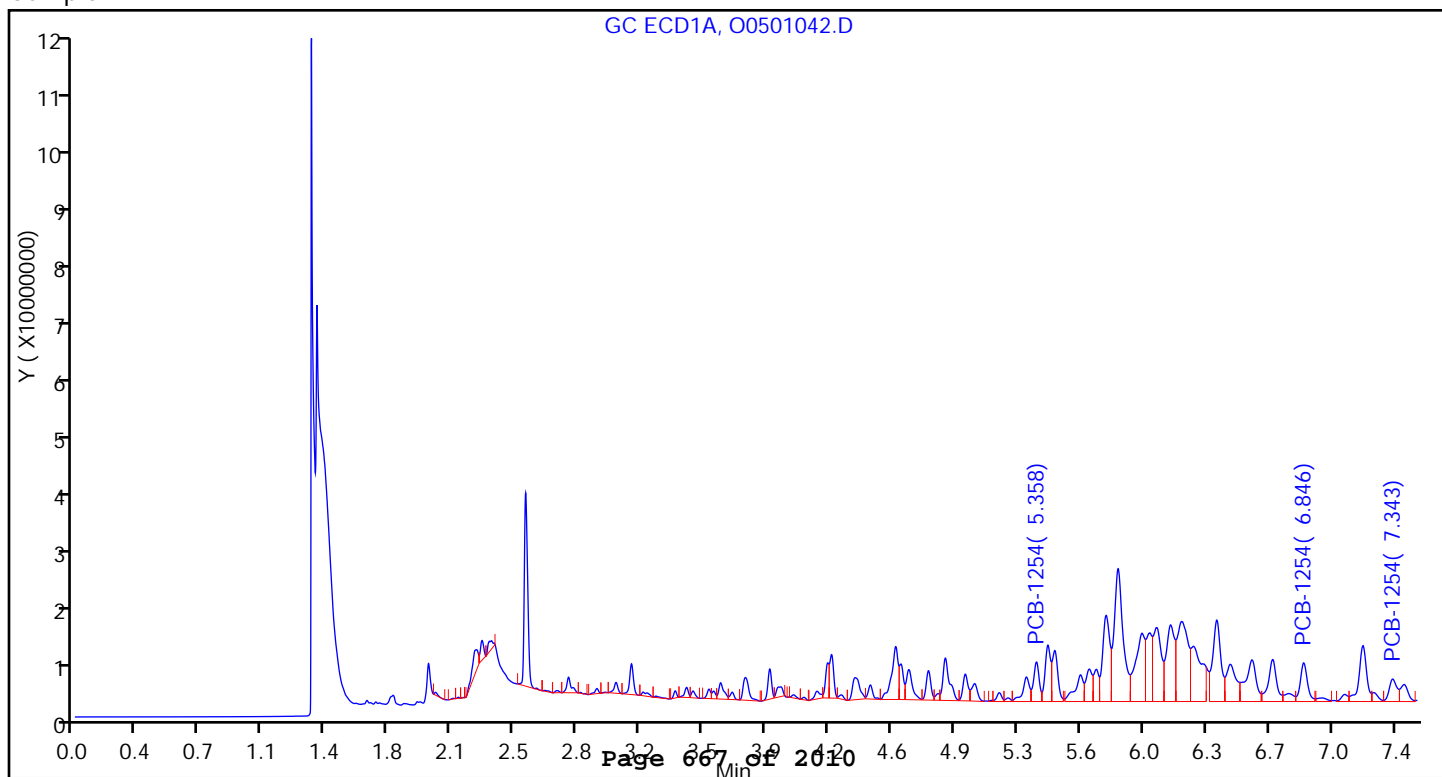
Detector GC ECD1A

7 PCB-1254, CAS: 11097-69-1

Calibration Sample, Level: 5



Sample



FORM I  
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: F05-SD Lab Sample ID: 180-43411-2  
Matrix: Sediment Lab File ID: O0501042.D  
Analysis Method: 8082A Date Collected: 04/23/2015 16:00  
Extraction Method: 3541 Date Extracted: 05/01/2015 03:16  
Sample wt/vol: 30.4(g) Date Analyzed: 05/01/2015 23:37  
Con. Extract Vol.: 1.0 (mL) Dilution Factor: 5  
Injection Volume: 1 (uL) GC Column: RTX-CLP2 ID: 0.53 (mm)  
% Moisture: 28.7 GPC Cleanup: (Y/N) N  
Analysis Batch No.: 140301 Units: ug/Kg

| CAS NO.    | COMPOUND NAME | RESULT | Q | RL  | MDL  |
|------------|---------------|--------|---|-----|------|
| 11097-69-1 | PCB-1254      | 38     |   | 2.9 | 0.69 |

| CAS NO.   | SURROGATE                     | %REC | Q | LIMITS |
|-----------|-------------------------------|------|---|--------|
| 2051-24-3 | DCB Decachlorobiphenyl (Surr) | 82   |   | 20-150 |
| 877-09-8  | Tetrachloro-m-xylene (Surr)   | 56   |   | 30-150 |

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501042.D  
 Lims ID: 180-43411-A-2-H Lab Sample ID: 180-43411-2  
 Client ID: F05-SD  
 Sample Type: Client  
 Inject. Date: 01-May-2015 23:37:10 ALS Bottle#: 43 Worklist Smp#: 19  
 Injection Vol: 1.0 ul Dil. Factor: 5.0000  
 Sample Info: 180-0006723-019  
 Operator ID: 402360 Instrument ID: CHGC8  
 Method: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 04-May-2015 13:11:04 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B  
 Process Host: XAWRK001

First Level Reviewer: guptaa Date: 04-May-2015 09:32:23

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|-----------------|-------|

\$ 1 Tetrachloro-m-xylene

|   |       |       |        |          |          |  |
|---|-------|-------|--------|----------|----------|--|
| 1 | 3.102 | 3.102 | 0.000  | 5140777H | 0.002308 |  |
| 2 | 3.569 | 3.571 | -0.002 | 8466009H | 0.002236 |  |

RPD = 3.17

2 PCB-1221

|   |       |  |  |    |  |  |
|---|-------|--|--|----|--|--|
| 1 | 3.236 |  |  | ND |  |  |
| 1 | 3.365 |  |  |    |  |  |
| 1 | 3.401 |  |  |    |  |  |
| 2 | 3.859 |  |  |    |  |  |
| 2 | 4.015 |  |  |    |  |  |
| 2 | 4.086 |  |  |    |  |  |

5 PCB-1232

|   |       |  |  |    |  |   |
|---|-------|--|--|----|--|---|
| 1 | 3.237 |  |  | ND |  | M |
| 1 | 3.914 |  |  |    |  |   |
| 1 | 4.600 |  |  |    |  |   |
| 1 | 5.353 |  |  |    |  |   |
| 1 | 6.143 |  |  |    |  |   |
| 2 | 3.860 |  |  |    |  |   |
| 2 | 4.016 |  |  |    |  |   |
| 2 | 4.905 |  |  |    |  |   |
| 2 | 5.555 |  |  |    |  |   |
| 2 | 6.346 |  |  |    |  |   |

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501042.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|-----------------|-------|

## 4 PCB-1016

|   |       |  |  |  |    |  |
|---|-------|--|--|--|----|--|
| 1 | 3.407 |  |  |  | ND |  |
| 1 | 3.736 |  |  |  |    |  |
| 1 | 4.364 |  |  |  |    |  |
| 1 | 4.436 |  |  |  |    |  |
| 1 | 4.850 |  |  |  |    |  |
| 2 | 5.402 |  |  |  |    |  |
| 2 | 5.560 |  |  |  |    |  |
| 2 | 6.141 |  |  |  |    |  |
| 2 | 6.878 |  |  |  |    |  |
| 2 | 7.231 |  |  |  |    |  |

## 6 PCB-1248

|   |       |  |  |  |    |   |
|---|-------|--|--|--|----|---|
| 1 | 4.213 |  |  |  | ND | M |
| 1 | 4.433 |  |  |  |    |   |
| 1 | 5.298 |  |  |  |    |   |
| 1 | 5.689 |  |  |  |    |   |
| 1 | 6.361 |  |  |  |    |   |
| 2 | 6.349 |  |  |  |    |   |
| 2 | 6.688 |  |  |  |    |   |
| 2 | 7.935 |  |  |  |    |   |
| 2 | 8.176 |  |  |  |    |   |
| 2 | 9.264 |  |  |  |    |   |

## 3 PCB-1242

|   |       |  |  |  |    |   |
|---|-------|--|--|--|----|---|
| 1 | 4.360 |  |  |  | ND | M |
| 1 | 4.432 |  |  |  |    |   |
| 1 | 4.847 |  |  |  |    |   |
| 1 | 4.957 |  |  |  |    |   |
| 1 | 5.417 |  |  |  |    |   |
| 2 | 5.399 |  |  |  |    |   |
| 2 | 5.695 |  |  |  |    |   |
| 2 | 6.137 |  |  |  |    |   |
| 2 | 6.348 |  |  |  |    |   |
| 2 | 6.885 |  |  |  |    |   |

## 7 PCB-1254

|                           |       |       |        |           |        |   |
|---------------------------|-------|-------|--------|-----------|--------|---|
| 1                         | 5.358 | 5.349 | 0.009  | 6594025H  | 0.1386 | M |
| 1                         | 0.000 | 5.788 | -5.788 | 0H        | 0      |   |
| 1                         | 0.000 | 6.087 | -6.087 | 0H        | 0      |   |
| 1                         | 6.846 | 6.835 | 0.011  | 6454889H  | 0.1534 | M |
| 1                         | 7.343 | 7.330 | 0.013  | 3749737H  | 0.1754 | M |
| Average of Peak Amounts = |       |       |        |           | 0.1558 |   |
| 2                         | 0.000 | 6.134 | -6.134 | 0H        | 0      |   |
| 2                         | 0.000 | 6.796 | -6.796 | 0H        | 0      |   |
| 2                         | 7.935 | 7.931 | 0.004  | 7794060H  | 0.1338 |   |
| 2                         | 8.628 | 8.620 | 0.008  | 7361548H  | 0.1030 |   |
| 2                         | 8.959 | 8.949 | 0.010  | 12908033H | 0.2588 |   |

Average of Peak Amounts = 0.1652

RPD = 5.87

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501042.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|-----------------|-------|

## 8 PCB-1260

M

|   |        |  |  |  |    |  |
|---|--------|--|--|--|----|--|
| 1 | 6.670  |  |  |  | ND |  |
| 1 | 7.169  |  |  |  |    |  |
| 1 | 7.702  |  |  |  |    |  |
| 1 | 8.426  |  |  |  |    |  |
| 1 | 9.012  |  |  |  |    |  |
| 2 | 9.251  |  |  |  |    |  |
| 2 | 9.586  |  |  |  |    |  |
| 2 | 9.739  |  |  |  |    |  |
| 2 | 10.216 |  |  |  |    |  |
| 2 | 10.606 |  |  |  |    |  |

## 9 PCB-1262

|   |        |  |  |  |    |  |
|---|--------|--|--|--|----|--|
| 1 | 7.394  |  |  |  | ND |  |
| 1 | 8.032  |  |  |  |    |  |
| 1 | 8.500  |  |  |  |    |  |
| 1 | 10.084 |  |  |  |    |  |
| 1 | 10.497 |  |  |  |    |  |
| 2 | 9.577  |  |  |  |    |  |
| 2 | 9.825  |  |  |  |    |  |
| 2 | 10.324 |  |  |  |    |  |
| 2 | 11.725 |  |  |  |    |  |
| 2 | 11.945 |  |  |  |    |  |

## 10 PCB-1268

|   |        |  |  |  |    |  |
|---|--------|--|--|--|----|--|
| 1 | 9.560  |  |  |  | ND |  |
| 1 | 9.625  |  |  |  |    |  |
| 1 | 9.938  |  |  |  |    |  |
| 1 | 10.920 |  |  |  |    |  |
| 2 | 11.132 |  |  |  |    |  |
| 2 | 11.199 |  |  |  |    |  |
| 2 | 11.555 |  |  |  |    |  |
| 2 | 12.377 |  |  |  |    |  |

## \$ 11 DCB Decachlorobiphenyl (Surr)

|   |        |        |       |          |          |
|---|--------|--------|-------|----------|----------|
| 1 | 11.205 | 11.189 | 0.016 | 2058373H | 0.001682 |
| 2 | 12.717 | 12.713 | 0.004 | 5197319H | 0.003299 |

RPD = 64.92

## QC Flag Legend

Review Flags

M - Manually Integrated

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501042.D

Injection Date: 01-May-2015 23:37:10

Instrument ID: CHGC8

Lims ID: 180-43411-A-2-H

Lab Sample ID: 180-43411-2

Client ID: F05-SD

Operator ID: 402360

ALS Bottle#: 43

Worklist Smp#: 19

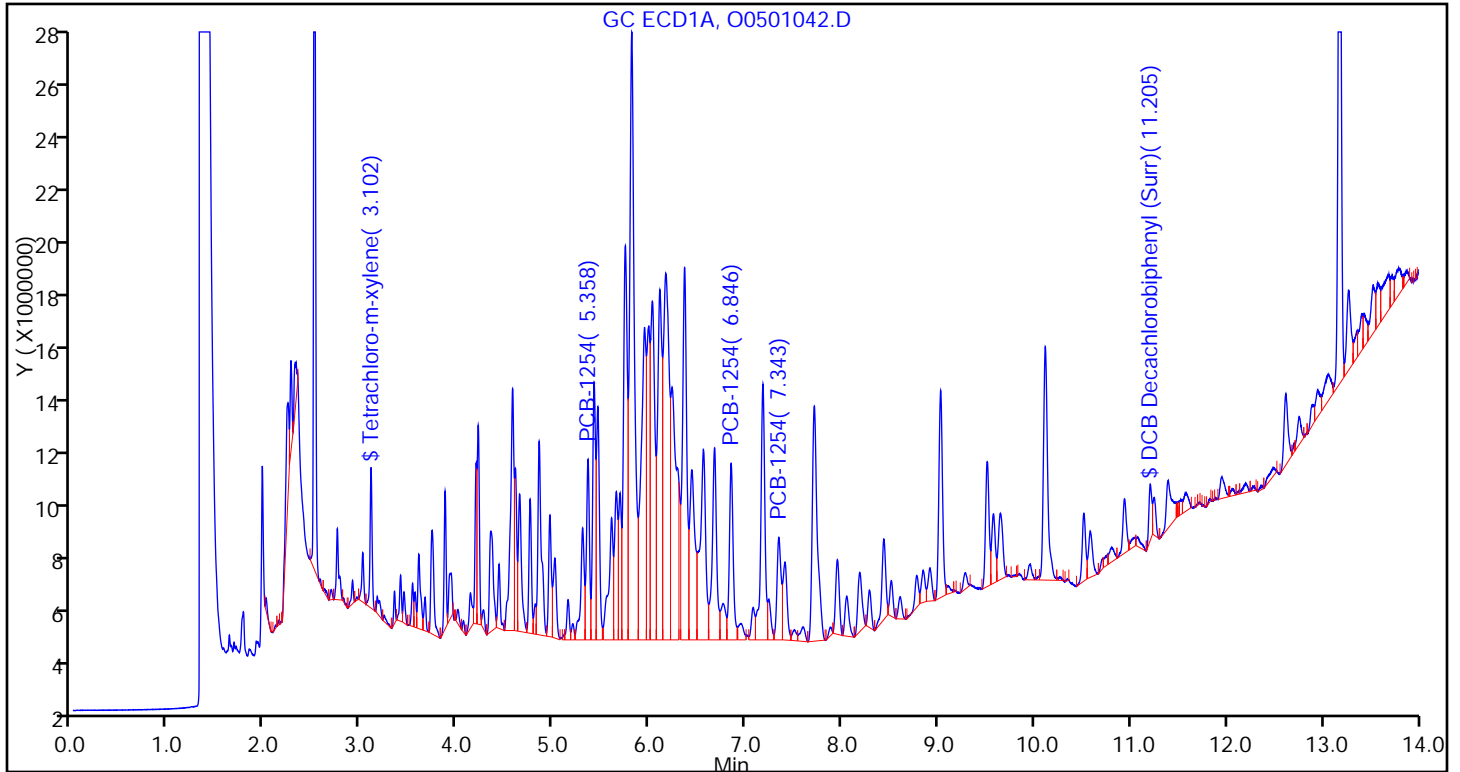
Injection Vol: 1.0 ul

Dil. Factor: 5.0000

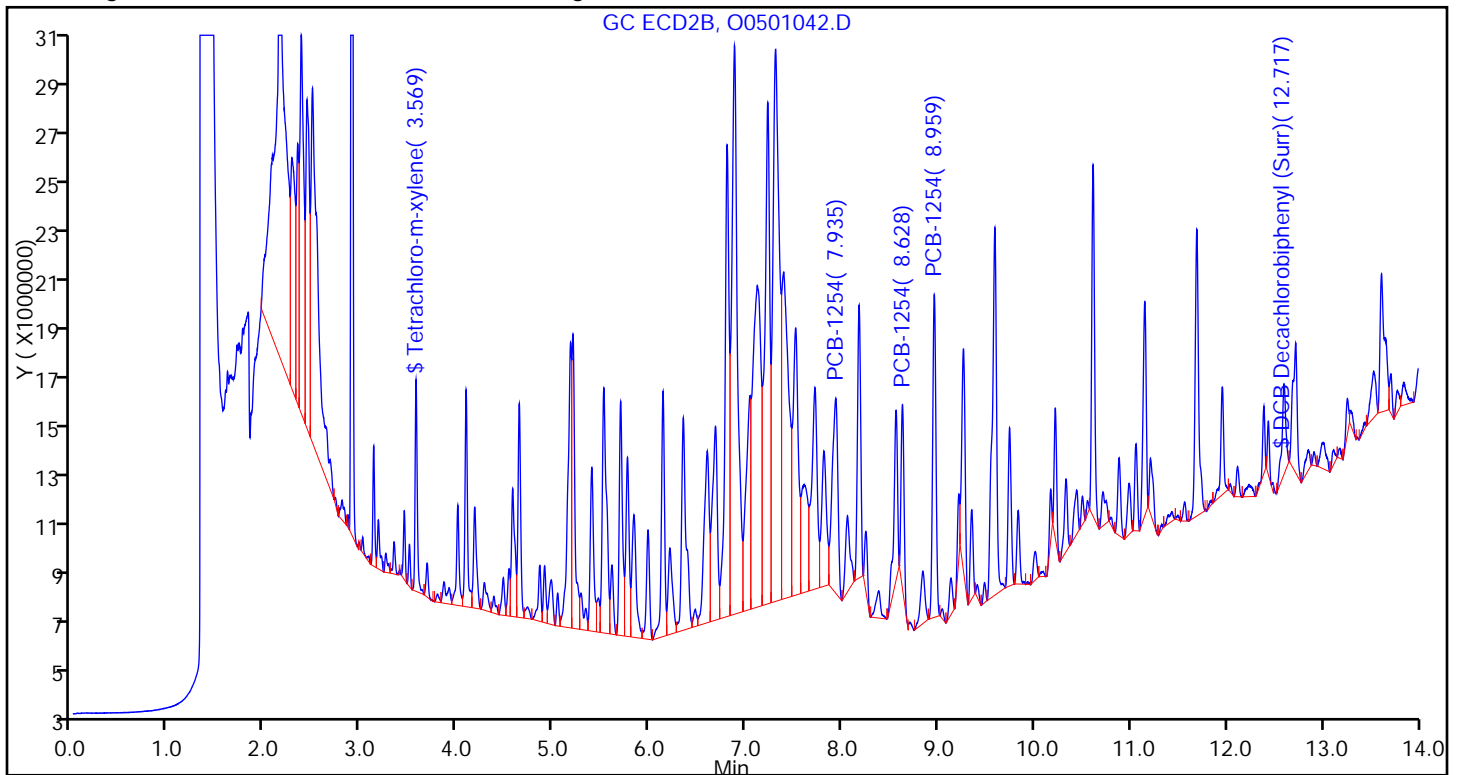
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501042.D

Injection Date: 01-May-2015 23:37:10

Instrument ID: CHGC8

Lims ID: 180-43411-A-2-H

Lab Sample ID: 180-43411-2

Client ID: F05-SD

Operator ID: 402360

ALS Bottle#: 43

Worklist Smp#: 19

Injection Vol: 1.0 ul

Dil. Factor: 5.0000

Method: PCB\_CHGC8DUAL

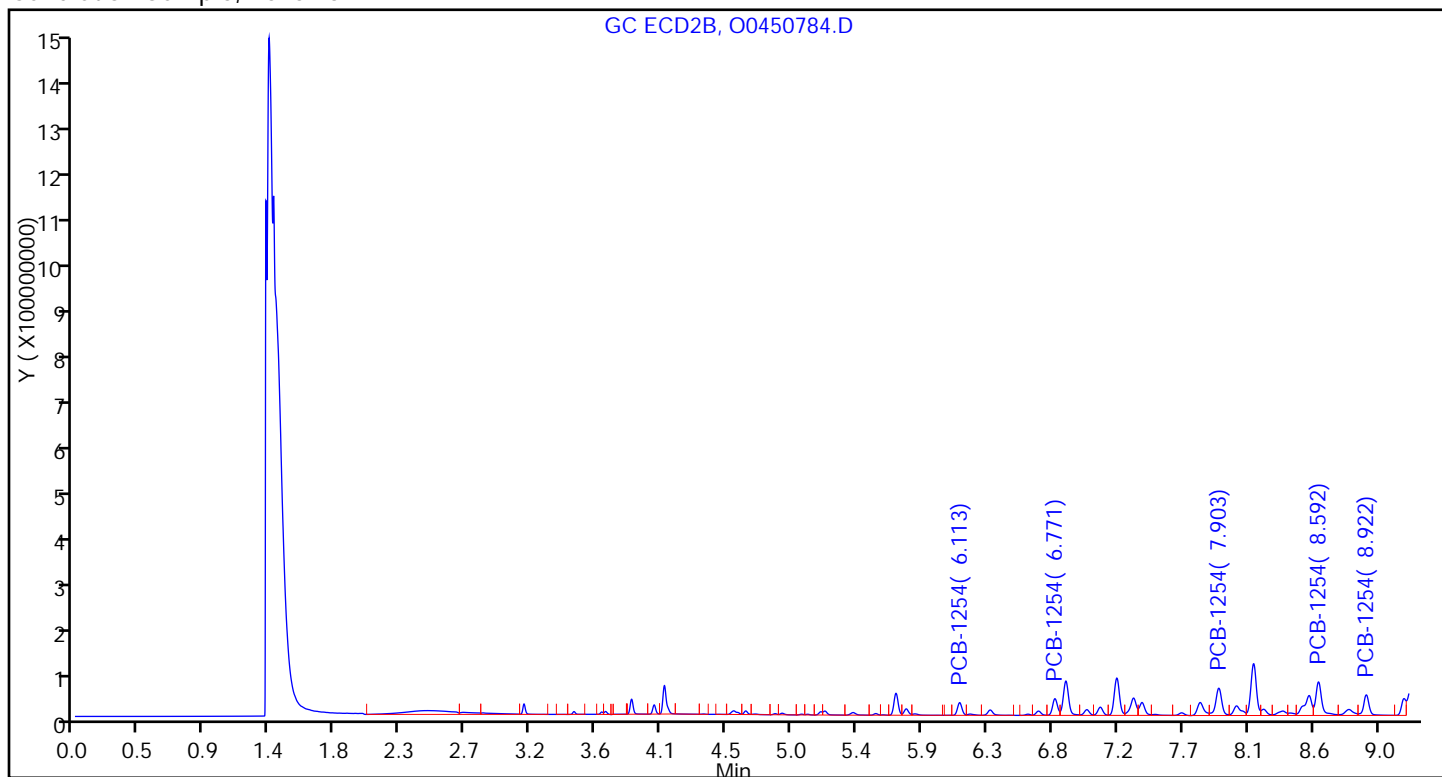
Limit Group: GCS 8082A ICAL

Column:

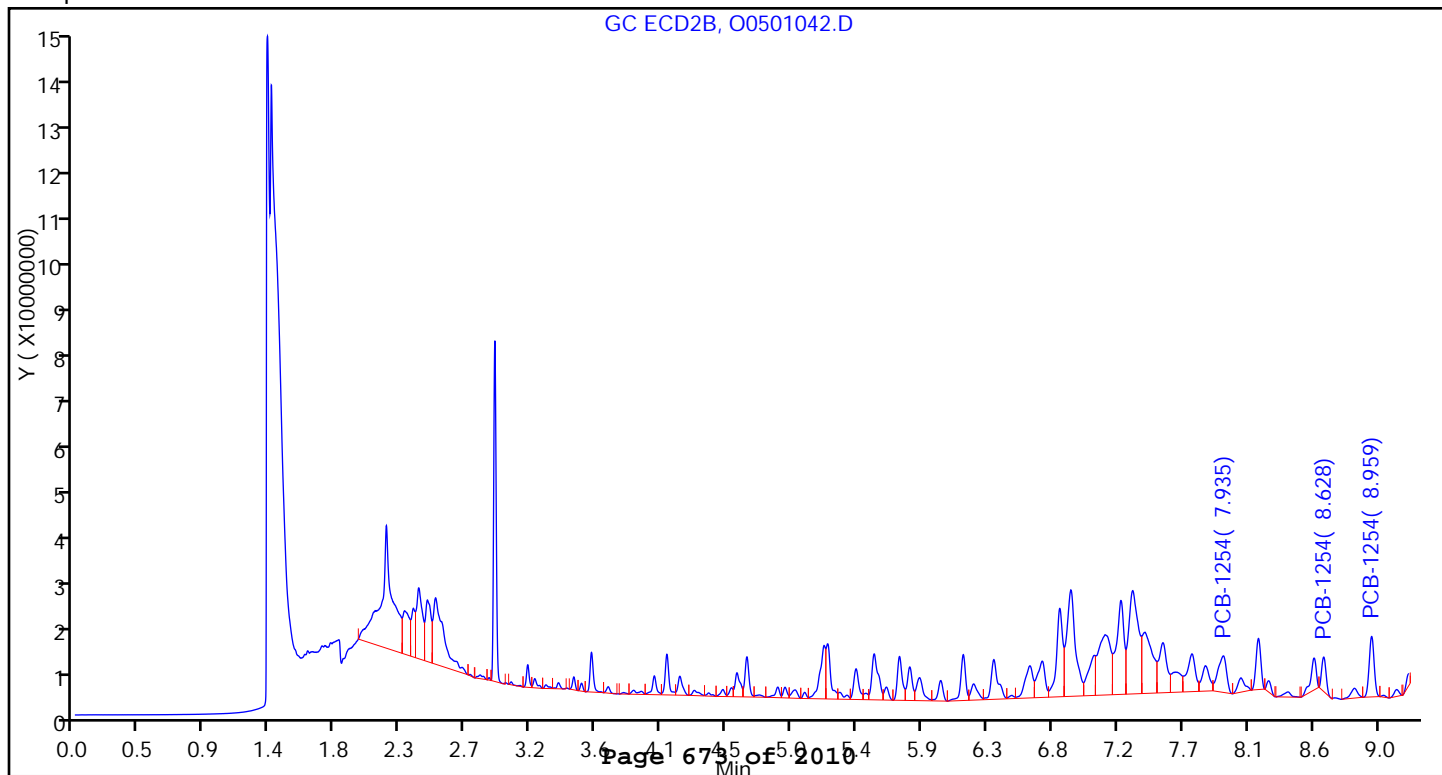
Detector: GC ECD2B

7 PCB-1254, CAS: 11097-69-1

Calibration Sample, Level: 5



Sample



FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP1 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 10:51 Calibration End Date: 04/16/2015 12:10 Calibration ID: 23372

Calibration Files:

| LEVEL:  | LAB SAMPLE ID:  | LAB FILE ID: |
|---------|-----------------|--------------|
| Level 1 | IC 180-138696/3 | 00450780.D   |
| Level 2 | IC 180-138696/4 | 00450781.D   |
| Level 3 | IC 180-138696/5 | 00450782.D   |
| Level 4 | IC 180-138696/6 | 00450783.D   |
| Level 5 | IC 180-138696/7 | 00450784.D   |

| ANALYTE         | LVL 1 | LVL 2 | LVL 3 | LVL 4 | LVL 5 |  |  |  |  |  | RT WINDOW     | AVG RT |
|-----------------|-------|-------|-------|-------|-------|--|--|--|--|--|---------------|--------|
| PCB-1221 Peak 1 | 3.236 | 3.237 | 3.236 | 3.238 | 3.238 |  |  |  |  |  | 3.188 - 3.288 | 3.237  |
| PCB-1221 Peak 2 | 3.341 | 3.366 | 3.365 | 3.366 | 3.367 |  |  |  |  |  | 3.316 - 3.416 | 3.361  |
| PCB-1221 Peak 3 | 3.402 | 3.403 | 3.403 | 3.403 | 3.404 |  |  |  |  |  | 3.353 - 3.453 | 3.403  |
| PCB-1254 Peak 1 | 5.351 | 5.351 | 5.350 | 5.352 | 5.352 |  |  |  |  |  | 5.282 - 5.422 | 5.351  |
| PCB-1254 Peak 2 | 5.786 | 5.788 | 5.786 | 5.788 | 5.789 |  |  |  |  |  | 5.718 - 5.858 | 5.787  |
| PCB-1254 Peak 3 | 6.086 | 6.089 | 6.087 | 6.089 | 6.090 |  |  |  |  |  | 6.019 - 6.159 | 6.088  |
| PCB-1254 Peak 4 | 6.831 | 6.835 | 6.832 | 6.833 | 6.835 |  |  |  |  |  | 6.763 - 6.903 | 6.833  |
| PCB-1254 Peak 5 | 7.327 | 7.329 | 7.325 | 7.328 | 7.329 |  |  |  |  |  | 7.258 - 7.398 | 7.328  |



FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP1 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 10:51 Calibration End Date: 04/16/2015 12:10 Calibration ID: 23372

Calibration Files:

|         |                 |              |
|---------|-----------------|--------------|
| LEVEL:  | LAB SAMPLE ID:  | LAB FILE ID: |
| Level 1 | IC 180-138696/3 | 00450780.D   |
| Level 2 | IC 180-138696/4 | 00450781.D   |
| Level 3 | IC 180-138696/5 | 00450782.D   |
| Level 4 | IC 180-138696/6 | 00450783.D   |
| Level 5 | IC 180-138696/7 | 00450784.D   |

| ANALYTE         | CF                   |          |          |          | CURVE<br>TYPE | COEFFICIENT |            |    | # | MIN CF | %RSD | # | MAX<br>%RSD | R^2<br>OR COD | # | MIN R^2<br>OR COD |
|-----------------|----------------------|----------|----------|----------|---------------|-------------|------------|----|---|--------|------|---|-------------|---------------|---|-------------------|
|                 | LVL 1<br>LVL 5       | LVL 2    | LVL 3    | LVL 4    |               | B           | M1         | M2 |   |        |      |   |             |               |   |                   |
| PCB-1221 Peak 1 | 17537600<br>21944567 | 19071860 | 25360104 | 20940762 | Ave           |             | 20970978.6 |    |   |        | 14.2 |   | 20.0        |               |   |                   |
| PCB-1221 Peak 2 | 16431400<br>13564691 | 12522540 | 14673944 | 13120254 | Ave           |             | 14062565.8 |    |   |        | 11.0 |   | 20.0        |               |   |                   |
| PCB-1221 Peak 3 | 42244700<br>48322303 | 44488560 | 56529080 | 46980102 | Ave           |             | 47712949.0 |    |   |        | 11.4 |   | 20.0        |               |   |                   |
| PCB-1254 Peak 1 | 40686600<br>49229189 | 42752610 | 56466828 | 48732732 | Ave           |             | 47573591.8 |    |   |        | 13.0 |   | 20.0        |               |   |                   |
| PCB-1254 Peak 2 | 22194000<br>25614924 | 21822080 | 28804616 | 24880714 | Ave           |             | 24663266.8 |    |   |        | 11.5 |   | 20.0        |               |   |                   |
| PCB-1254 Peak 3 | 15683400<br>21900924 | 17818320 | 24442368 | 20999342 | Ave           |             | 20168870.8 |    |   |        | 17.1 |   | 20.0        |               |   |                   |
| PCB-1254 Peak 4 | 33775200<br>47066188 | 35292160 | 49826336 | 44485090 | Ave           |             | 42088994.8 |    |   |        | 17.0 |   | 20.0        |               |   |                   |
| PCB-1254 Peak 5 | 17965700<br>24619535 | 16878580 | 24963288 | 22459224 | Ave           |             | 21377265.4 |    |   |        | 17.6 |   | 20.0        |               |   |                   |

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP1 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 10:51 Calibration End Date: 04/16/2015 12:10 Calibration ID: 23372

Calibration Files:

| LEVEL:  | LAB SAMPLE ID:  | LAB FILE ID: |
|---------|-----------------|--------------|
| Level 1 | IC 180-138696/3 | 00450780.D   |
| Level 2 | IC 180-138696/4 | 00450781.D   |
| Level 3 | IC 180-138696/5 | 00450782.D   |
| Level 4 | IC 180-138696/6 | 00450783.D   |
| Level 5 | IC 180-138696/7 | 00450784.D   |

| ANALYTE         | CURVE<br>TYPE | RESPONSE |         |          |          |          | CONCENTRATION (NG) |       |       |       |       |
|-----------------|---------------|----------|---------|----------|----------|----------|--------------------|-------|-------|-------|-------|
|                 |               | LVL 1    | LVL 2   | LVL 3    | LVL 4    | LVL 5    | LVL 1              | LVL 2 | LVL 3 | LVL 4 | LVL 5 |
| PCB-1221 Peak 1 | Ave           | 175376   | 1907186 | 6340026  | 10470381 | 21944567 | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1221 Peak 2 | Ave           | 164314   | 1252254 | 3668486  | 6560127  | 13564691 | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1221 Peak 3 | Ave           | 422447   | 4448856 | 14132270 | 23490051 | 48322303 | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1254 Peak 1 | Ave           | 406866   | 4275261 | 14116707 | 24366366 | 49229189 | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1254 Peak 2 | Ave           | 221940   | 2182208 | 7201154  | 12440357 | 25614924 | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1254 Peak 3 | Ave           | 156834   | 1781832 | 6110592  | 10499671 | 21900924 | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1254 Peak 4 | Ave           | 337752   | 3529216 | 12456584 | 22242545 | 47066188 | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1254 Peak 5 | Ave           | 179657   | 1687858 | 6240822  | 11229612 | 24619535 | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |

Curve Type Legend:

Ave = Average by Height

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450780.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 1  
 Inject. Date: 16-Apr-2015 10:51:29 ALS Bottle#: 3 Worklist Smp#: 3  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-003  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub2  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:18:32 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D  
 Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B  
 Process Host: XAWRK020

First Level Reviewer: guptaa

Date: 17-Apr-2015 07:20:02

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

2 PCB-1221 M

|   |       |       |        |         |        |          |   |
|---|-------|-------|--------|---------|--------|----------|---|
| 1 | 3.236 | 3.238 | -0.002 | 175376H | 0.0100 | 0.008363 |   |
| 1 | 3.341 | 3.366 | -0.025 | 164314H | 0.0100 | 0.0117   | M |
| 1 | 3.402 | 3.403 | -0.001 | 422447H | 0.0100 | 0.008854 | M |

Average of Peak Amounts = 0.009634

|   |       |       |        |         |        |          |   |
|---|-------|-------|--------|---------|--------|----------|---|
| 2 | 3.847 | 3.848 | -0.001 | 286977H | 0.0100 | 0.008592 | M |
| 2 | 4.004 | 4.003 | 0.001  | 191541H | 0.0100 | 0.009078 |   |
| 2 | 4.072 | 4.073 | -0.001 | 645066H | 0.0100 | 0.009613 |   |

Average of Peak Amounts = 0.009094

RPD = 5.76

7 PCB-1254 M

|   |       |       |        |         |        |          |   |
|---|-------|-------|--------|---------|--------|----------|---|
| 1 | 5.351 | 5.352 | -0.001 | 406866H | 0.0100 | 0.008552 | M |
| 1 | 5.786 | 5.788 | -0.002 | 221940H | 0.0100 | 0.008999 | M |
| 1 | 6.086 | 6.089 | -0.003 | 156834H | 0.0100 | 0.007776 | M |
| 1 | 6.831 | 6.833 | -0.002 | 337752H | 0.0100 | 0.008025 | M |
| 1 | 7.327 | 7.328 | -0.001 | 179657H | 0.0100 | 0.008404 | M |

Average of Peak Amounts = 0.008351

|   |       |       |        |         |        |          |   |
|---|-------|-------|--------|---------|--------|----------|---|
| 2 | 6.110 | 6.113 | -0.003 | 279778H | 0.0100 | 0.009869 | M |
| 2 | 6.769 | 6.772 | -0.003 | 326638H | 0.0100 | 0.009295 | M |
| 2 | 7.901 | 7.903 | -0.002 | 532050H | 0.0100 | 0.009135 | M |
| 2 | 8.589 | 8.591 | -0.002 | 660038H | 0.0100 | 0.009235 | M |
| 2 | 8.922 | 8.923 | -0.001 | 516474H | 0.0100 | 0.0104   | M |

Average of Peak Amounts = 0.009578

RPD = 13.68

## QC Flag Legend

Review Flags

M - Manually Integrated

## Reagents:

GCAR2154CALL1\_00011

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450780.D

Injection Date: 16-Apr-2015 10:51:29

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 3

Worklist Smp#: 3

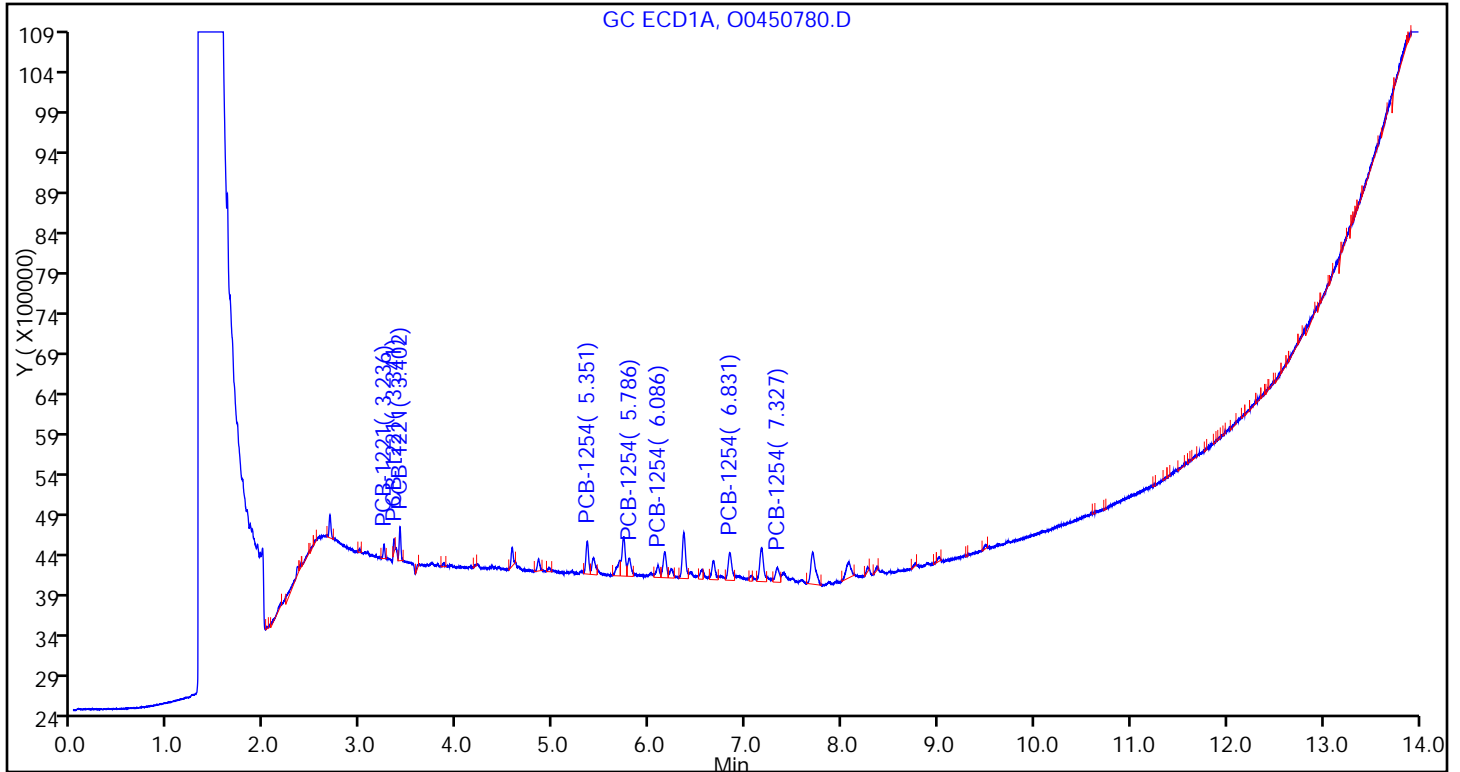
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

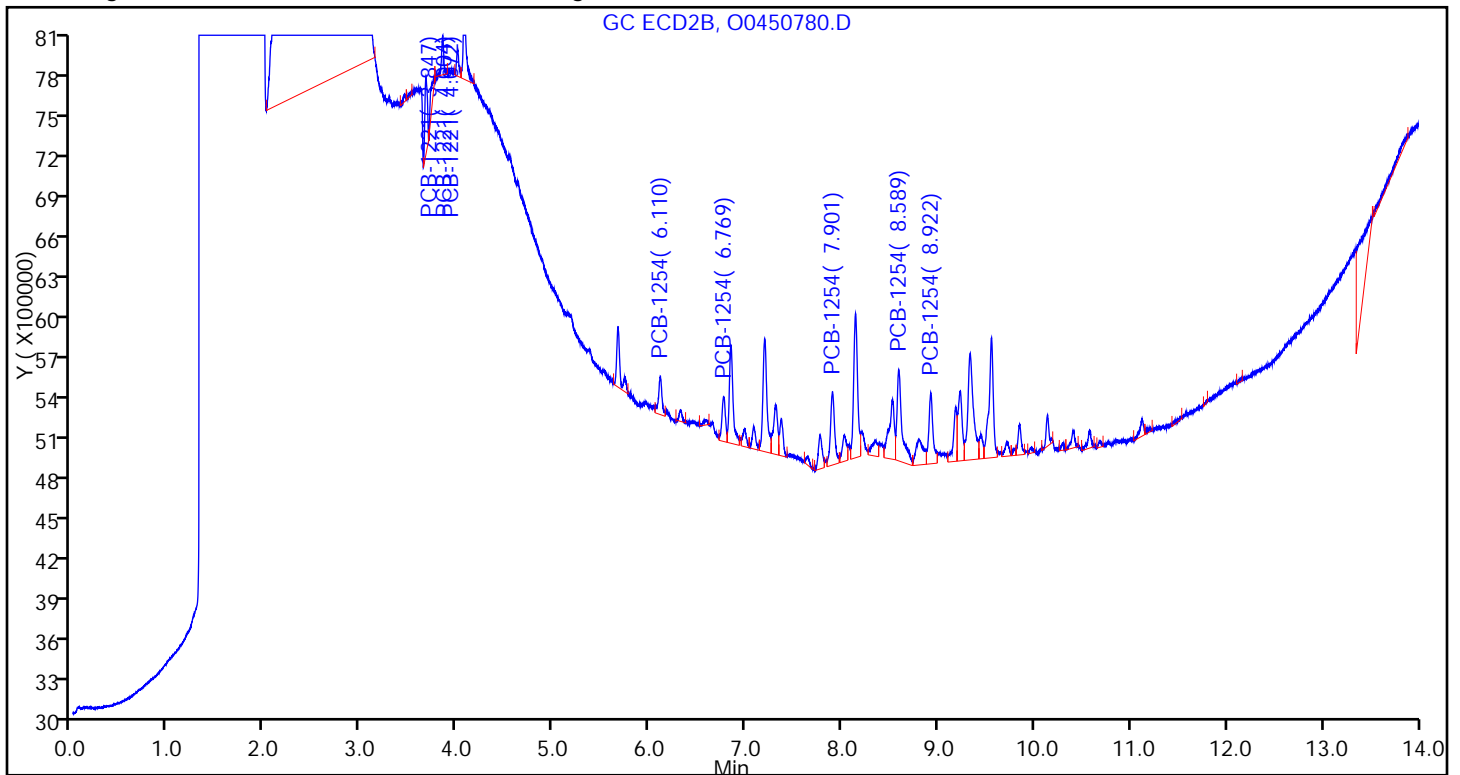
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450780.D

Injection Date: 16-Apr-2015 10:51:29

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 3

Worklist Smp#: 3

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

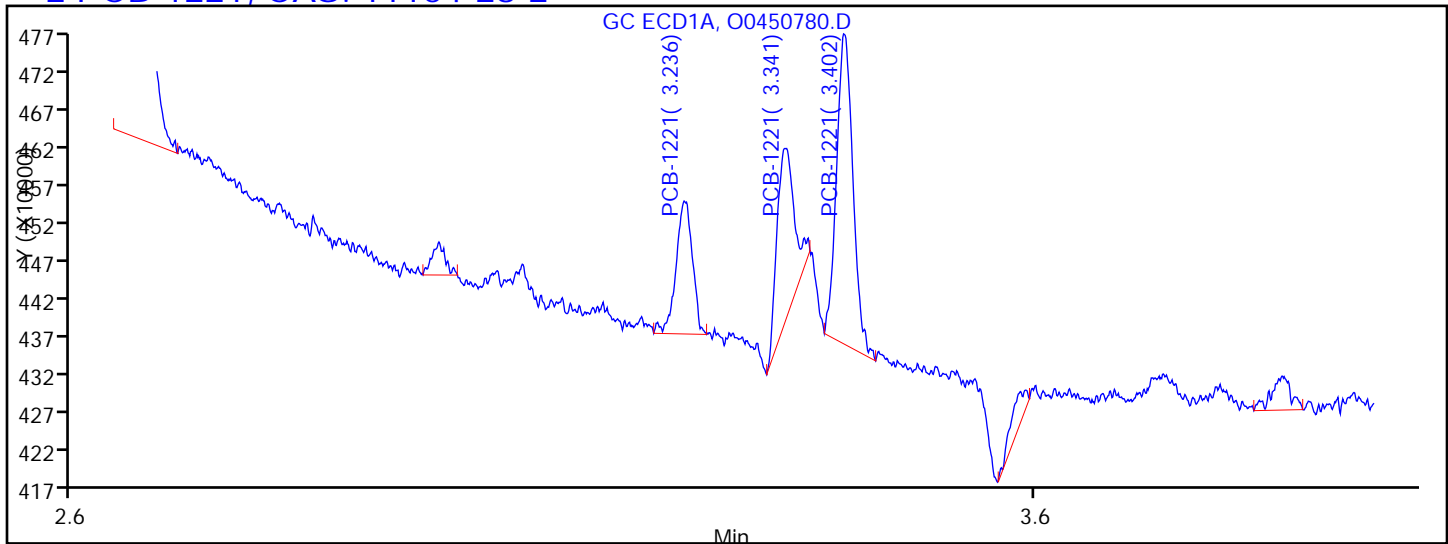
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Column:

Detector GC ECD1A

## 2 PCB-1221, CAS: 11104-28-2



## Processing Integration Results

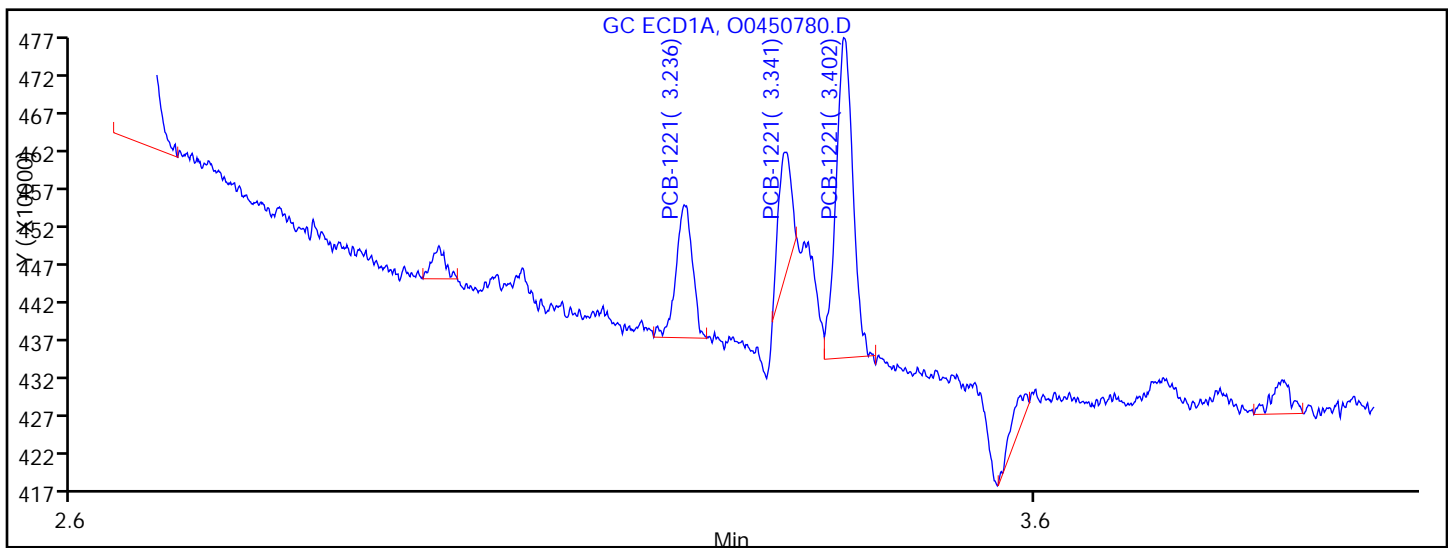
RT = 3.236 Response = 175376

RT = 3.341 Response = 228963

RT = 3.402 Response = 408848

M

M



## Manual Integration Results

RT = 3.236 Response = 175376

RT = 3.341 Response = 164314

RT = 3.402 Response = 422447

M

M

Reviewer: guptaa, 17-Apr-2015 07:20:02

Audit Action: Assigned New Baseline

Audit Reason: Instrument noise

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450780.D

Injection Date: 16-Apr-2015 10:51:29

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 3

Worklist Smp#: 3

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

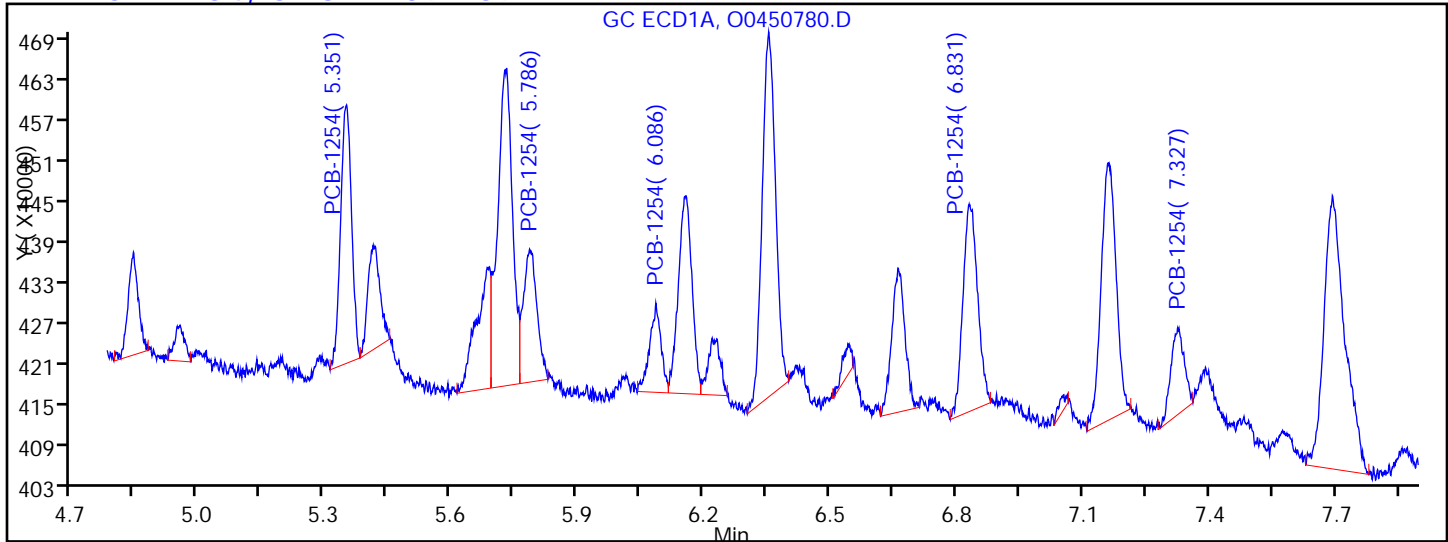
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Column:

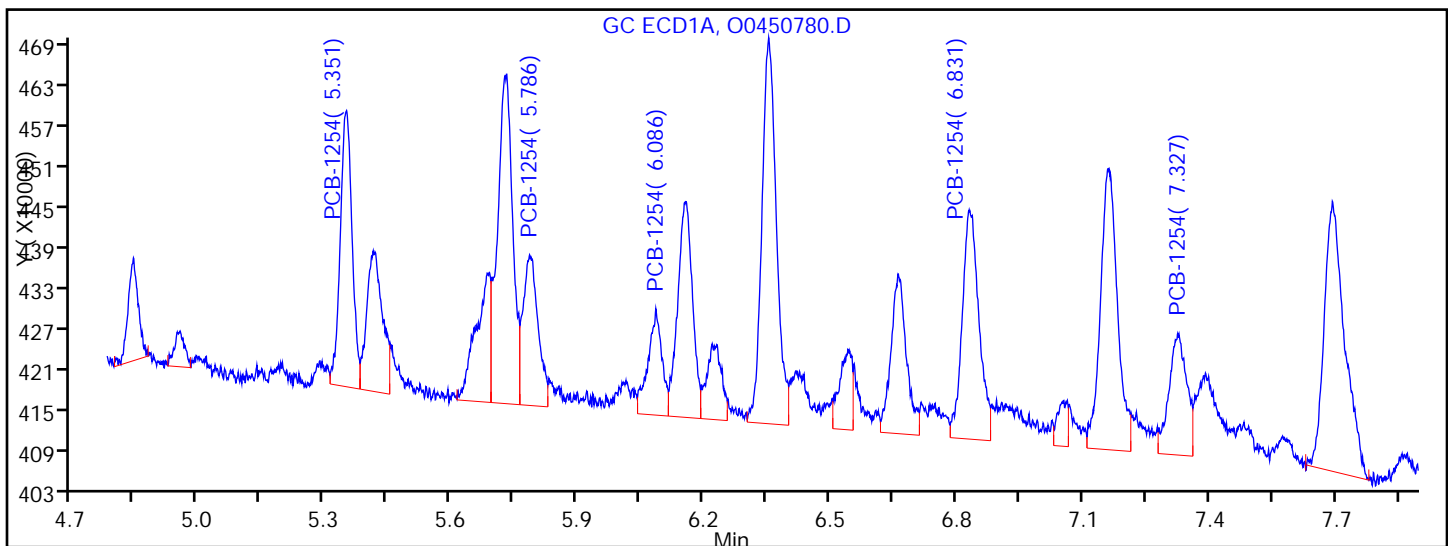
Detector GC ECD1A

## 7 PCB-1254, CAS: 11097-69-1



## Processing Integration Results

|            |                   |   |
|------------|-------------------|---|
| RT = 5.351 | Response = 380658 | M |
| RT = 5.786 | Response = 195972 | M |
| RT = 6.086 | Response = 131674 | M |
| RT = 6.831 | Response = 305709 | M |
| RT = 7.327 | Response = 128437 | M |



## Manual Integration Results

|            |                   |   |
|------------|-------------------|---|
| RT = 5.351 | Response = 406866 | M |
| RT = 5.786 | Response = 221940 | M |
| RT = 6.086 | Response = 156834 | M |
| RT = 6.831 | Response = 337752 | M |
| RT = 7.327 | Response = 179657 | M |

Reviewer: guptaa, 17-Apr-2015 07:22:37

Audit Action: Assigned New Baseline

Audit Reason: Instrument noise

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450781.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 2  
 Inject. Date: 16-Apr-2015 11:11:21 ALS Bottle#: 4 Worklist Smp#: 4  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-004  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub2  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:18:35 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D  
 Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B  
 Process Host: XAWRK020

First Level Reviewer: guptaa

Date: 17-Apr-2015 07:22:54

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 2 PCB-1221

|   |       |       |        |          |        |        |  |
|---|-------|-------|--------|----------|--------|--------|--|
| 1 | 3.237 | 3.238 | -0.001 | 1907186H | 0.1000 | 0.0909 |  |
| 1 | 3.366 | 3.366 | 0.000  | 1252254H | 0.1000 | 0.0890 |  |
| 1 | 3.403 | 3.403 | 0.000  | 4448856H | 0.1000 | 0.0932 |  |

Average of Peak Amounts = 0.0911

|   |       |       |        |          |        |        |  |
|---|-------|-------|--------|----------|--------|--------|--|
| 2 | 3.845 | 3.848 | -0.003 | 3161562H | 0.1000 | 0.0947 |  |
| 2 | 4.001 | 4.003 | -0.002 | 1903289H | 0.1000 | 0.0902 |  |
| 2 | 4.072 | 4.073 | -0.001 | 6299083H | 0.1000 | 0.0939 |  |

Average of Peak Amounts = 0.0929

RPD = 1.99

## 7 PCB-1254

|   |       |       |        |          |        |        |   |
|---|-------|-------|--------|----------|--------|--------|---|
| 1 | 5.351 | 5.352 | -0.001 | 4275261H | 0.1000 | 0.0899 | M |
| 1 | 5.788 | 5.788 | 0.000  | 2182208H | 0.1000 | 0.0885 | M |
| 1 | 6.089 | 6.089 | 0.000  | 1781832H | 0.1000 | 0.0883 | M |
| 1 | 6.835 | 6.833 | 0.002  | 3529216H | 0.1000 | 0.0839 | M |
| 1 | 7.329 | 7.328 | 0.001  | 1687858H | 0.1000 | 0.0790 | M |

Average of Peak Amounts = 0.0859

|   |       |       |        |          |        |        |   |
|---|-------|-------|--------|----------|--------|--------|---|
| 2 | 6.112 | 6.113 | -0.001 | 2536713H | 0.1000 | 0.0895 | M |
| 2 | 6.771 | 6.772 | -0.001 | 3038460H | 0.1000 | 0.0865 | M |
| 2 | 7.901 | 7.903 | -0.002 | 5146016H | 0.1000 | 0.0884 | M |
| 2 | 8.590 | 8.591 | -0.001 | 6198951H | 0.1000 | 0.0867 | M |
| 2 | 8.921 | 8.923 | -0.002 | 4463976H | 0.1000 | 0.0895 | M |

Average of Peak Amounts = 0.0881

RPD = 2.54



## QC Flag Legend

Review Flags

M - Manually Integrated

## Reagents:

GCAR2154CALL2\_00008

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450781.D

Injection Date: 16-Apr-2015 11:11:21

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 4

Worklist Smp#: 4

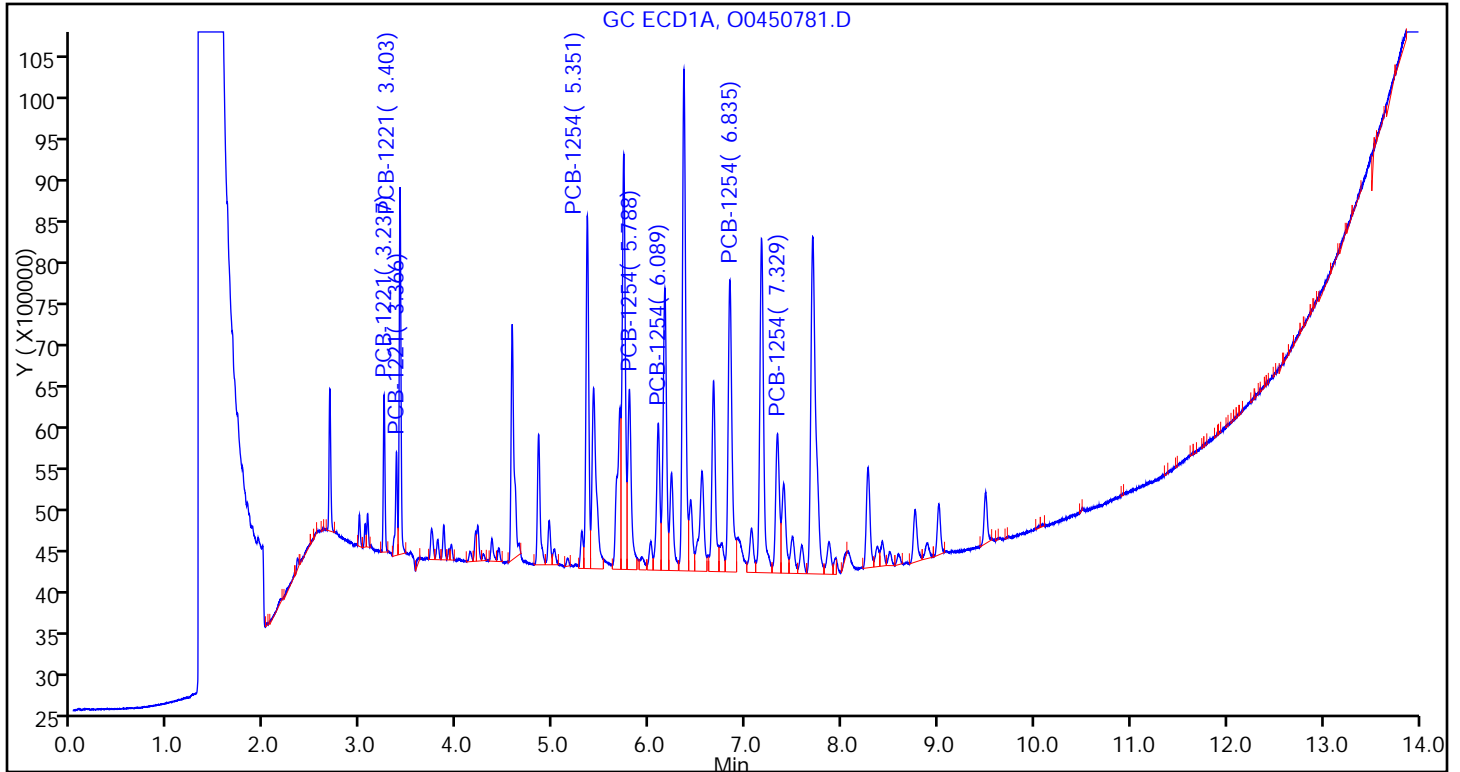
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

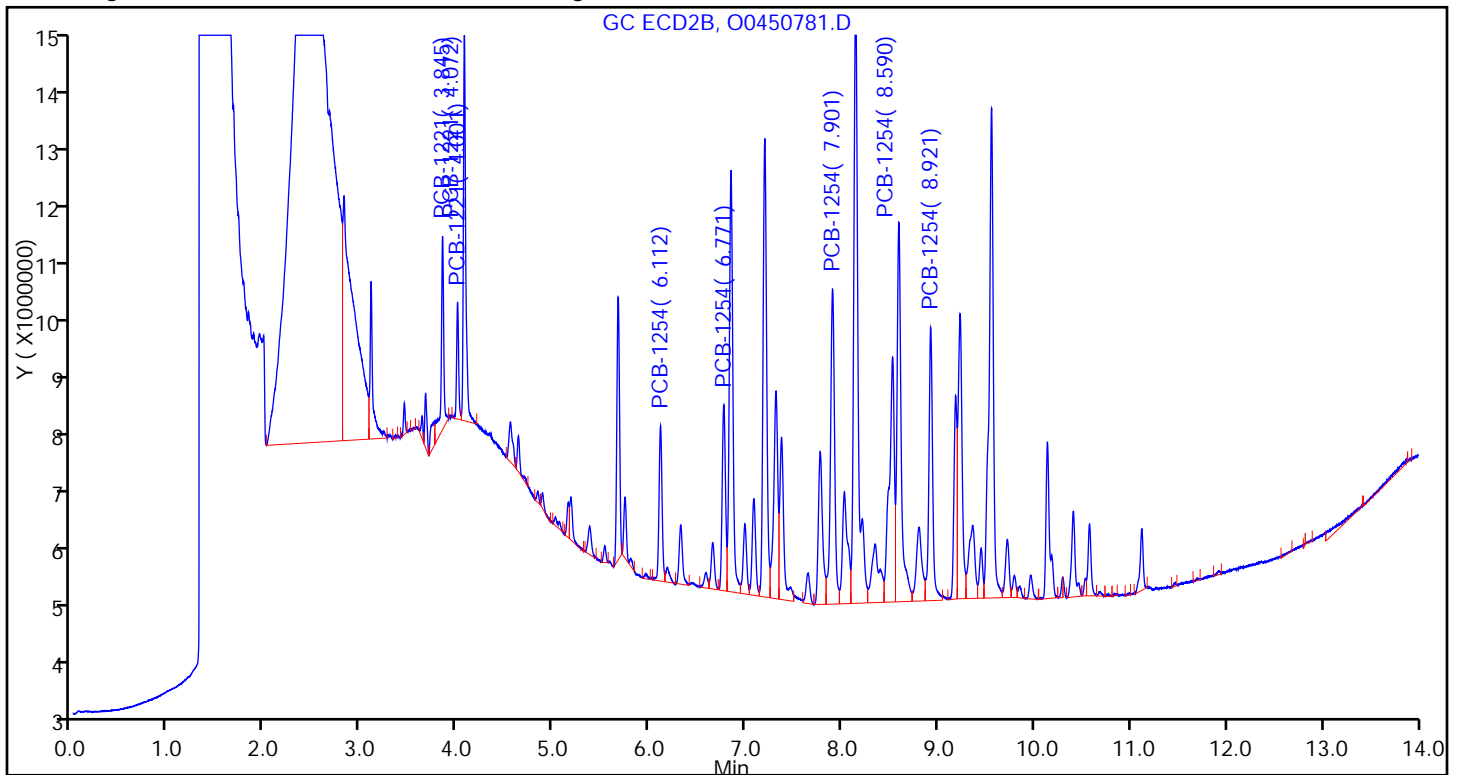
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450781.D

Injection Date: 16-Apr-2015 11:11:21

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 4

Worklist Smp#: 4

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

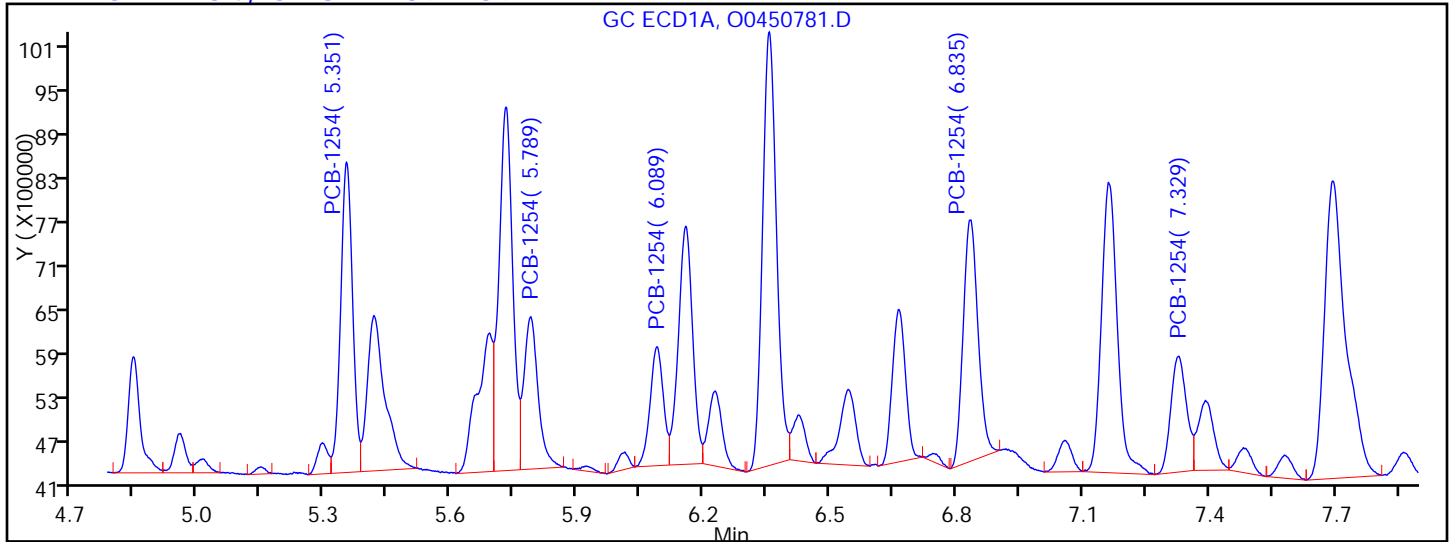
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Column:

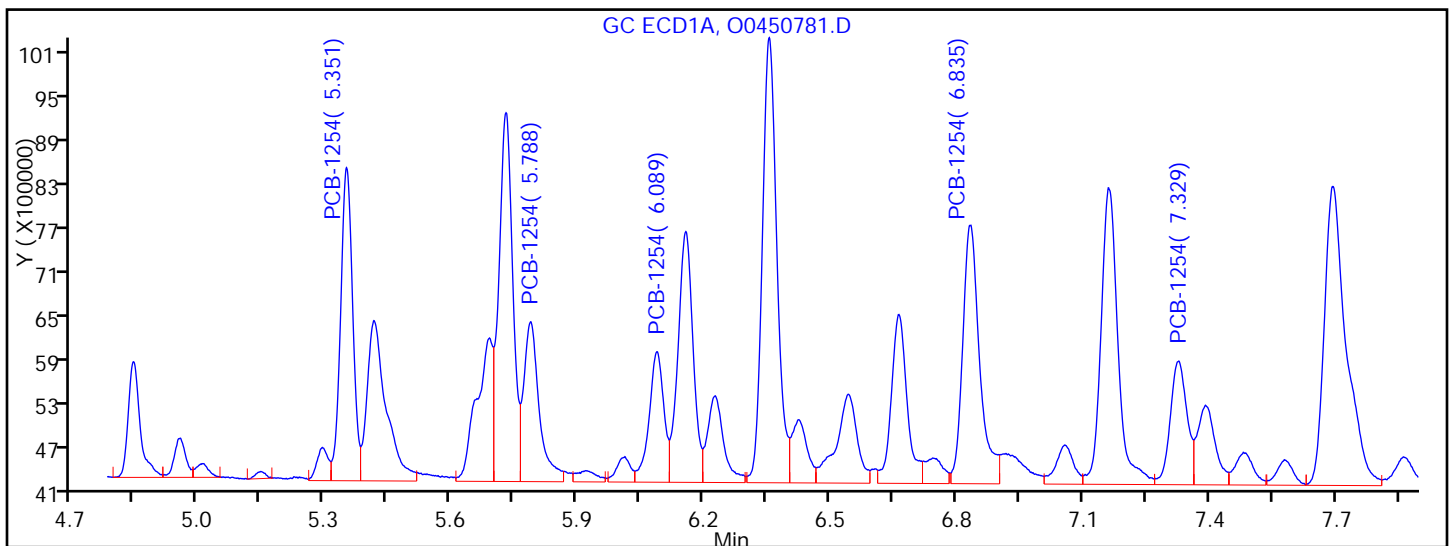
Detector GC ECD1A

## 7 PCB-1254, CAS: 11097-69-1



## Processing Integration Results

|            |                    |   |
|------------|--------------------|---|
| RT = 5.351 | Response = 4224618 | M |
| RT = 5.789 | Response = 2073183 | M |
| RT = 6.089 | Response = 1618432 | M |
| RT = 6.835 | Response = 3283520 | M |
| RT = 7.329 | Response = 1576826 | M |



## Manual Integration Results

|            |                    |   |
|------------|--------------------|---|
| RT = 5.351 | Response = 4275261 | M |
| RT = 5.788 | Response = 2182208 | M |
| RT = 6.089 | Response = 1781832 | M |
| RT = 6.835 | Response = 3529216 | M |
| RT = 7.329 | Response = 1687858 | M |

Reviewer: guptaa, 17-Apr-2015 07:22:54

Audit Action: Assigned New Baseline

Audit Reason: Instrument noise

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450782.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 3  
 Inject. Date: 16-Apr-2015 11:31:06 ALS Bottle#: 5 Worklist Smp#: 5  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-005  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub2  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:18:37 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D  
 Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B  
 Process Host: XAWRK020

First Level Reviewer: guptaa

Date: 17-Apr-2015 07:34:38

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 2 PCB-1221

M

|   |       |       |        |           |        |        |   |
|---|-------|-------|--------|-----------|--------|--------|---|
| 1 | 3.236 | 3.238 | -0.002 | 6340026H  | 0.2500 | 0.3023 |   |
| 1 | 3.365 | 3.366 | -0.001 | 3668486H  | 0.2500 | 0.2609 | M |
| 1 | 3.403 | 3.403 | 0.000  | 14132270H | 0.2500 | 0.2962 | M |

Average of Peak Amounts = 0.2865

|   |       |       |        |           |        |        |  |
|---|-------|-------|--------|-----------|--------|--------|--|
| 2 | 3.845 | 3.848 | -0.003 | 10200030H | 0.2500 | 0.3054 |  |
| 2 | 4.001 | 4.003 | -0.002 | 6531420H  | 0.2500 | 0.3096 |  |
| 2 | 4.072 | 4.073 | -0.001 | 20090386H | 0.2500 | 0.2994 |  |

Average of Peak Amounts = 0.3048

RPD = 6.19

## 7 PCB-1254

|   |       |       |        |           |        |        |  |
|---|-------|-------|--------|-----------|--------|--------|--|
| 1 | 5.350 | 5.352 | -0.002 | 14116707H | 0.2500 | 0.2967 |  |
| 1 | 5.786 | 5.788 | -0.002 | 7201154H  | 0.2500 | 0.2920 |  |
| 1 | 6.087 | 6.089 | -0.002 | 6110592H  | 0.2500 | 0.3030 |  |
| 1 | 6.832 | 6.833 | -0.001 | 12456584H | 0.2500 | 0.2960 |  |
| 1 | 7.325 | 7.328 | -0.003 | 6240822H  | 0.2500 | 0.2919 |  |

Average of Peak Amounts = 0.2959

|   |       |       |        |           |        |        |  |
|---|-------|-------|--------|-----------|--------|--------|--|
| 2 | 6.111 | 6.113 | -0.002 | 8226862H  | 0.2500 | 0.2902 |  |
| 2 | 6.769 | 6.772 | -0.003 | 10189513H | 0.2500 | 0.2899 |  |
| 2 | 7.900 | 7.903 | -0.003 | 16929824H | 0.2500 | 0.2907 |  |
| 2 | 8.590 | 8.591 | -0.001 | 20771526H | 0.2500 | 0.2906 |  |
| 2 | 8.922 | 8.923 | -0.001 | 14703564H | 0.2500 | 0.2948 |  |

Average of Peak Amounts = 0.2913

RPD = 1.59

## QC Flag Legend

Review Flags

M - Manually Integrated

## Reagents:

GCAR2154CALL3\_00008

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450782.D

Injection Date: 16-Apr-2015 11:31:06

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 5

Worklist Smp#: 5

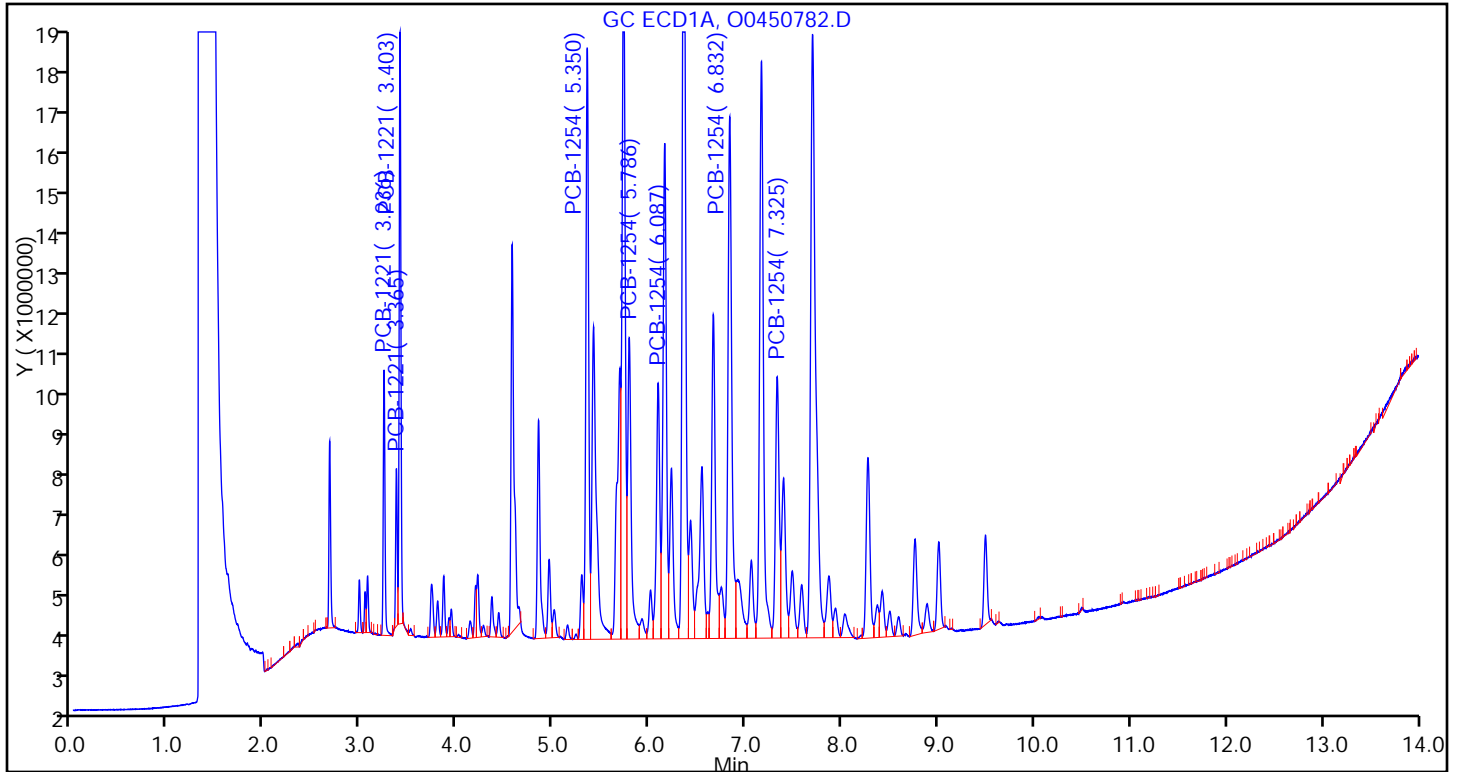
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

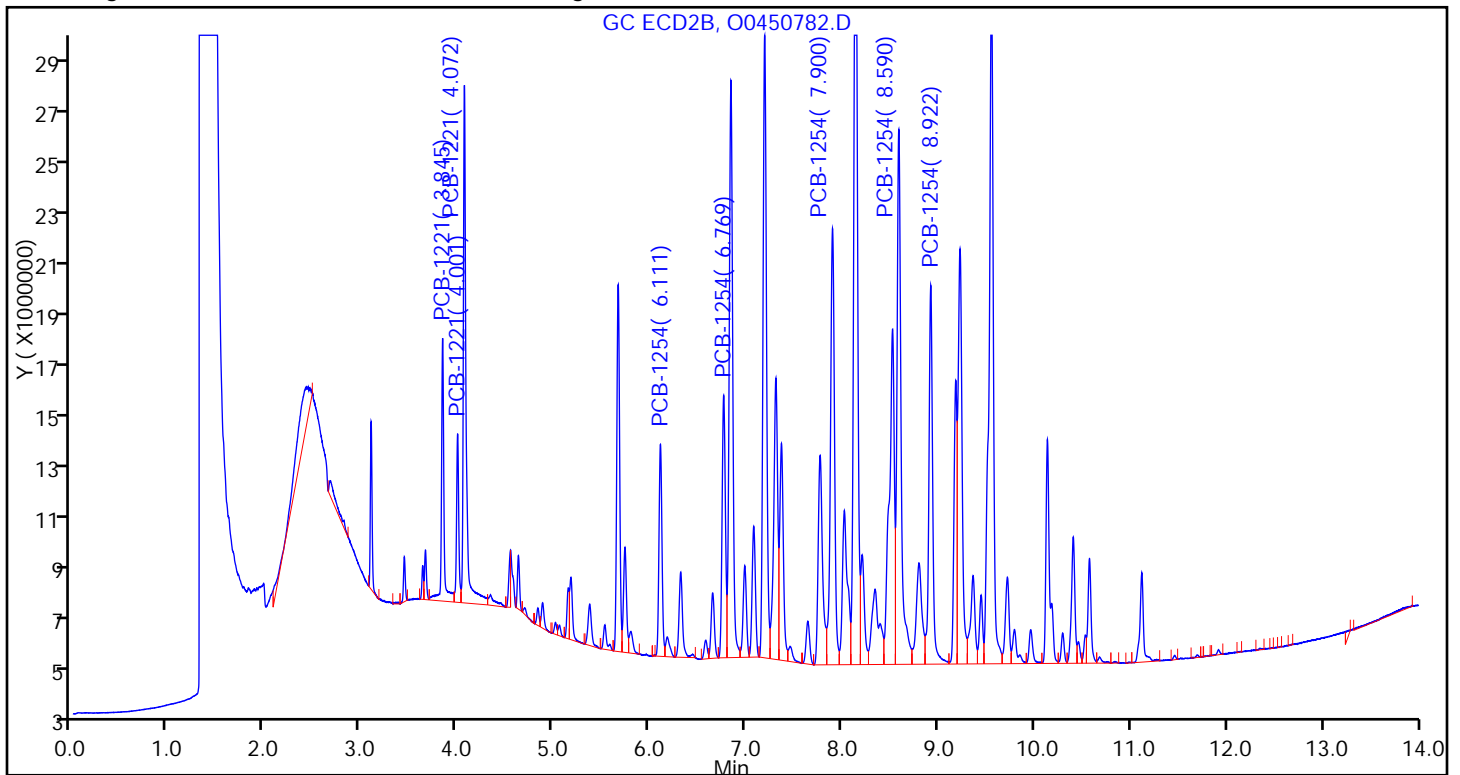
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450782.D

Injection Date: 16-Apr-2015 11:31:06

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 5

Worklist Smp#: 5

Injection Vol: 1.0 ul

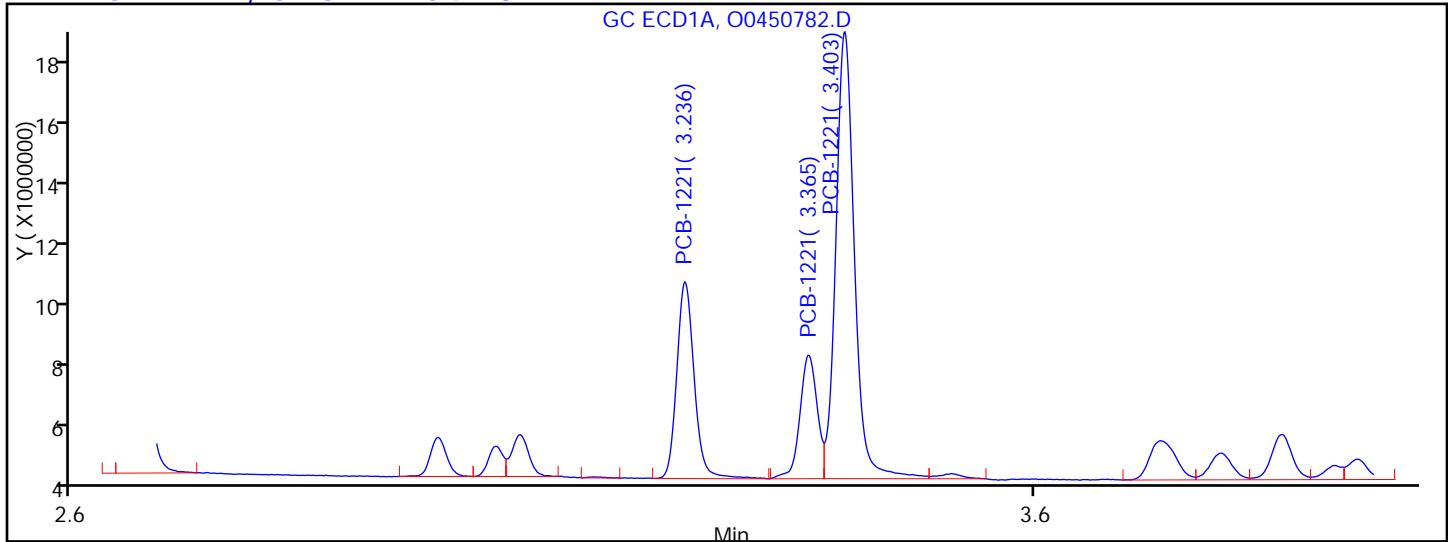
Dil. Factor: 1.0000

Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

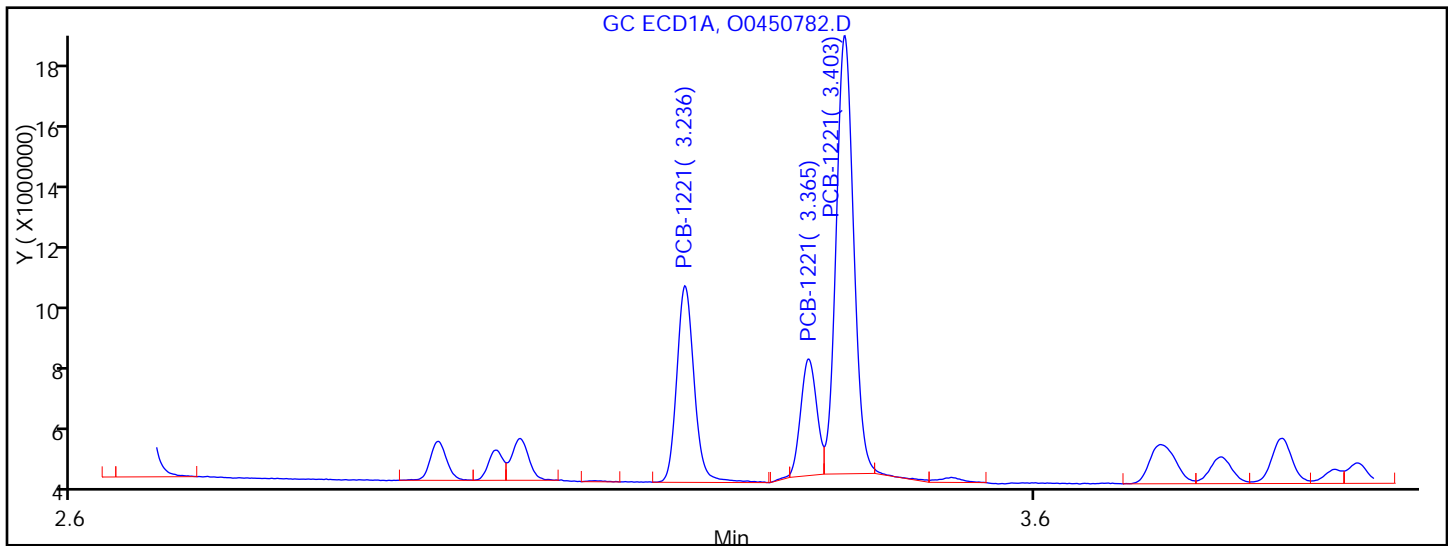
Column:

Detector GC ECD1A

**2 PCB-1221, CAS: 11104-28-2**

## Processing Integration Results

|            |                     |   |
|------------|---------------------|---|
| RT = 3.236 | Response = 6340026  |   |
| RT = 3.365 | Response = 3980390  | M |
| RT = 3.403 | Response = 14411029 | M |



## Manual Integration Results

|            |                     |   |
|------------|---------------------|---|
| RT = 3.236 | Response = 6340026  |   |
| RT = 3.365 | Response = 3668486  | M |
| RT = 3.403 | Response = 14132270 | M |

Reviewer: guptaa, 17-Apr-2015 07:34:38

Audit Action: Assigned New Baseline

Audit Reason: Instrument noise

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450783.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 4  
 Inject. Date: 16-Apr-2015 11:50:53 ALS Bottle#: 6 Worklist Smp#: 6  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-006  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub2  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:18:40 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

2 PCB-1221

|   |       |       |       |           |        |        |  |
|---|-------|-------|-------|-----------|--------|--------|--|
| 1 | 3.238 | 3.238 | 0.000 | 10470381H | 0.5000 | 0.4993 |  |
| 1 | 3.366 | 3.366 | 0.000 | 6560127H  | 0.5000 | 0.4665 |  |
| 1 | 3.403 | 3.403 | 0.000 | 23490051H | 0.5000 | 0.4923 |  |

Average of Peak Amounts = 0.4860

|   |       |       |       |           |        |        |  |
|---|-------|-------|-------|-----------|--------|--------|--|
| 2 | 3.848 | 3.848 | 0.000 | 16496862H | 0.5000 | 0.4939 |  |
| 2 | 4.003 | 4.003 | 0.000 | 10539547H | 0.5000 | 0.4995 |  |
| 2 | 4.073 | 4.073 | 0.000 | 32596228H | 0.5000 | 0.4857 |  |

Average of Peak Amounts = 0.4931

RPD = 1.44

7 PCB-1254

|   |       |       |       |           |        |        |  |
|---|-------|-------|-------|-----------|--------|--------|--|
| 1 | 5.352 | 5.352 | 0.000 | 24366366H | 0.5000 | 0.5122 |  |
| 1 | 5.788 | 5.788 | 0.000 | 12440357H | 0.5000 | 0.5044 |  |
| 1 | 6.089 | 6.089 | 0.000 | 10499671H | 0.5000 | 0.5206 |  |
| 1 | 6.833 | 6.833 | 0.000 | 22242545H | 0.5000 | 0.5285 |  |
| 1 | 7.328 | 7.328 | 0.000 | 11229612H | 0.5000 | 0.5253 |  |

Average of Peak Amounts = 0.5182

|   |       |       |       |           |        |        |  |
|---|-------|-------|-------|-----------|--------|--------|--|
| 2 | 6.113 | 6.113 | 0.000 | 13830477H | 0.5000 | 0.4878 |  |
| 2 | 6.772 | 6.772 | 0.000 | 17701771H | 0.5000 | 0.5037 |  |
| 2 | 7.903 | 7.903 | 0.000 | 29519994H | 0.5000 | 0.5068 |  |
| 2 | 8.591 | 8.591 | 0.000 | 36413344H | 0.5000 | 0.5095 |  |
| 2 | 8.923 | 8.923 | 0.000 | 24646989H | 0.5000 | 0.4942 |  |

Average of Peak Amounts = 0.5004

RPD = 3.49

Reagents:

GCAR2154CALL4\_00008

Amount Added: 1.00

Units: mL



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450783.D

Injection Date: 16-Apr-2015 11:50:53

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 6

Worklist Smp#: 6

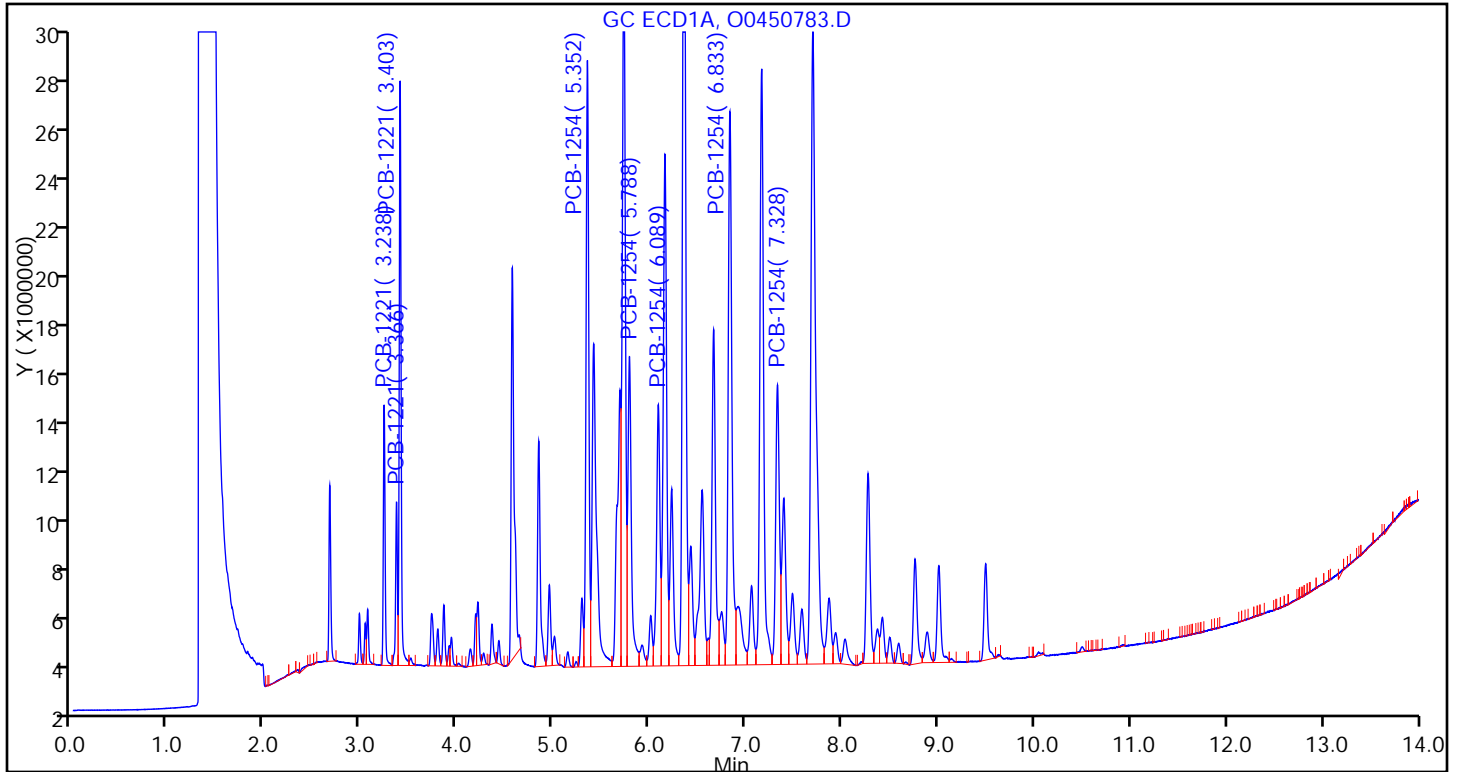
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

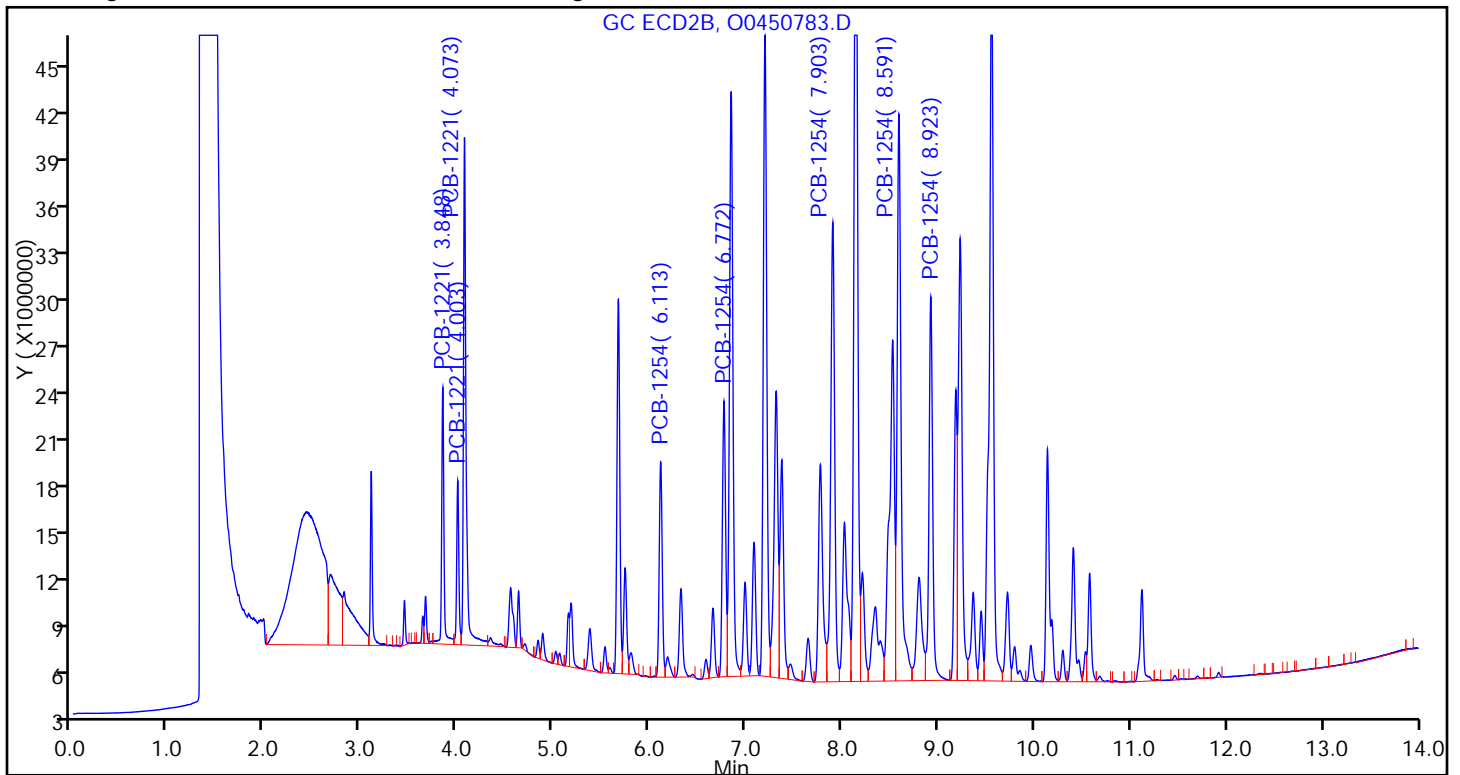
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450784.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 5  
 Inject. Date: 16-Apr-2015 12:10:38 ALS Bottle#: 7 Worklist Smp#: 7  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-007  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub2  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:18:43 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D  
 Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B  
 Process Host: XAWRK020

First Level Reviewer: guptaa

Date: 17-Apr-2015 07:28:05

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 2 PCB-1221

M

|                           |       |       |        |           |      |            |   |
|---------------------------|-------|-------|--------|-----------|------|------------|---|
| 1                         | 3.238 | 3.238 | 0.000  | 21944567H | 1.00 | 1.05       |   |
| 1                         | 3.367 | 3.366 | 0.001  | 13564691H | 1.00 | 0.9646     |   |
| 1                         | 3.404 | 3.403 | 0.001  | 48322303H | 1.00 | 1.01       |   |
| Average of Peak Amounts = |       |       |        |           |      | 1.01       |   |
| 2                         | 3.847 | 3.848 | -0.001 | 32897329H | 1.00 | 0.9849     | M |
| 2                         | 4.002 | 4.003 | -0.001 | 20101501H | 1.00 | 0.9527     | M |
| 2                         | 4.073 | 4.073 | 0.000  | 62483134H | 1.00 | 0.9311     | M |
| Average of Peak Amounts = |       |       |        |           |      | 0.9563     |   |
|                           |       |       |        |           |      | RPD = 5.26 |   |

## 7 PCB-1254

|                           |       |       |        |           |      |            |  |
|---------------------------|-------|-------|--------|-----------|------|------------|--|
| 1                         | 5.352 | 5.352 | 0.000  | 49229189H | 1.00 | 1.03       |  |
| 1                         | 5.789 | 5.788 | 0.001  | 25614924H | 1.00 | 1.04       |  |
| 1                         | 6.090 | 6.089 | 0.001  | 21900924H | 1.00 | 1.09       |  |
| 1                         | 6.835 | 6.833 | 0.002  | 47066188H | 1.00 | 1.12       |  |
| 1                         | 7.329 | 7.328 | 0.001  | 24619535H | 1.00 | 1.15       |  |
| Average of Peak Amounts = |       |       |        |           |      | 1.09       |  |
| 2                         | 6.113 | 6.113 | 0.000  | 27838741H | 1.00 | 0.9820     |  |
| 2                         | 6.771 | 6.772 | -0.001 | 36504515H | 1.00 | 1.04       |  |
| 2                         | 7.903 | 7.903 | 0.000  | 59800467H | 1.00 | 1.03       |  |
| 2                         | 8.592 | 8.591 | 0.001  | 73457668H | 1.00 | 1.03       |  |
| 2                         | 8.922 | 8.923 | -0.001 | 44950989H | 1.00 | 0.9014     |  |
| Average of Peak Amounts = |       |       |        |           |      | 1.00       |  |
|                           |       |       |        |           |      | RPD = 8.70 |  |

## QC Flag Legend

Review Flags

M - Manually Integrated

## Reagents:

GCAR2154CALL5\_00008

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450784.D

Injection Date: 16-Apr-2015 12:10:38

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 7

Worklist Smp#: 7

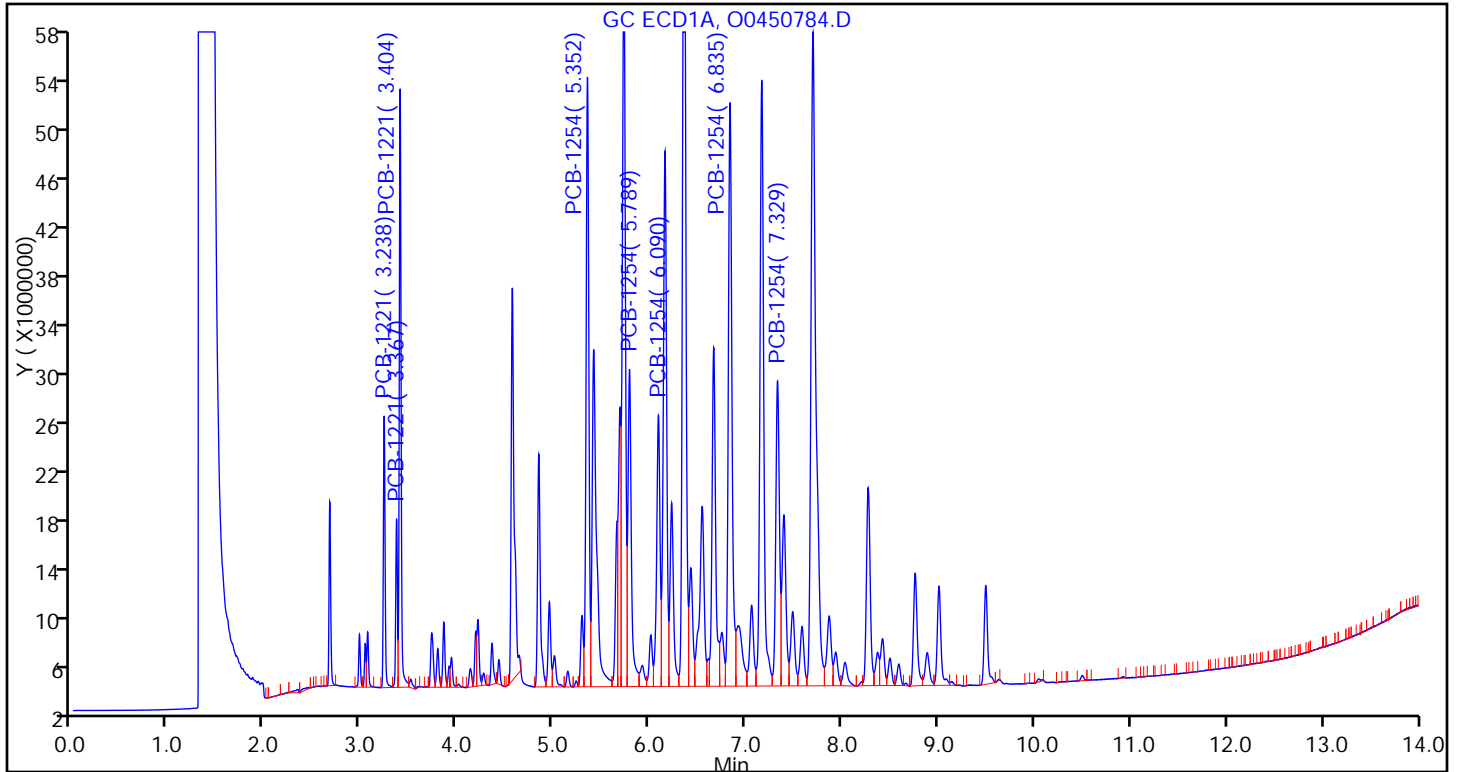
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

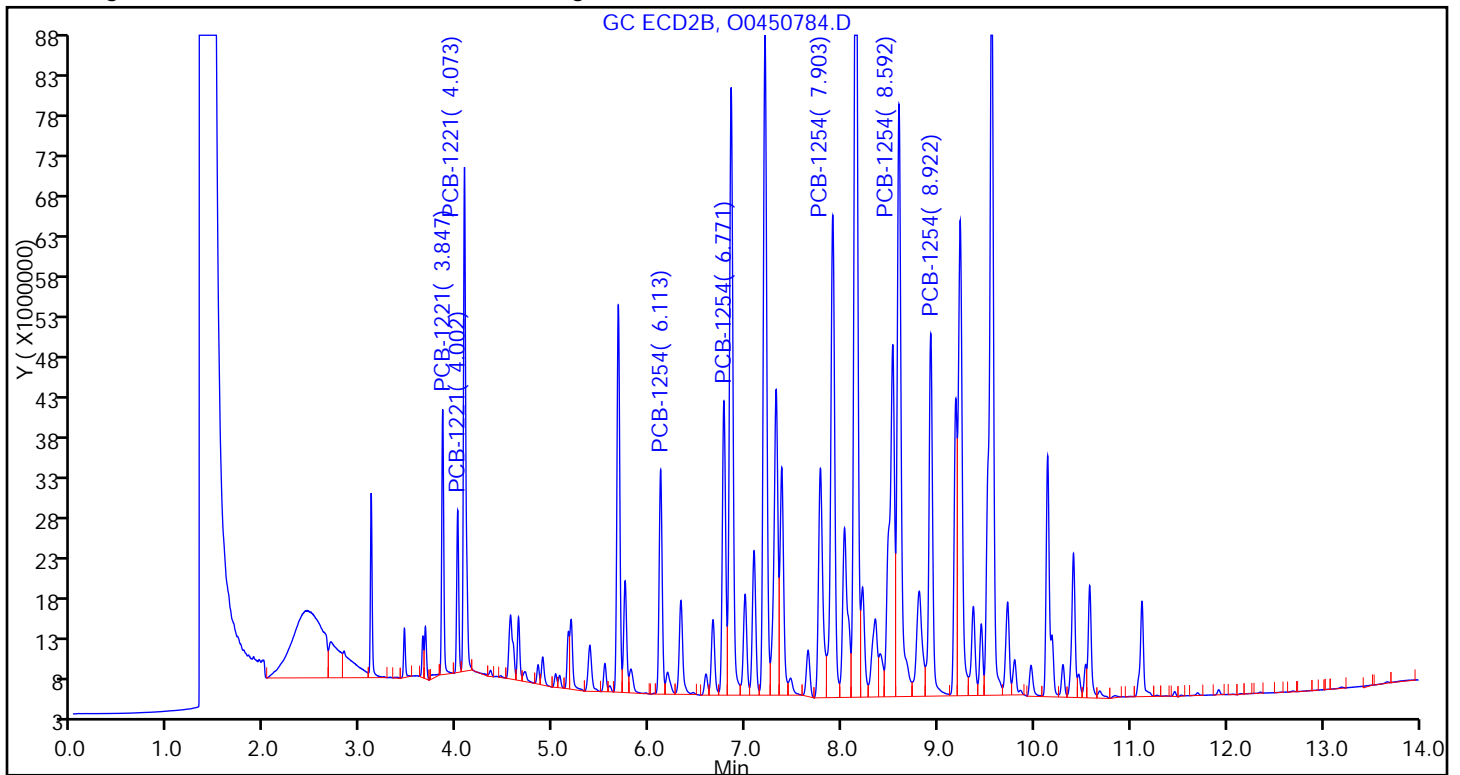
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP2 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 10:51 Calibration End Date: 04/16/2015 12:10 Calibration ID: 23373

Calibration Files:

| LEVEL:  | LAB SAMPLE ID:  | LAB FILE ID: |
|---------|-----------------|--------------|
| Level 1 | IC 180-138696/3 | 00450780.D   |
| Level 2 | IC 180-138696/4 | 00450781.D   |
| Level 3 | IC 180-138696/5 | 00450782.D   |
| Level 4 | IC 180-138696/6 | 00450783.D   |
| Level 5 | IC 180-138696/7 | 00450784.D   |

| ANALYTE         | LVL 1 | LVL 2 | LVL 3 | LVL 4 | LVL 5 |  |  |  |  |  | RT WINDOW     | AVG RT |
|-----------------|-------|-------|-------|-------|-------|--|--|--|--|--|---------------|--------|
| PCB-1221 Peak 1 | 3.847 | 3.845 | 3.845 | 3.848 | 3.847 |  |  |  |  |  | 3.798 - 3.898 | 3.846  |
| PCB-1221 Peak 2 | 4.004 | 4.001 | 4.001 | 4.003 | 4.002 |  |  |  |  |  | 3.953 - 4.053 | 4.002  |
| PCB-1221 Peak 3 | 4.072 | 4.072 | 4.072 | 4.073 | 4.073 |  |  |  |  |  | 4.023 - 4.123 | 4.072  |
| PCB-1254 Peak 1 | 6.110 | 6.112 | 6.111 | 6.113 | 6.113 |  |  |  |  |  | 6.043 - 6.183 | 6.112  |
| PCB-1254 Peak 2 | 6.769 | 6.771 | 6.769 | 6.772 | 6.771 |  |  |  |  |  | 6.702 - 6.842 | 6.770  |
| PCB-1254 Peak 3 | 7.901 | 7.901 | 7.900 | 7.903 | 7.903 |  |  |  |  |  | 7.833 - 7.973 | 7.902  |
| PCB-1254 Peak 4 | 8.589 | 8.590 | 8.590 | 8.591 | 8.592 |  |  |  |  |  | 8.521 - 8.661 | 8.590  |
| PCB-1254 Peak 5 | 8.922 | 8.921 | 8.922 | 8.923 | 8.922 |  |  |  |  |  | 8.853 - 8.993 | 8.922  |

FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP2 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 10:51 Calibration End Date: 04/16/2015 12:10 Calibration ID: 23373

Calibration Files:

|         |                 |              |
|---------|-----------------|--------------|
| LEVEL:  | LAB SAMPLE ID:  | LAB FILE ID: |
| Level 1 | IC 180-138696/3 | 00450780.D   |
| Level 2 | IC 180-138696/4 | 00450781.D   |
| Level 3 | IC 180-138696/5 | 00450782.D   |
| Level 4 | IC 180-138696/6 | 00450783.D   |
| Level 5 | IC 180-138696/7 | 00450784.D   |

| ANALYTE         | CF                   |          |          |          | CURVE<br>TYPE | COEFFICIENT |            |    | # | MIN CF | %RSD | # | MAX<br>%RSD | R^2<br>OR COD | # | MIN R^2<br>OR COD |
|-----------------|----------------------|----------|----------|----------|---------------|-------------|------------|----|---|--------|------|---|-------------|---------------|---|-------------------|
|                 | LVL 1<br>LVL 5       | LVL 2    | LVL 3    | LVL 4    |               | B           | M1         | M2 |   |        |      |   |             |               |   |                   |
| PCB-1221 Peak 1 | 28697700<br>32897329 | 31615620 | 40800120 | 32993724 | Ave           |             | 33400898.6 |    |   |        | 13.4 |   | 20.0        |               |   |                   |
| PCB-1221 Peak 2 | 19154100<br>20101501 | 19032890 | 26125680 | 21079094 | Ave           |             | 21098653.0 |    |   |        | 13.9 |   | 20.0        |               |   |                   |
| PCB-1221 Peak 3 | 64506600<br>62483134 | 62990830 | 80361544 | 65192456 | Ave           |             | 67106912.8 |    |   |        | 11.2 |   | 20.0        |               |   |                   |
| PCB-1254 Peak 1 | 27977800<br>27838741 | 25367130 | 32907448 | 27660954 | Ave           |             | 28350414.6 |    |   |        | 9.7  |   | 20.0        |               |   |                   |
| PCB-1254 Peak 2 | 32663800<br>36504515 | 30384600 | 40758052 | 35403542 | Ave           |             | 35142901.8 |    |   |        | 11.2 |   | 20.0        |               |   |                   |
| PCB-1254 Peak 3 | 53205000<br>59800467 | 51460160 | 67719296 | 59039988 | Ave           |             | 58244982.2 |    |   |        | 11.0 |   | 20.0        |               |   |                   |
| PCB-1254 Peak 4 | 66003800<br>73457668 | 61989510 | 83086104 | 72826688 | Ave           |             | 71472754.0 |    |   |        | 11.3 |   | 20.0        |               |   |                   |
| PCB-1254 Peak 5 | 51647400<br>44950989 | 44639760 | 58814256 | 49293978 | Ave           |             | 49869276.6 |    |   |        | 11.7 |   | 20.0        |               |   |                   |

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP2 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 10:51 Calibration End Date: 04/16/2015 12:10 Calibration ID: 23373

Calibration Files:

| LEVEL:  | LAB SAMPLE ID:  | LAB FILE ID: |
|---------|-----------------|--------------|
| Level 1 | IC 180-138696/3 | 00450780.D   |
| Level 2 | IC 180-138696/4 | 00450781.D   |
| Level 3 | IC 180-138696/5 | 00450782.D   |
| Level 4 | IC 180-138696/6 | 00450783.D   |
| Level 5 | IC 180-138696/7 | 00450784.D   |

| ANALYTE         | CURVE<br>TYPE | RESPONSE |         |          |          |          | CONCENTRATION (NG) |       |       |       |       |
|-----------------|---------------|----------|---------|----------|----------|----------|--------------------|-------|-------|-------|-------|
|                 |               | LVL 1    | LVL 2   | LVL 3    | LVL 4    | LVL 5    | LVL 1              | LVL 2 | LVL 3 | LVL 4 | LVL 5 |
| PCB-1221 Peak 1 | Ave           | 286977   | 3161562 | 10200030 | 16496862 | 32897329 | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1221 Peak 2 | Ave           | 191541   | 1903289 | 6531420  | 10539547 | 20101501 | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1221 Peak 3 | Ave           | 645066   | 6299083 | 20090386 | 32596228 | 62483134 | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1254 Peak 1 | Ave           | 279778   | 2536713 | 8226862  | 13830477 | 27838741 | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1254 Peak 2 | Ave           | 326638   | 3038460 | 10189513 | 17701771 | 36504515 | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1254 Peak 3 | Ave           | 532050   | 5146016 | 16929824 | 29519994 | 59800467 | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1254 Peak 4 | Ave           | 660038   | 6198951 | 20771526 | 36413344 | 73457668 | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1254 Peak 5 | Ave           | 516474   | 4463976 | 14703564 | 24646989 | 44950989 | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |

Curve Type Legend:

Ave = Average by Height

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450780.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 1  
 Inject. Date: 16-Apr-2015 10:51:29 ALS Bottle#: 3 Worklist Smp#: 3  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-003  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub2  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:18:32 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D  
 Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B  
 Process Host: XAWRK020

First Level Reviewer: guptaa

Date: 17-Apr-2015 07:20:02

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

2 PCB-1221 M

|   |       |       |        |         |        |          |   |
|---|-------|-------|--------|---------|--------|----------|---|
| 1 | 3.236 | 3.238 | -0.002 | 175376H | 0.0100 | 0.008363 |   |
| 1 | 3.341 | 3.366 | -0.025 | 164314H | 0.0100 | 0.0117   | M |
| 1 | 3.402 | 3.403 | -0.001 | 422447H | 0.0100 | 0.008854 | M |

Average of Peak Amounts = 0.009634

|   |       |       |        |         |        |          |   |
|---|-------|-------|--------|---------|--------|----------|---|
| 2 | 3.847 | 3.848 | -0.001 | 286977H | 0.0100 | 0.008592 | M |
| 2 | 4.004 | 4.003 | 0.001  | 191541H | 0.0100 | 0.009078 |   |
| 2 | 4.072 | 4.073 | -0.001 | 645066H | 0.0100 | 0.009613 |   |

Average of Peak Amounts = 0.009094

RPD = 5.76

7 PCB-1254 M

|   |       |       |        |         |        |          |   |
|---|-------|-------|--------|---------|--------|----------|---|
| 1 | 5.351 | 5.352 | -0.001 | 406866H | 0.0100 | 0.008552 | M |
| 1 | 5.786 | 5.788 | -0.002 | 221940H | 0.0100 | 0.008999 | M |
| 1 | 6.086 | 6.089 | -0.003 | 156834H | 0.0100 | 0.007776 | M |
| 1 | 6.831 | 6.833 | -0.002 | 337752H | 0.0100 | 0.008025 | M |
| 1 | 7.327 | 7.328 | -0.001 | 179657H | 0.0100 | 0.008404 | M |

Average of Peak Amounts = 0.008351

|   |       |       |        |         |        |          |   |
|---|-------|-------|--------|---------|--------|----------|---|
| 2 | 6.110 | 6.113 | -0.003 | 279778H | 0.0100 | 0.009869 | M |
| 2 | 6.769 | 6.772 | -0.003 | 326638H | 0.0100 | 0.009295 | M |
| 2 | 7.901 | 7.903 | -0.002 | 532050H | 0.0100 | 0.009135 | M |
| 2 | 8.589 | 8.591 | -0.002 | 660038H | 0.0100 | 0.009235 | M |
| 2 | 8.922 | 8.923 | -0.001 | 516474H | 0.0100 | 0.0104   | M |

Average of Peak Amounts = 0.009578

RPD = 13.68



## QC Flag Legend

Review Flags

M - Manually Integrated

## Reagents:

GCAR2154CALL1\_00011

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450780.D

Injection Date: 16-Apr-2015 10:51:29

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 3

Worklist Smp#: 3

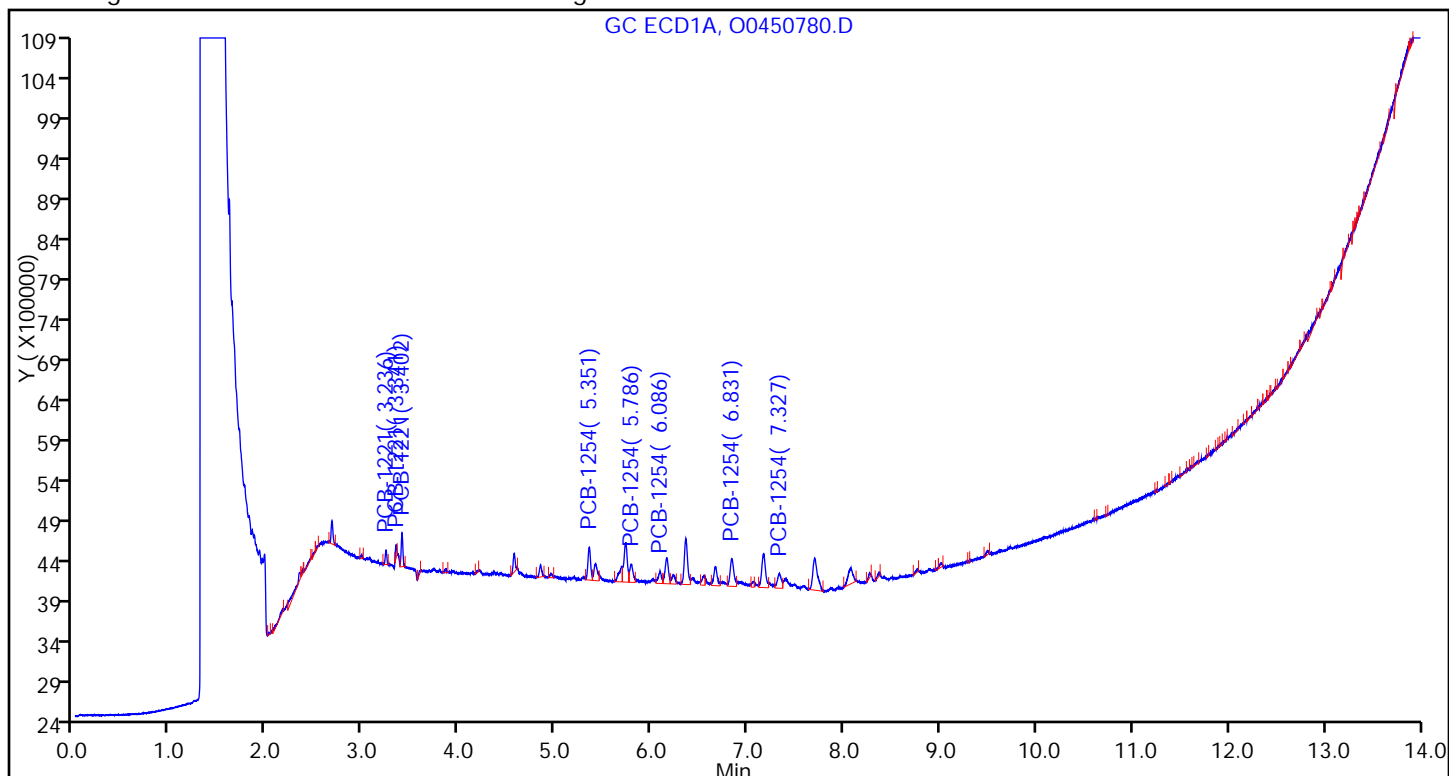
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

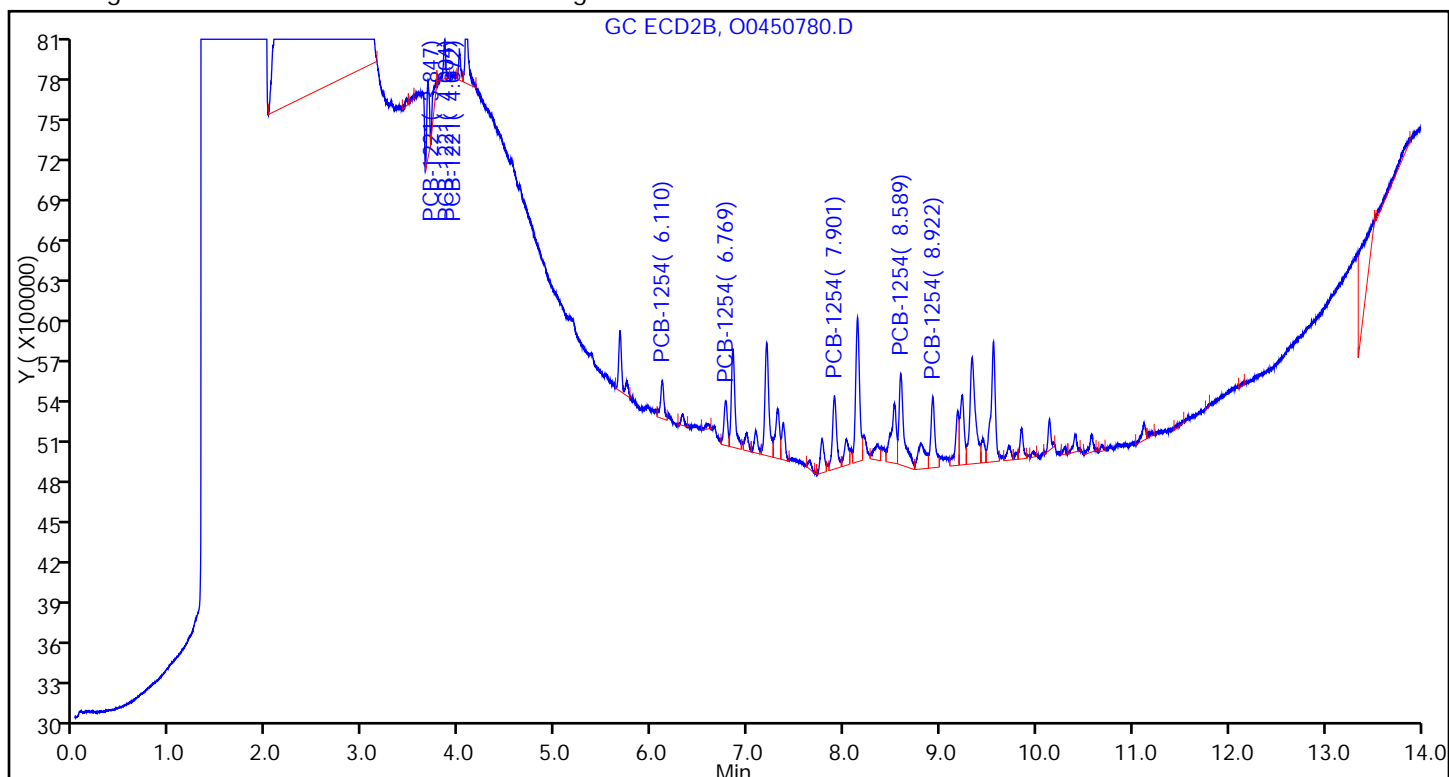
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450780.D

Injection Date: 16-Apr-2015 10:51:29

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 3

Worklist Smp#: 3

Injection Vol: 1.0 ul

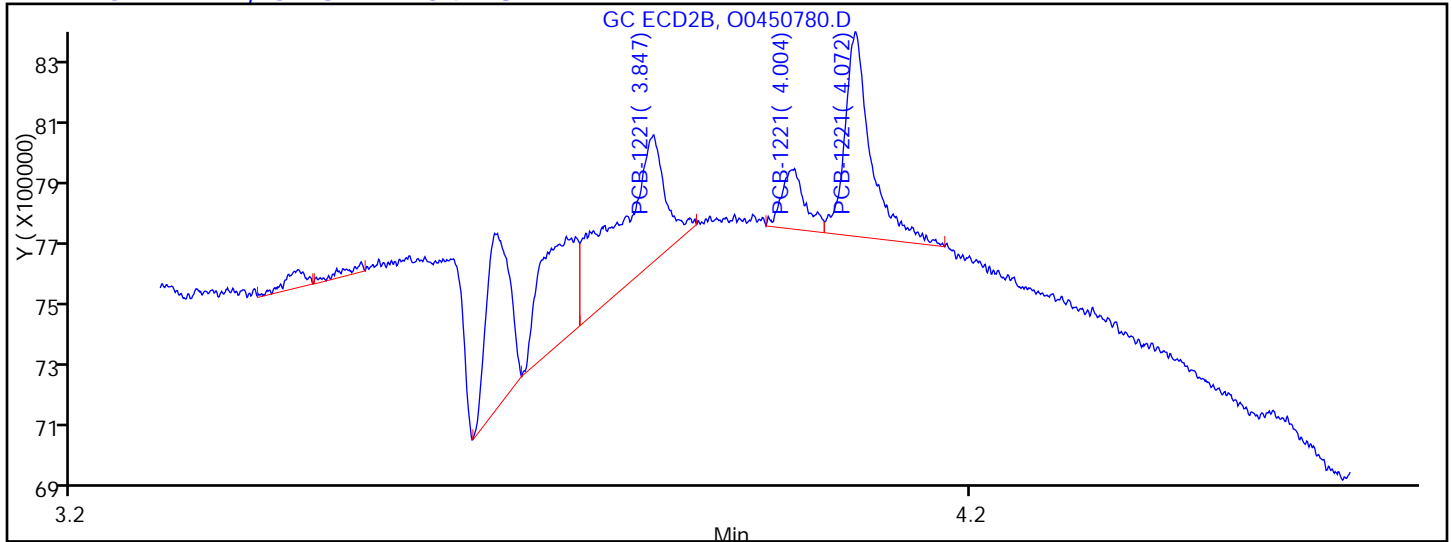
Dil. Factor: 1.0000

Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

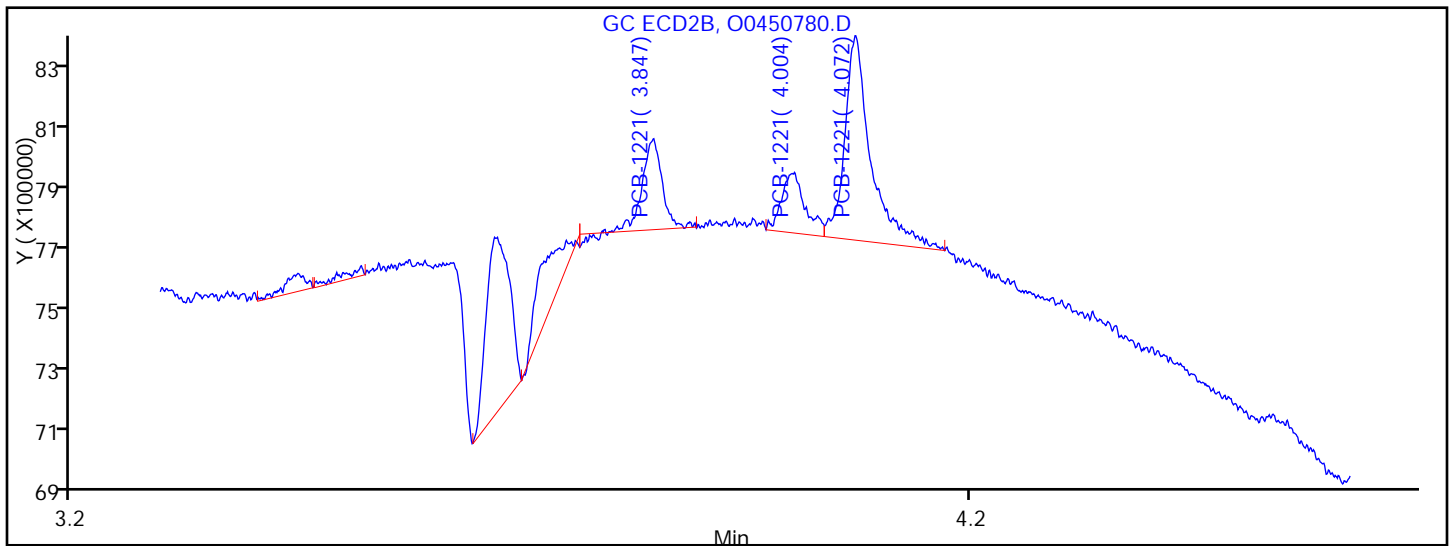
Column:

Detector GC ECD2B

**2 PCB-1221, CAS: 11104-28-2**

## Processing Integration Results

|            |                   |   |
|------------|-------------------|---|
| RT = 3.847 | Response = 399647 | M |
| RT = 4.004 | Response = 191541 |   |
| RT = 4.072 | Response = 645066 |   |



## Manual Integration Results

|            |                   |   |
|------------|-------------------|---|
| RT = 3.847 | Response = 286977 | M |
| RT = 4.004 | Response = 191541 |   |
| RT = 4.072 | Response = 645066 |   |

Reviewer: guptaa, 17-Apr-2015 07:20:02

Audit Action: Assigned New Baseline

Audit Reason: Instrument noise

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450780.D

Injection Date: 16-Apr-2015 10:51:29

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 3

Worklist Smp#: 3

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

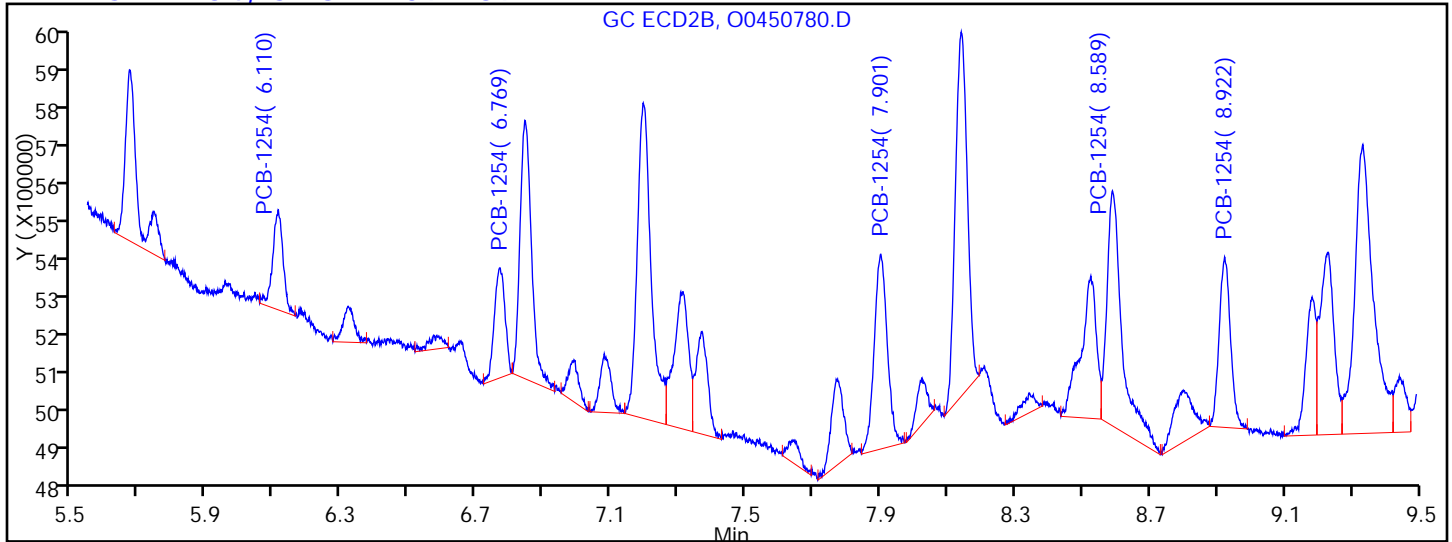
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Column:

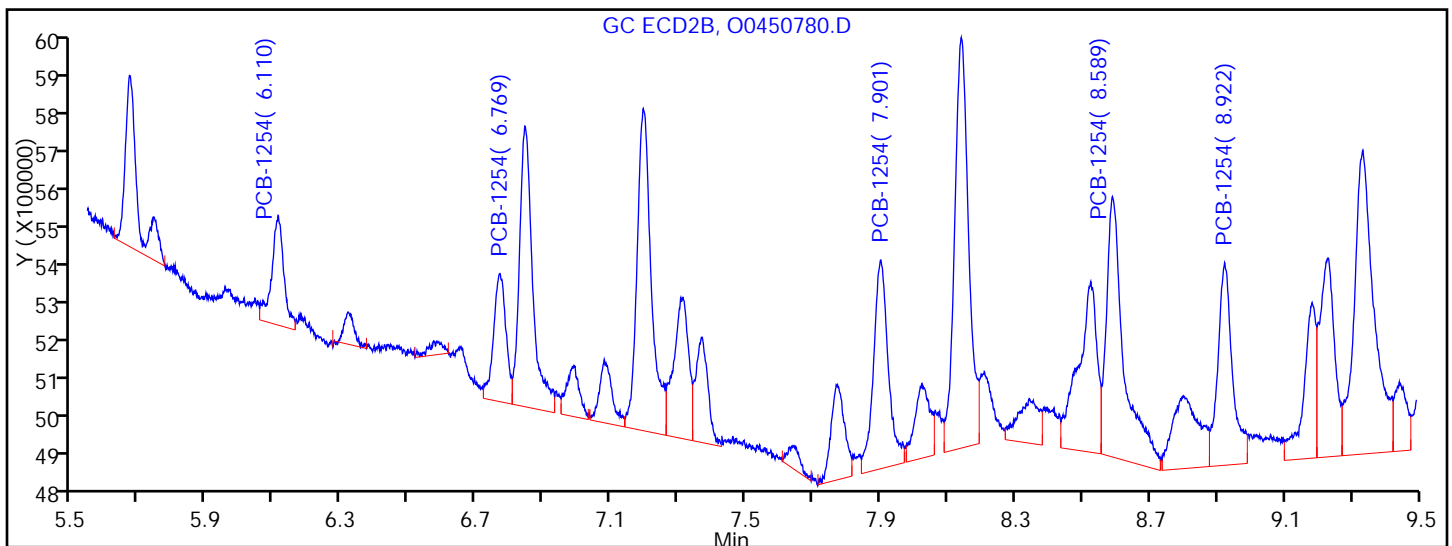
Detector GC ECD2B

## 7 PCB-1254, CAS: 11097-69-1



## Processing Integration Results

|            |                   |   |
|------------|-------------------|---|
| RT = 6.110 | Response = 255351 | M |
| RT = 6.769 | Response = 280456 | M |
| RT = 7.901 | Response = 496382 | M |
| RT = 8.589 | Response = 599071 | M |
| RT = 8.922 | Response = 434523 | M |



## Manual Integration Results

|            |                   |   |
|------------|-------------------|---|
| RT = 6.110 | Response = 279778 | M |
| RT = 6.769 | Response = 326638 | M |
| RT = 7.901 | Response = 532050 | M |
| RT = 8.589 | Response = 660038 | M |
| RT = 8.922 | Response = 516474 | M |

Reviewer: guptaa, 17-Apr-2015 07:24:04

Audit Action: Assigned New Baseline

Page 702 of 2010

Audit Reason: Instrument noise

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450781.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 2  
 Inject. Date: 16-Apr-2015 11:11:21 ALS Bottle#: 4 Worklist Smp#: 4  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-004  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub2  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:18:35 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D  
 Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B  
 Process Host: XAWRK020

First Level Reviewer: guptaa

Date: 17-Apr-2015 07:22:54

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 2 PCB-1221

|   |       |       |        |          |        |        |  |
|---|-------|-------|--------|----------|--------|--------|--|
| 1 | 3.237 | 3.238 | -0.001 | 1907186H | 0.1000 | 0.0909 |  |
| 1 | 3.366 | 3.366 | 0.000  | 1252254H | 0.1000 | 0.0890 |  |
| 1 | 3.403 | 3.403 | 0.000  | 4448856H | 0.1000 | 0.0932 |  |

Average of Peak Amounts = 0.0911

|   |       |       |        |          |        |        |  |
|---|-------|-------|--------|----------|--------|--------|--|
| 2 | 3.845 | 3.848 | -0.003 | 3161562H | 0.1000 | 0.0947 |  |
| 2 | 4.001 | 4.003 | -0.002 | 1903289H | 0.1000 | 0.0902 |  |
| 2 | 4.072 | 4.073 | -0.001 | 6299083H | 0.1000 | 0.0939 |  |

Average of Peak Amounts = 0.0929

RPD = 1.99

## 7 PCB-1254

|   |       |       |        |          |        |        |   |
|---|-------|-------|--------|----------|--------|--------|---|
| 1 | 5.351 | 5.352 | -0.001 | 4275261H | 0.1000 | 0.0899 | M |
| 1 | 5.788 | 5.788 | 0.000  | 2182208H | 0.1000 | 0.0885 | M |
| 1 | 6.089 | 6.089 | 0.000  | 1781832H | 0.1000 | 0.0883 | M |
| 1 | 6.835 | 6.833 | 0.002  | 3529216H | 0.1000 | 0.0839 | M |
| 1 | 7.329 | 7.328 | 0.001  | 1687858H | 0.1000 | 0.0790 | M |

Average of Peak Amounts = 0.0859

|   |       |       |        |          |        |        |   |
|---|-------|-------|--------|----------|--------|--------|---|
| 2 | 6.112 | 6.113 | -0.001 | 2536713H | 0.1000 | 0.0895 | M |
| 2 | 6.771 | 6.772 | -0.001 | 3038460H | 0.1000 | 0.0865 | M |
| 2 | 7.901 | 7.903 | -0.002 | 5146016H | 0.1000 | 0.0884 | M |
| 2 | 8.590 | 8.591 | -0.001 | 6198951H | 0.1000 | 0.0867 | M |
| 2 | 8.921 | 8.923 | -0.002 | 4463976H | 0.1000 | 0.0895 | M |

Average of Peak Amounts = 0.0881

RPD = 2.54

## QC Flag Legend

Review Flags

M - Manually Integrated

## Reagents:

GCAR2154CALL2\_00008

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450781.D

Injection Date: 16-Apr-2015 11:11:21

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 4

Worklist Smp#: 4

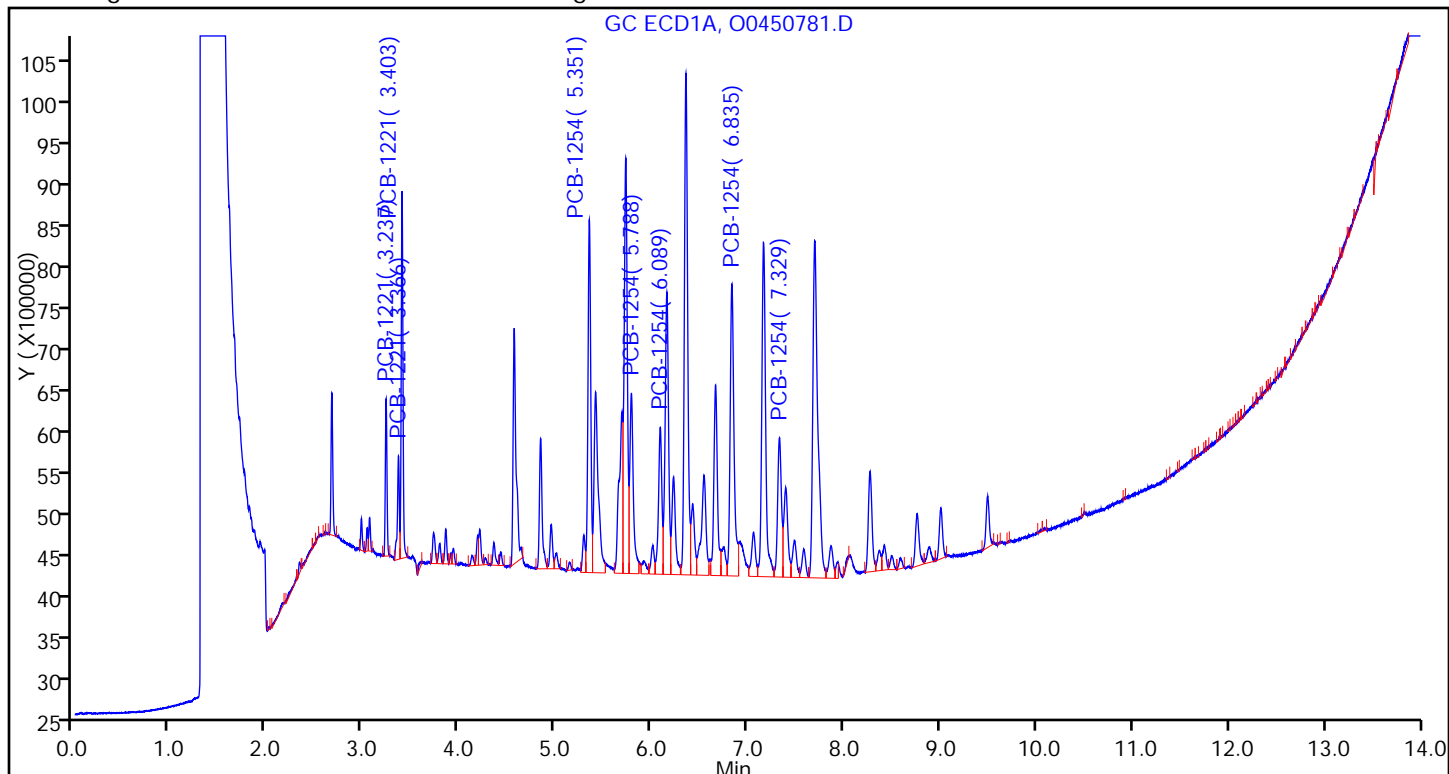
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

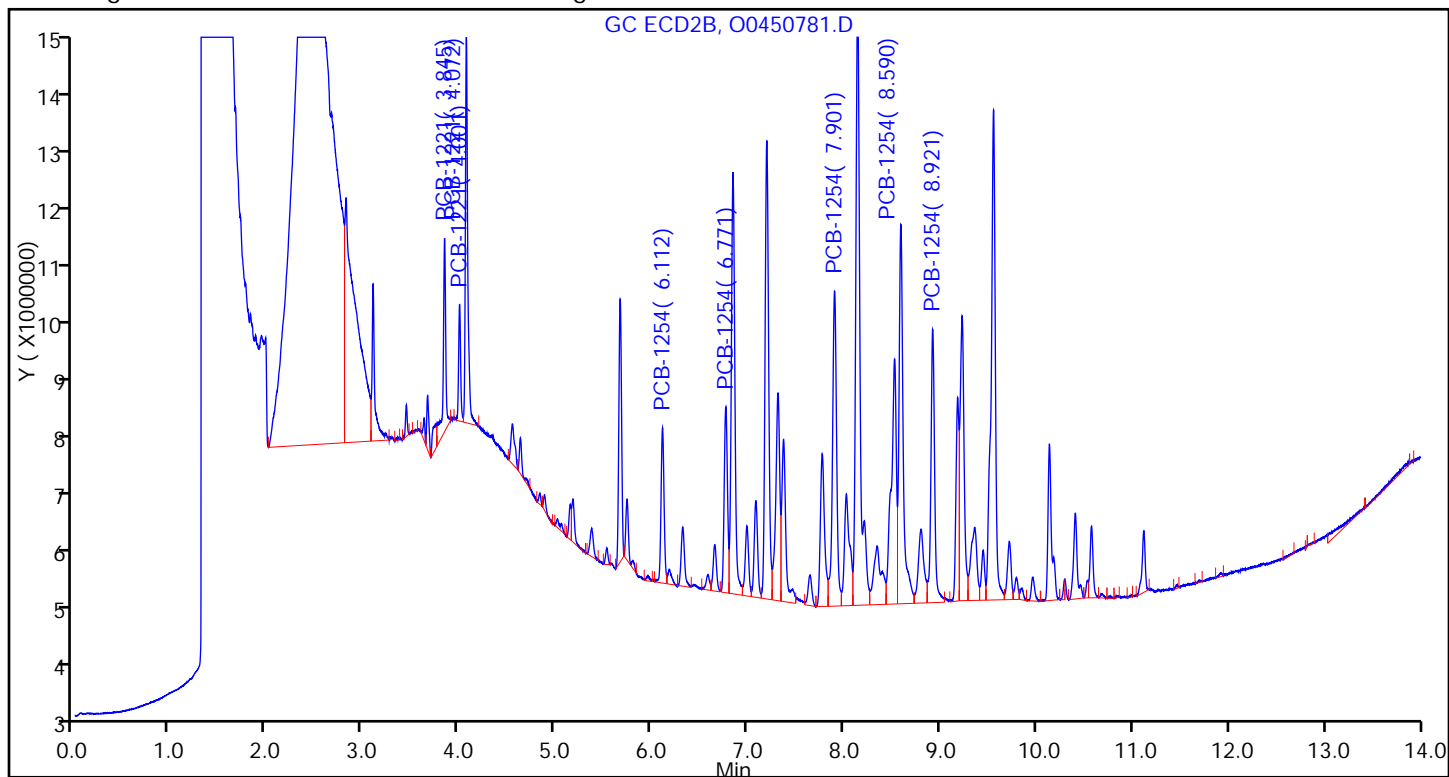
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450781.D

Injection Date: 16-Apr-2015 11:11:21

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 4

Worklist Smp#: 4

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

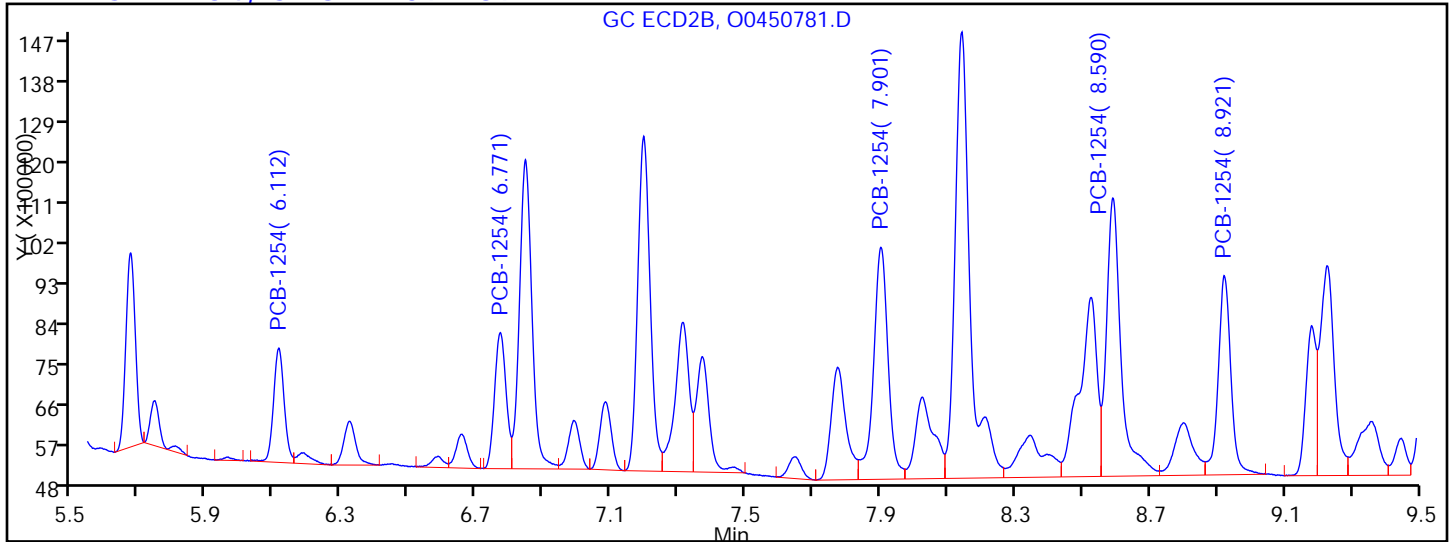
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Column:

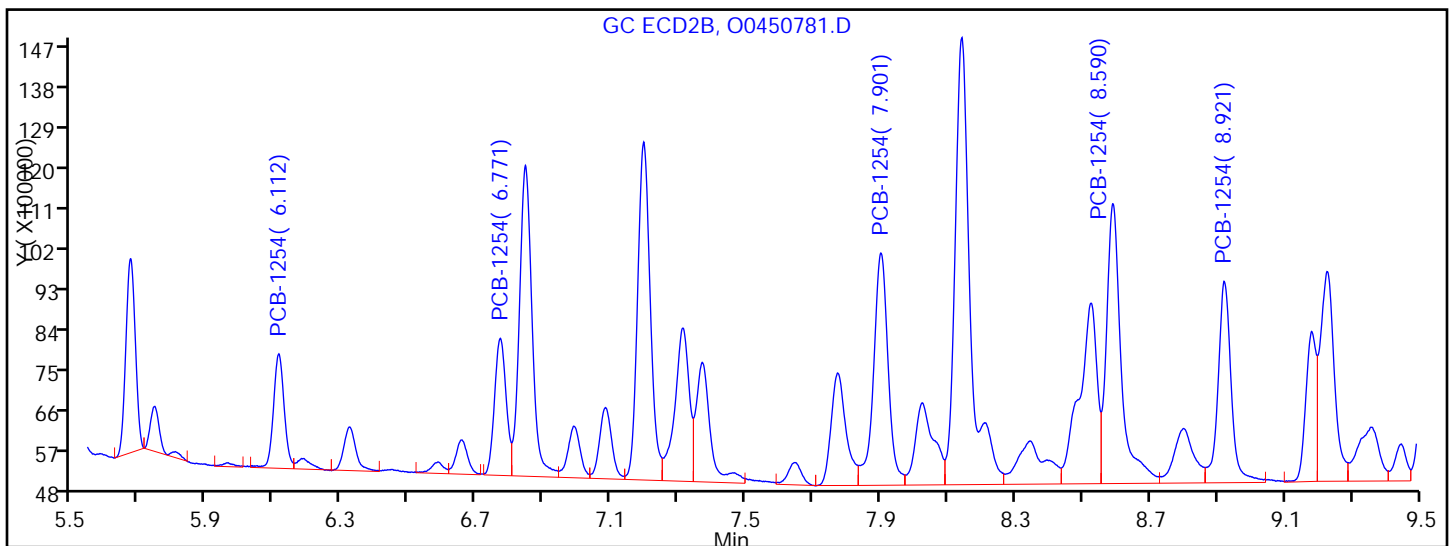
Detector GC ECD2B

## 7 PCB-1254, CAS: 11097-69-1



## Processing Integration Results

|            |                    |   |
|------------|--------------------|---|
| RT = 6.112 | Response = 2532921 | M |
| RT = 6.771 | Response = 3015772 | M |
| RT = 7.901 | Response = 5139887 | M |
| RT = 8.590 | Response = 6163735 | M |
| RT = 8.921 | Response = 4414797 | M |



## Manual Integration Results

|            |                    |   |
|------------|--------------------|---|
| RT = 6.112 | Response = 2536713 | M |
| RT = 6.771 | Response = 3038460 | M |
| RT = 7.901 | Response = 5146016 | M |
| RT = 8.590 | Response = 6198951 | M |
| RT = 8.921 | Response = 4463976 | M |

Reviewer: guptaa, 17-Apr-2015 07:24:40

Audit Action: Assigned New Baseline

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Audit Reason: Instrument noise



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450782.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 3  
 Inject. Date: 16-Apr-2015 11:31:06 ALS Bottle#: 5 Worklist Smp#: 5  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-005  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub2  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:18:37 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

First Level Reviewer: guptaa Date: 17-Apr-2015 07:34:38

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

2 PCB-1221 M

|   |       |       |        |           |        |        |   |
|---|-------|-------|--------|-----------|--------|--------|---|
| 1 | 3.236 | 3.238 | -0.002 | 6340026H  | 0.2500 | 0.3023 |   |
| 1 | 3.365 | 3.366 | -0.001 | 3668486H  | 0.2500 | 0.2609 | M |
| 1 | 3.403 | 3.403 | 0.000  | 14132270H | 0.2500 | 0.2962 | M |

Average of Peak Amounts = 0.2865

|   |       |       |        |           |        |        |  |
|---|-------|-------|--------|-----------|--------|--------|--|
| 2 | 3.845 | 3.848 | -0.003 | 10200030H | 0.2500 | 0.3054 |  |
| 2 | 4.001 | 4.003 | -0.002 | 6531420H  | 0.2500 | 0.3096 |  |
| 2 | 4.072 | 4.073 | -0.001 | 20090386H | 0.2500 | 0.2994 |  |

Average of Peak Amounts = 0.3048

RPD = 6.19

7 PCB-1254

|   |       |       |        |           |        |        |  |
|---|-------|-------|--------|-----------|--------|--------|--|
| 1 | 5.350 | 5.352 | -0.002 | 14116707H | 0.2500 | 0.2967 |  |
| 1 | 5.786 | 5.788 | -0.002 | 7201154H  | 0.2500 | 0.2920 |  |
| 1 | 6.087 | 6.089 | -0.002 | 6110592H  | 0.2500 | 0.3030 |  |
| 1 | 6.832 | 6.833 | -0.001 | 12456584H | 0.2500 | 0.2960 |  |
| 1 | 7.325 | 7.328 | -0.003 | 6240822H  | 0.2500 | 0.2919 |  |

Average of Peak Amounts = 0.2959

|   |       |       |        |           |        |        |  |
|---|-------|-------|--------|-----------|--------|--------|--|
| 2 | 6.111 | 6.113 | -0.002 | 8226862H  | 0.2500 | 0.2902 |  |
| 2 | 6.769 | 6.772 | -0.003 | 10189513H | 0.2500 | 0.2899 |  |
| 2 | 7.900 | 7.903 | -0.003 | 16929824H | 0.2500 | 0.2907 |  |
| 2 | 8.590 | 8.591 | -0.001 | 20771526H | 0.2500 | 0.2906 |  |
| 2 | 8.922 | 8.923 | -0.001 | 14703564H | 0.2500 | 0.2948 |  |

Average of Peak Amounts = 0.2913

RPD = 1.59

## QC Flag Legend

Review Flags

M - Manually Integrated

## Reagents:

GCAR2154CALL3\_00008

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450782.D

Injection Date: 16-Apr-2015 11:31:06

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 5

Worklist Smp#: 5

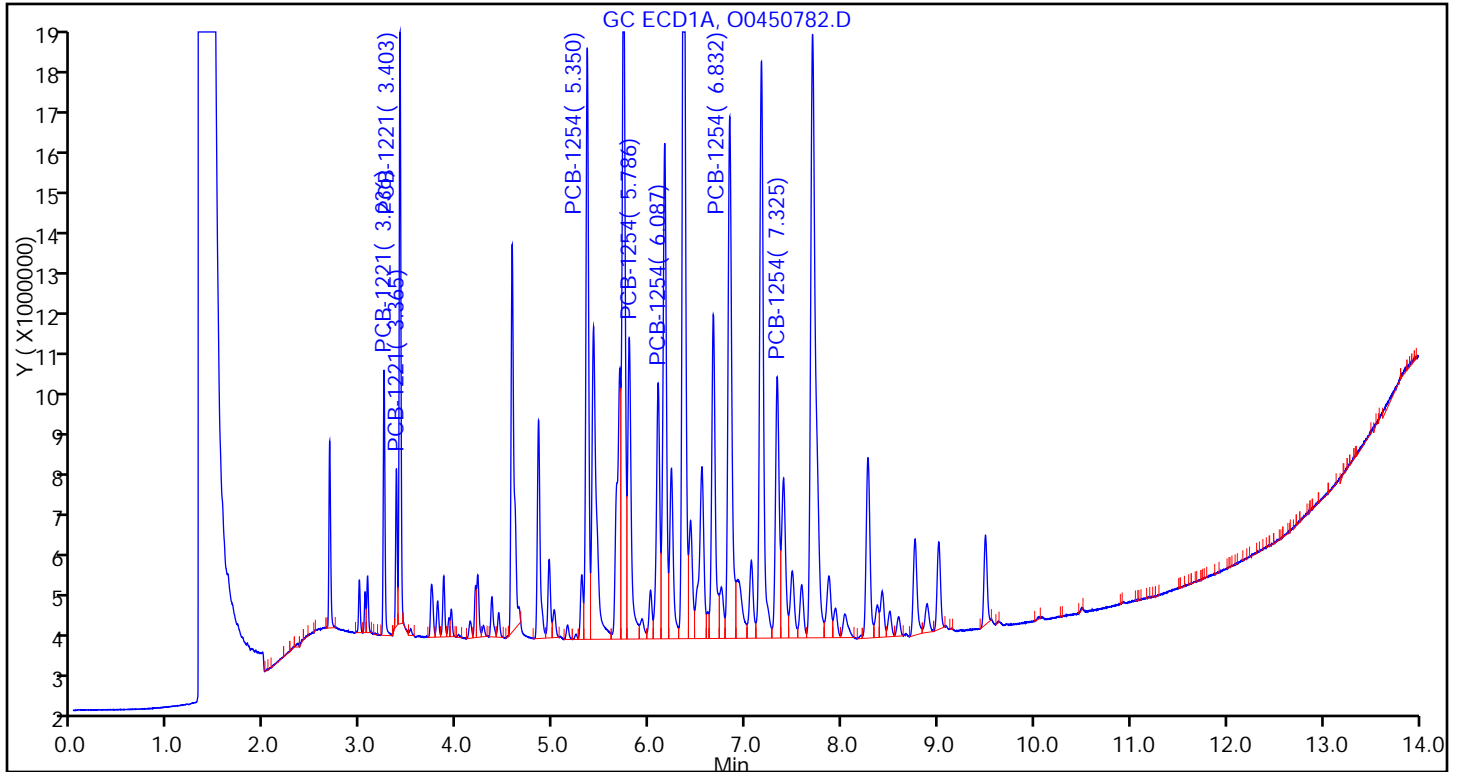
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

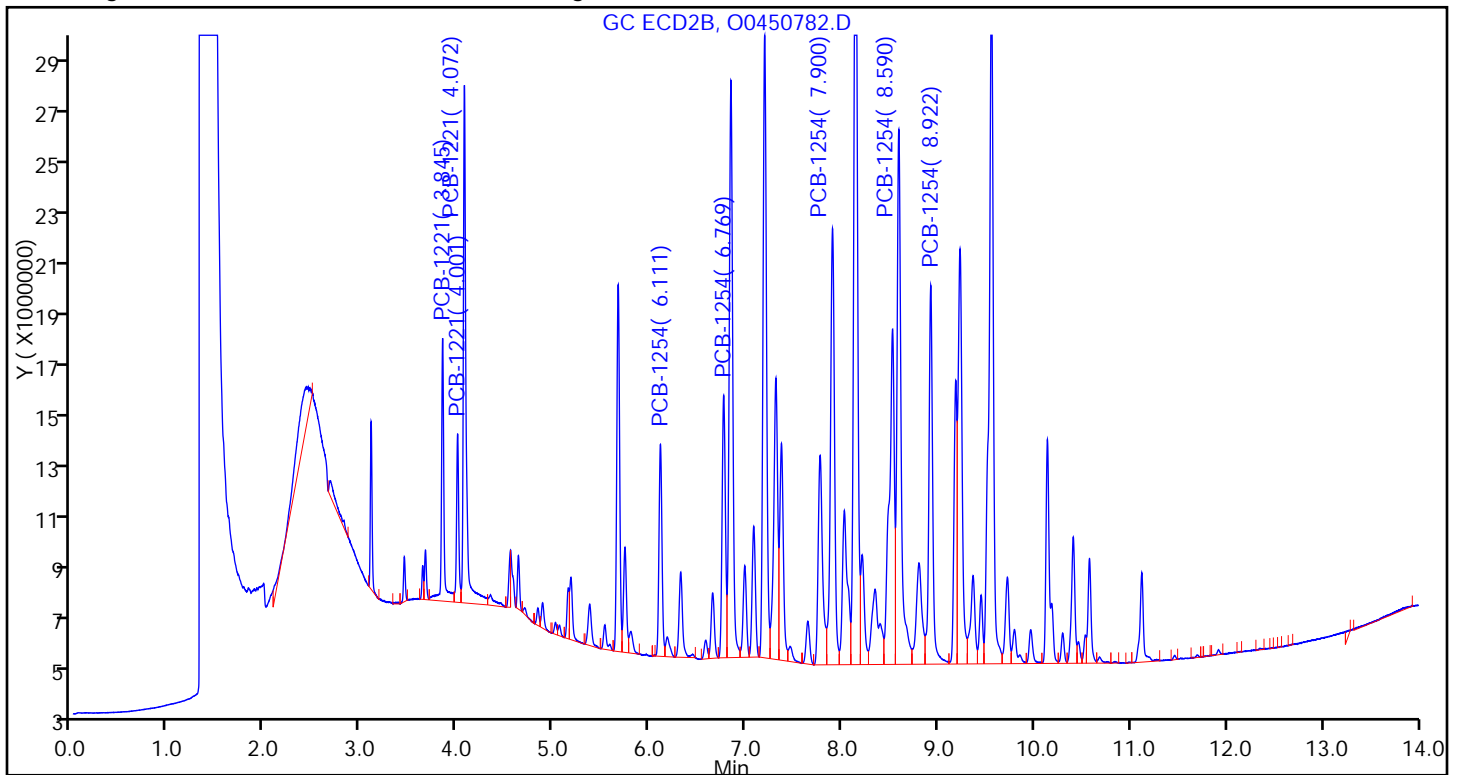
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450783.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 4  
 Inject. Date: 16-Apr-2015 11:50:53 ALS Bottle#: 6 Worklist Smp#: 6  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-006  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub2  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:18:40 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A

Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

2 PCB-1221

|                           |       |       |       |           |        |        |  |
|---------------------------|-------|-------|-------|-----------|--------|--------|--|
| 1                         | 3.238 | 3.238 | 0.000 | 10470381H | 0.5000 | 0.4993 |  |
| 1                         | 3.366 | 3.366 | 0.000 | 6560127H  | 0.5000 | 0.4665 |  |
| 1                         | 3.403 | 3.403 | 0.000 | 23490051H | 0.5000 | 0.4923 |  |
| Average of Peak Amounts = |       |       |       |           |        | 0.4860 |  |
| 2                         | 3.848 | 3.848 | 0.000 | 16496862H | 0.5000 | 0.4939 |  |
| 2                         | 4.003 | 4.003 | 0.000 | 10539547H | 0.5000 | 0.4995 |  |
| 2                         | 4.073 | 4.073 | 0.000 | 32596228H | 0.5000 | 0.4857 |  |

Average of Peak Amounts = 0.4931

RPD = 1.44

7 PCB-1254

|                           |       |       |       |           |        |        |  |
|---------------------------|-------|-------|-------|-----------|--------|--------|--|
| 1                         | 5.352 | 5.352 | 0.000 | 24366366H | 0.5000 | 0.5122 |  |
| 1                         | 5.788 | 5.788 | 0.000 | 12440357H | 0.5000 | 0.5044 |  |
| 1                         | 6.089 | 6.089 | 0.000 | 10499671H | 0.5000 | 0.5206 |  |
| 1                         | 6.833 | 6.833 | 0.000 | 22242545H | 0.5000 | 0.5285 |  |
| 1                         | 7.328 | 7.328 | 0.000 | 11229612H | 0.5000 | 0.5253 |  |
| Average of Peak Amounts = |       |       |       |           |        | 0.5182 |  |
| 2                         | 6.113 | 6.113 | 0.000 | 13830477H | 0.5000 | 0.4878 |  |
| 2                         | 6.772 | 6.772 | 0.000 | 17701771H | 0.5000 | 0.5037 |  |
| 2                         | 7.903 | 7.903 | 0.000 | 29519994H | 0.5000 | 0.5068 |  |
| 2                         | 8.591 | 8.591 | 0.000 | 36413344H | 0.5000 | 0.5095 |  |
| 2                         | 8.923 | 8.923 | 0.000 | 24646989H | 0.5000 | 0.4942 |  |

Average of Peak Amounts = 0.5004

RPD = 3.49

Reagents:

GCAR2154CALL4\_00008

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450783.D

Injection Date: 16-Apr-2015 11:50:53

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 6

Worklist Smp#: 6

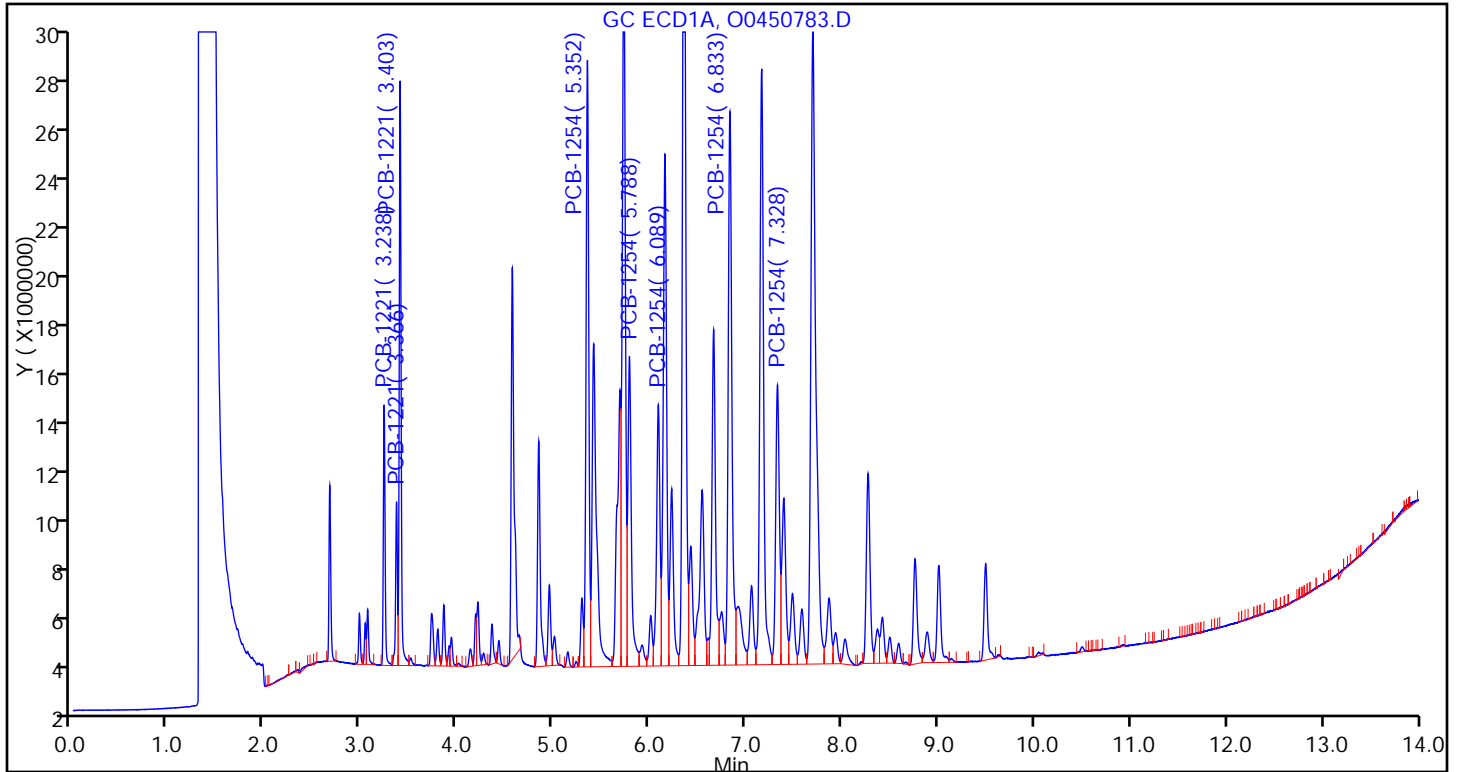
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

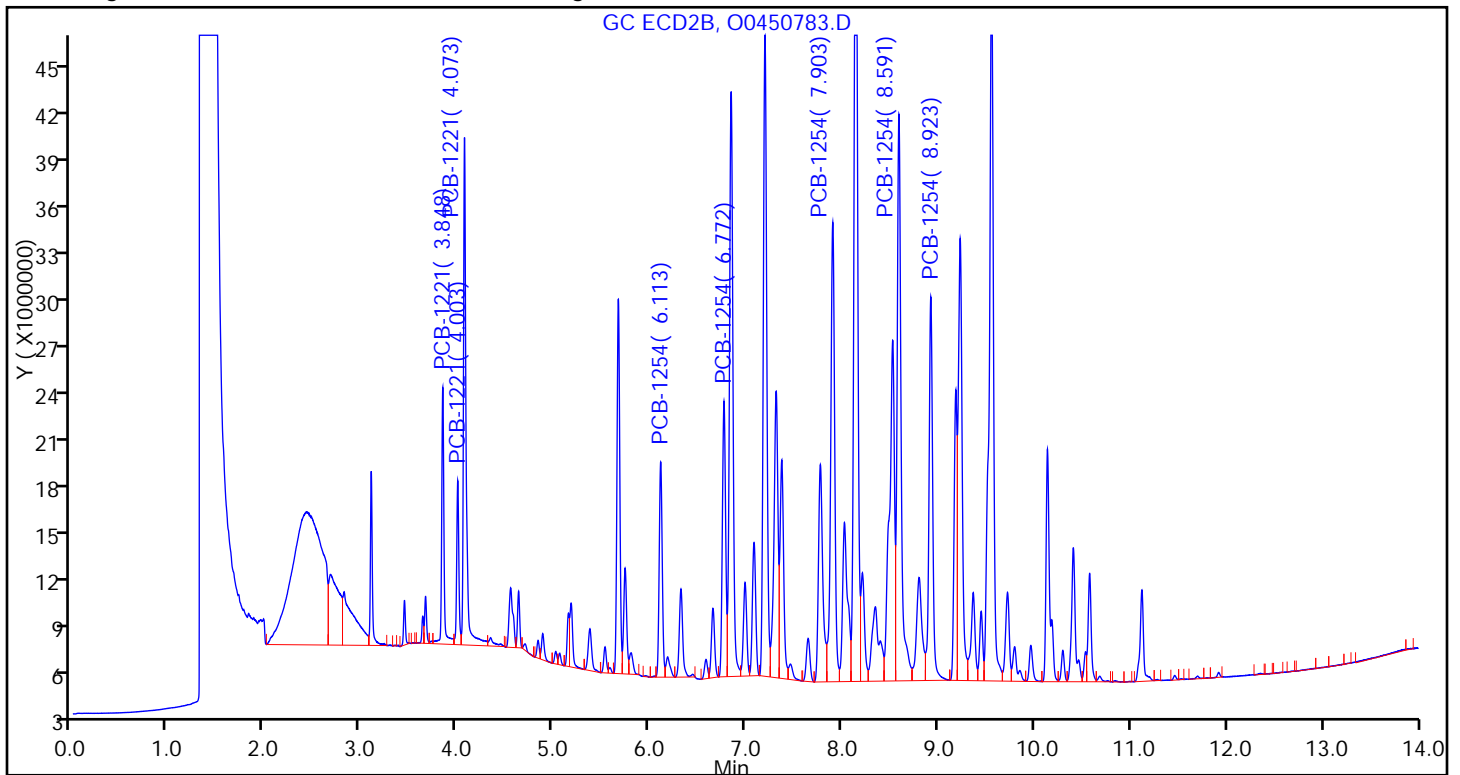
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450784.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 5  
 Inject. Date: 16-Apr-2015 12:10:38 ALS Bottle#: 7 Worklist Smp#: 7  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-007  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub2  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:18:43 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

First Level Reviewer: guptaa Date: 17-Apr-2015 07:28:05

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

2 PCB-1221 M

|                           |       |       |        |           |      |            |   |
|---------------------------|-------|-------|--------|-----------|------|------------|---|
| 1                         | 3.238 | 3.238 | 0.000  | 21944567H | 1.00 | 1.05       |   |
| 1                         | 3.367 | 3.366 | 0.001  | 13564691H | 1.00 | 0.9646     |   |
| 1                         | 3.404 | 3.403 | 0.001  | 48322303H | 1.00 | 1.01       |   |
| Average of Peak Amounts = |       |       |        |           |      | 1.01       |   |
| 2                         | 3.847 | 3.848 | -0.001 | 32897329H | 1.00 | 0.9849     | M |
| 2                         | 4.002 | 4.003 | -0.001 | 20101501H | 1.00 | 0.9527     | M |
| 2                         | 4.073 | 4.073 | 0.000  | 62483134H | 1.00 | 0.9311     | M |
| Average of Peak Amounts = |       |       |        |           |      | 0.9563     |   |
|                           |       |       |        |           |      | RPD = 5.26 |   |

7 PCB-1254

|                           |       |       |        |           |      |            |  |
|---------------------------|-------|-------|--------|-----------|------|------------|--|
| 1                         | 5.352 | 5.352 | 0.000  | 49229189H | 1.00 | 1.03       |  |
| 1                         | 5.789 | 5.788 | 0.001  | 25614924H | 1.00 | 1.04       |  |
| 1                         | 6.090 | 6.089 | 0.001  | 21900924H | 1.00 | 1.09       |  |
| 1                         | 6.835 | 6.833 | 0.002  | 47066188H | 1.00 | 1.12       |  |
| 1                         | 7.329 | 7.328 | 0.001  | 24619535H | 1.00 | 1.15       |  |
| Average of Peak Amounts = |       |       |        |           |      | 1.09       |  |
| 2                         | 6.113 | 6.113 | 0.000  | 27838741H | 1.00 | 0.9820     |  |
| 2                         | 6.771 | 6.772 | -0.001 | 36504515H | 1.00 | 1.04       |  |
| 2                         | 7.903 | 7.903 | 0.000  | 59800467H | 1.00 | 1.03       |  |
| 2                         | 8.592 | 8.591 | 0.001  | 73457668H | 1.00 | 1.03       |  |
| 2                         | 8.922 | 8.923 | -0.001 | 44950989H | 1.00 | 0.9014     |  |
| Average of Peak Amounts = |       |       |        |           |      | 1.00       |  |
|                           |       |       |        |           |      | RPD = 8.70 |  |

## QC Flag Legend

Review Flags

M - Manually Integrated

## Reagents:

GCAR2154CALL5\_00008

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450784.D

Injection Date: 16-Apr-2015 12:10:38

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 7

Worklist Smp#: 7

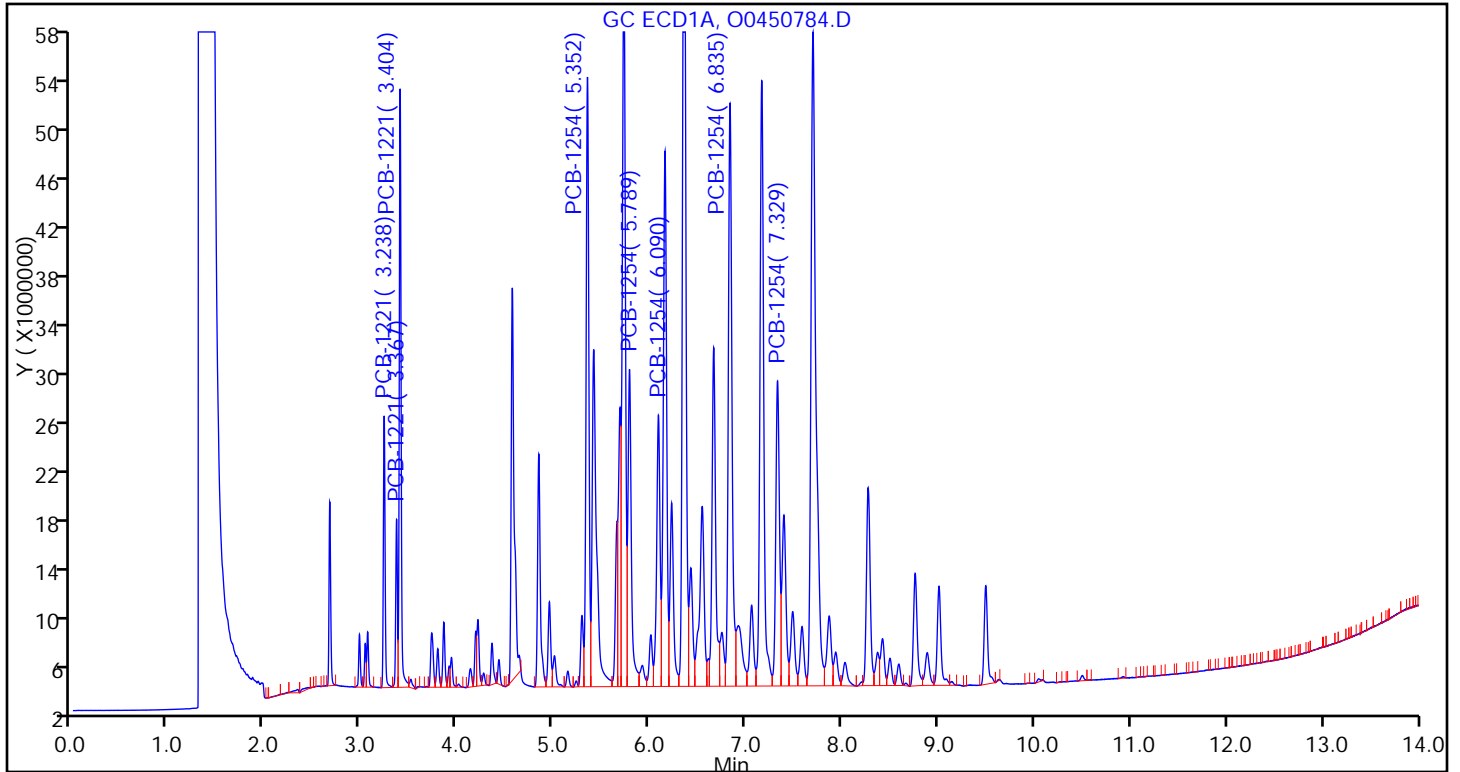
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

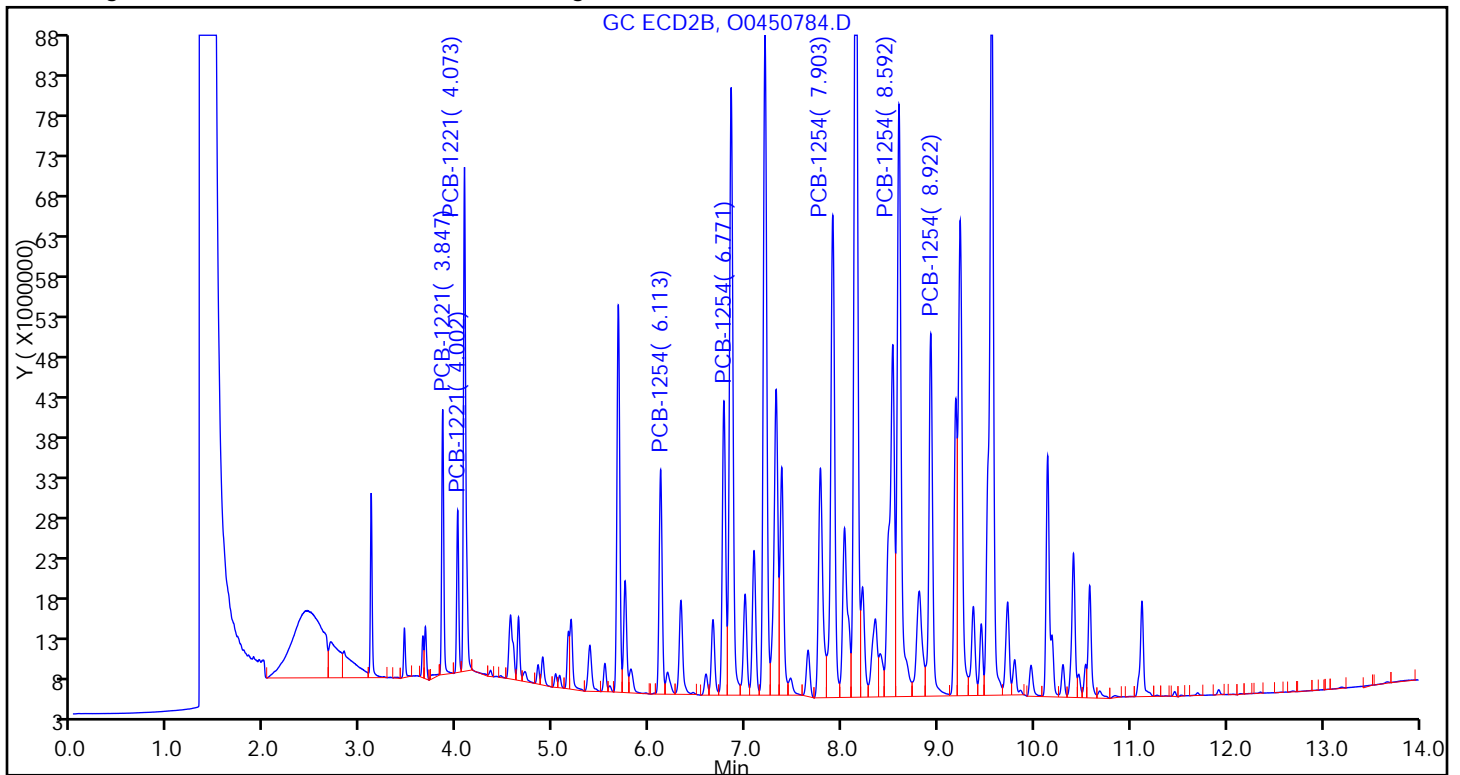
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3





## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450784.D

Injection Date: 16-Apr-2015 12:10:38

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 7

Worklist Smp#: 7

Injection Vol: 1.0 ul

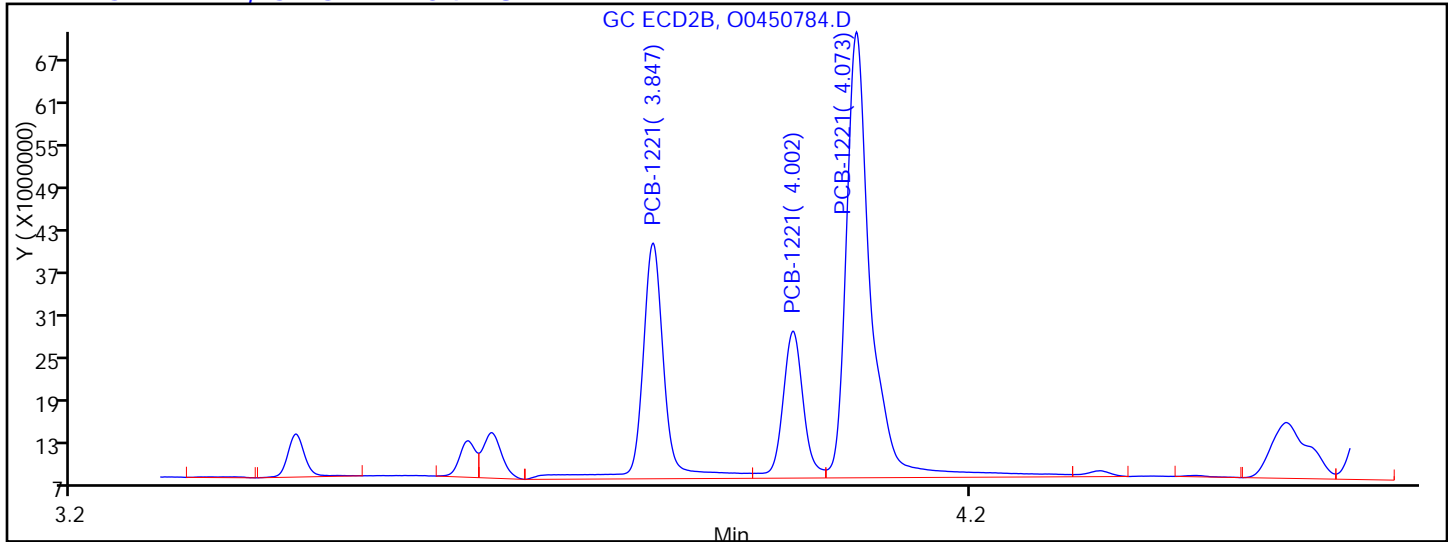
Dil. Factor: 1.0000

Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

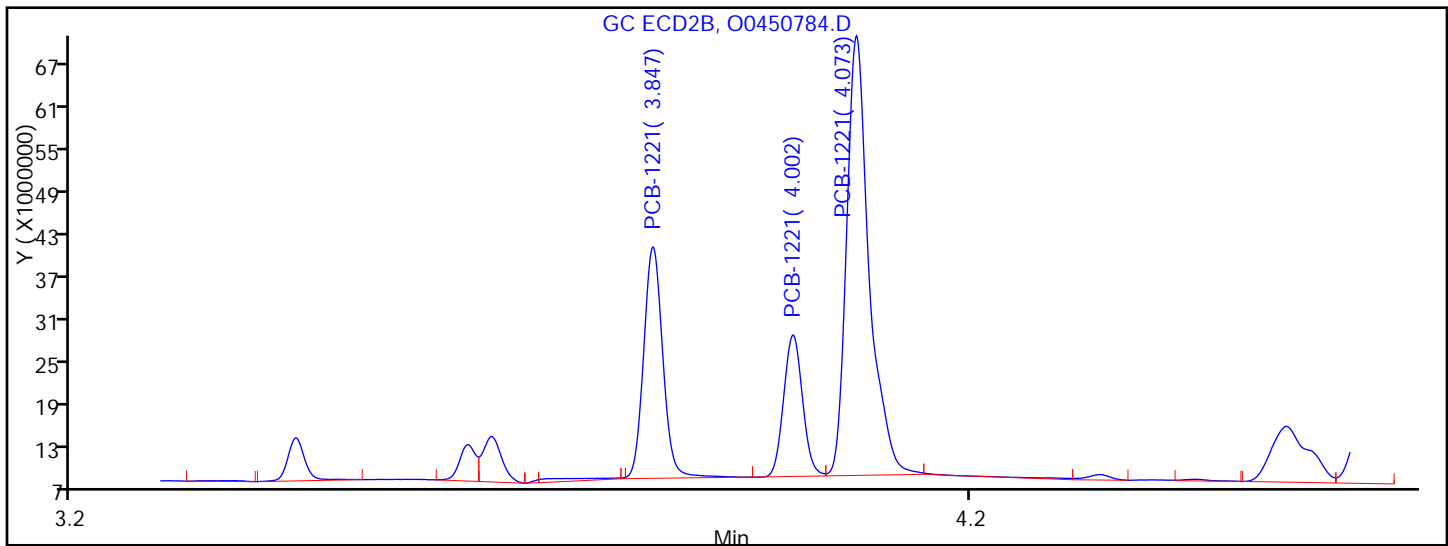
Column:

Detector GC ECD2B

**2 PCB-1221, CAS: 11104-28-2**

## Processing Integration Results

|            |                     |   |
|------------|---------------------|---|
| RT = 3.847 | Response = 33480868 | M |
| RT = 4.002 | Response = 20880164 | M |
| RT = 4.073 | Response = 63365525 | M |



## Manual Integration Results

|            |                     |   |
|------------|---------------------|---|
| RT = 3.847 | Response = 32897329 | M |
| RT = 4.002 | Response = 20101501 | M |
| RT = 4.073 | Response = 62483134 | M |

Reviewer: guptaa, 17-Apr-2015 07:28:05

Audit Action: Assigned New Baseline

Audit Reason: Instrument noise

FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP1 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 12:30 Calibration End Date: 04/16/2015 13:49 Calibration ID: 23378

Calibration Files:

| LEVEL:  | LAB SAMPLE ID:   | LAB FILE ID: |
|---------|------------------|--------------|
| Level 1 | IC 180-138696/8  | 00450785.D   |
| Level 2 | IC 180-138696/9  | 00450786.D   |
| Level 3 | IC 180-138696/10 | 00450787.D   |
| Level 4 | IC 180-138696/11 | 00450788.D   |
| Level 5 | IC 180-138696/12 | 00450789.D   |

| ANALYTE         | LVL 1  | LVL 2  | LVL 3  | LVL 4  | LVL 5  |  |  |  |  |  | RT WINDOW       | AVG RT |
|-----------------|--------|--------|--------|--------|--------|--|--|--|--|--|-----------------|--------|
| PCB-1242 Peak 1 | 4.361  | 4.361  | 4.361  | 4.361  | 4.361  |  |  |  |  |  | 4.311 - 4.411   | 4.361  |
| PCB-1242 Peak 2 | 4.433  | 4.434  | 4.433  | 4.433  | 4.433  |  |  |  |  |  | 4.383 - 4.483   | 4.433  |
| PCB-1242 Peak 3 | 4.849  | 4.848  | 4.848  | 4.849  | 4.848  |  |  |  |  |  | 4.799 - 4.899   | 4.848  |
| PCB-1242 Peak 4 | 4.959  | 4.958  | 4.958  | 4.958  | 4.958  |  |  |  |  |  | 4.908 - 5.008   | 4.958  |
| PCB-1242 Peak 5 | 5.418  | 5.418  | 5.416  | 5.416  | 5.416  |  |  |  |  |  | 5.366 - 5.466   | 5.417  |
| PCB-1268 Peak 1 | 9.560  | 9.559  | 9.560  | 9.560  | 9.560  |  |  |  |  |  | 9.510 - 9.610   | 9.560  |
| PCB-1268 Peak 2 | 9.625  | 9.625  | 9.624  | 9.625  | 9.624  |  |  |  |  |  | 9.575 - 9.675   | 9.625  |
| PCB-1268 Peak 3 | 9.939  | 9.938  | 9.938  | 9.938  | 9.937  |  |  |  |  |  | 9.888 - 9.988   | 9.938  |
| PCB-1268 Peak 4 | 10.921 | 10.921 | 10.920 | 10.920 | 10.922 |  |  |  |  |  | 10.870 - 10.970 | 10.921 |

FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP1 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 12:30 Calibration End Date: 04/16/2015 13:49 Calibration ID: 23378

Calibration Files:

|         |                  |              |
|---------|------------------|--------------|
| LEVEL:  | LAB SAMPLE ID:   | LAB FILE ID: |
| Level 1 | IC 180-138696/8  | 00450785.D   |
| Level 2 | IC 180-138696/9  | 00450786.D   |
| Level 3 | IC 180-138696/10 | 00450787.D   |
| Level 4 | IC 180-138696/11 | 00450788.D   |
| Level 5 | IC 180-138696/12 | 00450789.D   |

| ANALYTE         | CF                     |           |           |           | CURVE<br>TYPE | COEFFICIENT |            |    | # | MIN CF | %RSD | # | MAX<br>%RSD | R^2<br>OR COD | # | MIN R^2<br>OR COD |
|-----------------|------------------------|-----------|-----------|-----------|---------------|-------------|------------|----|---|--------|------|---|-------------|---------------|---|-------------------|
|                 | LVL 1<br>LVL 5         | LVL 2     | LVL 3     | LVL 4     |               | B           | M1         | M2 |   |        |      |   |             |               |   |                   |
| PCB-1242 Peak 1 | 30667200<br>33294557   | 33847850  | 33920884  | 33953056  | Ave           |             | 33136709.4 |    |   |        | 4.2  |   | 20.0        |               |   |                   |
| PCB-1242 Peak 2 | 19637100<br>23900857   | 22694650  | 23402272  | 23994148  | Ave           |             | 22725805.4 |    |   |        | 7.9  |   | 20.0        |               |   |                   |
| PCB-1242 Peak 3 | 29714100<br>30205958   | 28690830  | 30705968  | 31044794  | Ave           |             | 30072330.0 |    |   |        | 3.1  |   | 20.0        |               |   |                   |
| PCB-1242 Peak 4 | 17486800<br>19325907   | 17710240  | 18887240  | 19697492  | Ave           |             | 18621535.8 |    |   |        | 5.3  |   | 20.0        |               |   |                   |
| PCB-1242 Peak 5 | 22323300<br>25164955   | 22584820  | 24026480  | 25201272  | Ave           |             | 23860165.4 |    |   |        | 5.7  |   | 20.0        |               |   |                   |
| PCB-1268 Peak 1 | 178273700<br>172727586 | 181405950 | 183536600 | 174000950 | Ave           |             | 177988957  |    |   |        | 2.6  |   | 20.0        |               |   |                   |
| PCB-1268 Peak 2 | 146519400<br>145916261 | 153882810 | 153966240 | 149010672 | Ave           |             | 149859077  |    |   |        | 2.6  |   | 20.0        |               |   |                   |
| PCB-1268 Peak 3 | 148345900<br>143582018 | 149570710 | 151545348 | 145698656 | Ave           |             | 147748526  |    |   |        | 2.1  |   | 20.0        |               |   |                   |
| PCB-1268 Peak 4 | 442077200<br>444306287 | 460349840 | 464688944 | 439442890 | Ave           |             | 450173032  |    |   |        | 2.6  |   | 20.0        |               |   |                   |

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP1 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 12:30 Calibration End Date: 04/16/2015 13:49 Calibration ID: 23378

Calibration Files:

| LEVEL:  | LAB SAMPLE ID:   | LAB FILE ID: |
|---------|------------------|--------------|
| Level 1 | IC 180-138696/8  | 00450785.D   |
| Level 2 | IC 180-138696/9  | 00450786.D   |
| Level 3 | IC 180-138696/10 | 00450787.D   |
| Level 4 | IC 180-138696/11 | 00450788.D   |
| Level 5 | IC 180-138696/12 | 00450789.D   |

| ANALYTE         | CURVE<br>TYPE | RESPONSE |          |           |           |           | CONCENTRATION (NG) |       |       |       |       |
|-----------------|---------------|----------|----------|-----------|-----------|-----------|--------------------|-------|-------|-------|-------|
|                 |               | LVL 1    | LVL 2    | LVL 3     | LVL 4     | LVL 5     | LVL 1              | LVL 2 | LVL 3 | LVL 4 | LVL 5 |
| PCB-1242 Peak 1 | Ave           | 306672   | 3384785  | 8480221   | 16976528  | 33294557  | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1242 Peak 2 | Ave           | 196371   | 2269465  | 5850568   | 11997074  | 23900857  | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1242 Peak 3 | Ave           | 297141   | 2869083  | 7676492   | 15522397  | 30205958  | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1242 Peak 4 | Ave           | 174868   | 1771024  | 4721810   | 9848746   | 19325907  | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1242 Peak 5 | Ave           | 223233   | 2258482  | 6006620   | 12600636  | 25164955  | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1268 Peak 1 | Ave           | 1782737  | 18140595 | 45884150  | 87000475  | 172727586 | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1268 Peak 2 | Ave           | 1465194  | 15388281 | 38491560  | 74505336  | 145916261 | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1268 Peak 3 | Ave           | 1483459  | 14957071 | 37886337  | 72849328  | 143582018 | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1268 Peak 4 | Ave           | 4420772  | 46034984 | 116172236 | 219721445 | 444306287 | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |

Curve Type Legend:

Ave = Average by Height

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450785.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 1  
 Inject. Date: 16-Apr-2015 12:30:22 ALS Bottle#: 8 Worklist Smp#: 8  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-008  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub9  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:18:45 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

3 PCB-1242

|   |       |       |       |         |        |          |  |
|---|-------|-------|-------|---------|--------|----------|--|
| 1 | 4.361 | 4.361 | 0.000 | 306672H | 0.0100 | 0.009255 |  |
| 1 | 4.433 | 4.433 | 0.000 | 196371H | 0.0100 | 0.008641 |  |
| 1 | 4.849 | 4.849 | 0.000 | 297141H | 0.0100 | 0.009881 |  |
| 1 | 4.959 | 4.958 | 0.001 | 174868H | 0.0100 | 0.009391 |  |
| 1 | 5.418 | 5.416 | 0.002 | 223233H | 0.0100 | 0.009356 |  |

Average of Peak Amounts = 0.009305

|   |       |       |        |         |        |          |  |
|---|-------|-------|--------|---------|--------|----------|--|
| 2 | 5.378 | 5.380 | -0.002 | 498203H | 0.0100 | 0.0100   |  |
| 2 | 5.678 | 5.675 | 0.003  | 338763H | 0.0100 | 0.0101   |  |
| 2 | 6.116 | 6.115 | 0.001  | 473129H | 0.0100 | 0.0101   |  |
| 2 | 6.324 | 6.325 | -0.001 | 373887H | 0.0100 | 0.009750 |  |
| 2 | 6.862 | 6.859 | 0.003  | 440204H | 0.0100 | 0.0104   |  |

Average of Peak Amounts = 0.0101

RPD = 7.89

10 PCB-1268

|   |        |        |       |          |        |          |  |
|---|--------|--------|-------|----------|--------|----------|--|
| 1 | 9.560  | 9.560  | 0.000 | 1782737H | 0.0100 | 0.0100   |  |
| 1 | 9.625  | 9.625  | 0.000 | 1465194H | 0.0100 | 0.009777 |  |
| 1 | 9.939  | 9.938  | 0.001 | 1483459H | 0.0100 | 0.0100   |  |
| 1 | 10.921 | 10.920 | 0.001 | 4420772H | 0.0100 | 0.009820 |  |

Average of Peak Amounts = 0.0099

|   |        |        |       |          |        |        |  |
|---|--------|--------|-------|----------|--------|--------|--|
| 2 | 11.105 | 11.104 | 0.001 | 2889396H | 0.0100 | 0.0106 |  |
| 2 | 11.171 | 11.170 | 0.001 | 2301246H | 0.0100 | 0.0105 |  |
| 2 | 11.529 | 11.528 | 0.001 | 2207078H | 0.0100 | 0.0105 |  |
| 2 | 12.350 | 12.350 | 0.000 | 6235791H | 0.0100 | 0.0101 |  |

Average of Peak Amounts = 0.0104

RPD = 4.87

**Reagents:**

GCAR4268CALL1\_00001

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450785.D

Injection Date: 16-Apr-2015 12:30:22

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 8

Worklist Smp#: 8

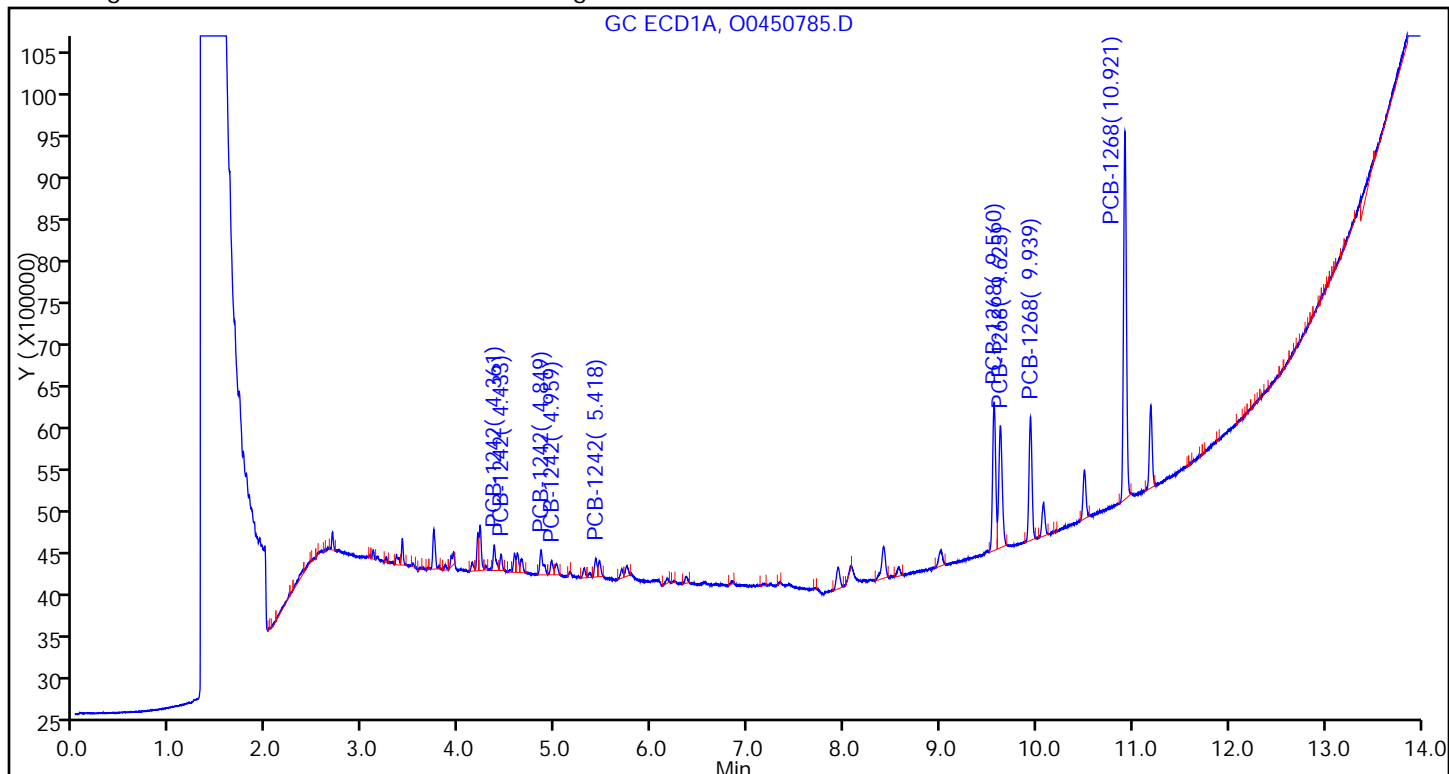
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

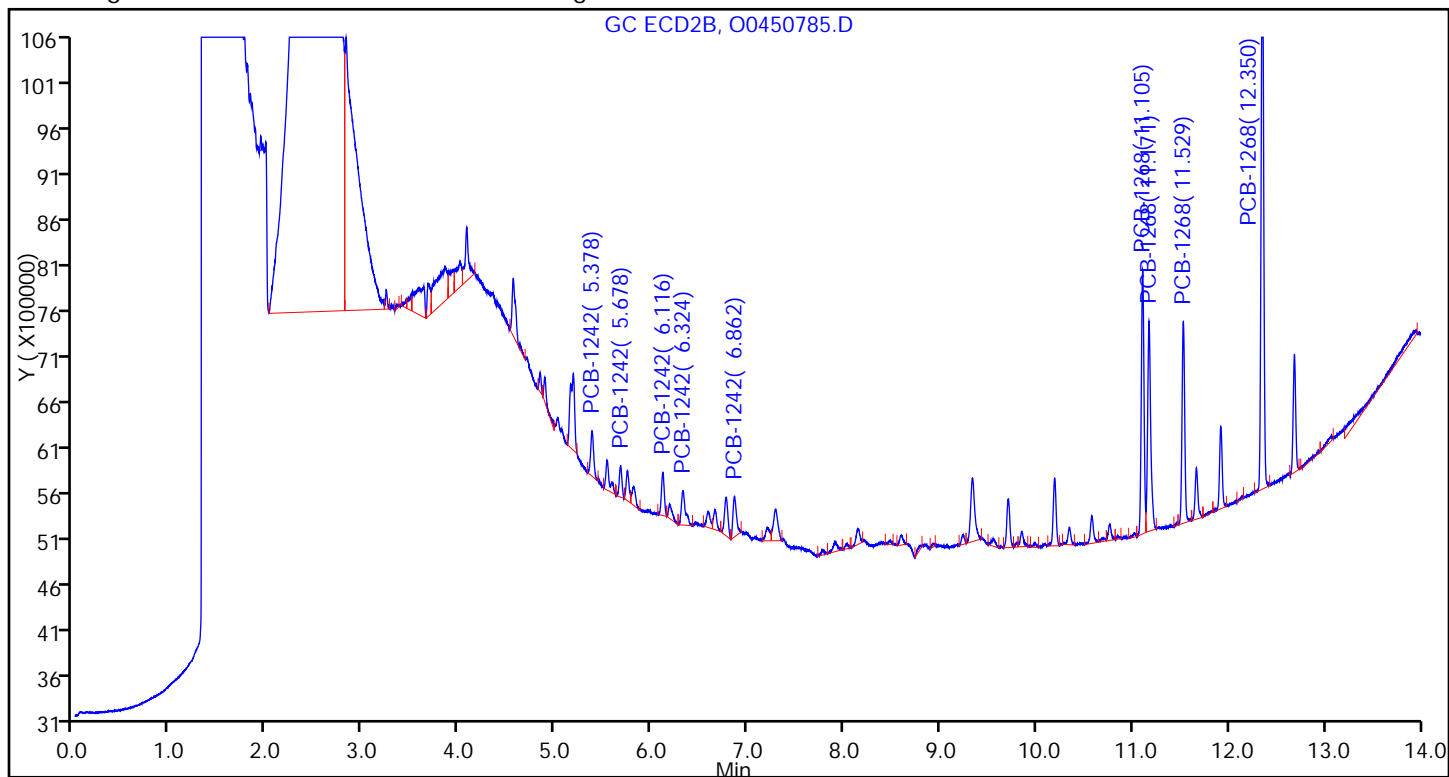
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450786.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 2  
 Inject. Date: 16-Apr-2015 12:50:06 ALS Bottle#: 9 Worklist Smp#: 9  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-009  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub9  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:18:48 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

3 PCB-1242

|   |       |       |        |          |        |        |
|---|-------|-------|--------|----------|--------|--------|
| 1 | 4.361 | 4.361 | 0.000  | 3384785H | 0.1000 | 0.1021 |
| 1 | 4.434 | 4.433 | 0.001  | 2269465H | 0.1000 | 0.0999 |
| 1 | 4.848 | 4.849 | -0.001 | 2869083H | 0.1000 | 0.0954 |
| 1 | 4.958 | 4.958 | 0.000  | 1771024H | 0.1000 | 0.0951 |
| 1 | 5.418 | 5.416 | 0.002  | 2258482H | 0.1000 | 0.0947 |

Average of Peak Amounts = 0.0974

|   |       |       |        |          |        |        |
|---|-------|-------|--------|----------|--------|--------|
| 2 | 5.379 | 5.380 | -0.001 | 5136406H | 0.1000 | 0.1029 |
| 2 | 5.675 | 5.675 | 0.000  | 3488134H | 0.1000 | 0.1037 |
| 2 | 6.115 | 6.115 | 0.000  | 4884558H | 0.1000 | 0.1043 |
| 2 | 6.324 | 6.325 | -0.001 | 3884778H | 0.1000 | 0.1013 |
| 2 | 6.859 | 6.859 | 0.000  | 4146323H | 0.1000 | 0.0983 |

Average of Peak Amounts = 0.1021

RPD = 4.69

10 PCB-1268

|   |        |        |        |           |        |        |
|---|--------|--------|--------|-----------|--------|--------|
| 1 | 9.559  | 9.560  | -0.001 | 18140595H | 0.1000 | 0.1019 |
| 1 | 9.625  | 9.625  | 0.000  | 15388281H | 0.1000 | 0.1027 |
| 1 | 9.938  | 9.938  | 0.000  | 14957071H | 0.1000 | 0.1012 |
| 1 | 10.921 | 10.920 | 0.001  | 46034984H | 0.1000 | 0.1023 |

Average of Peak Amounts = 0.1020

|   |        |        |        |           |        |        |
|---|--------|--------|--------|-----------|--------|--------|
| 2 | 11.104 | 11.104 | 0.000  | 27333068H | 0.1000 | 0.1006 |
| 2 | 11.171 | 11.170 | 0.001  | 22299692H | 0.1000 | 0.1013 |
| 2 | 11.527 | 11.528 | -0.001 | 21273674H | 0.1000 | 0.1009 |
| 2 | 12.349 | 12.350 | -0.001 | 62093198H | 0.1000 | 0.1003 |

Average of Peak Amounts = 0.1008

RPD = 1.23



**Reagents:**

GCAR4268CALL2\_00001

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450786.D

Injection Date: 16-Apr-2015 12:50:06

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 9

Worklist Smp#: 9

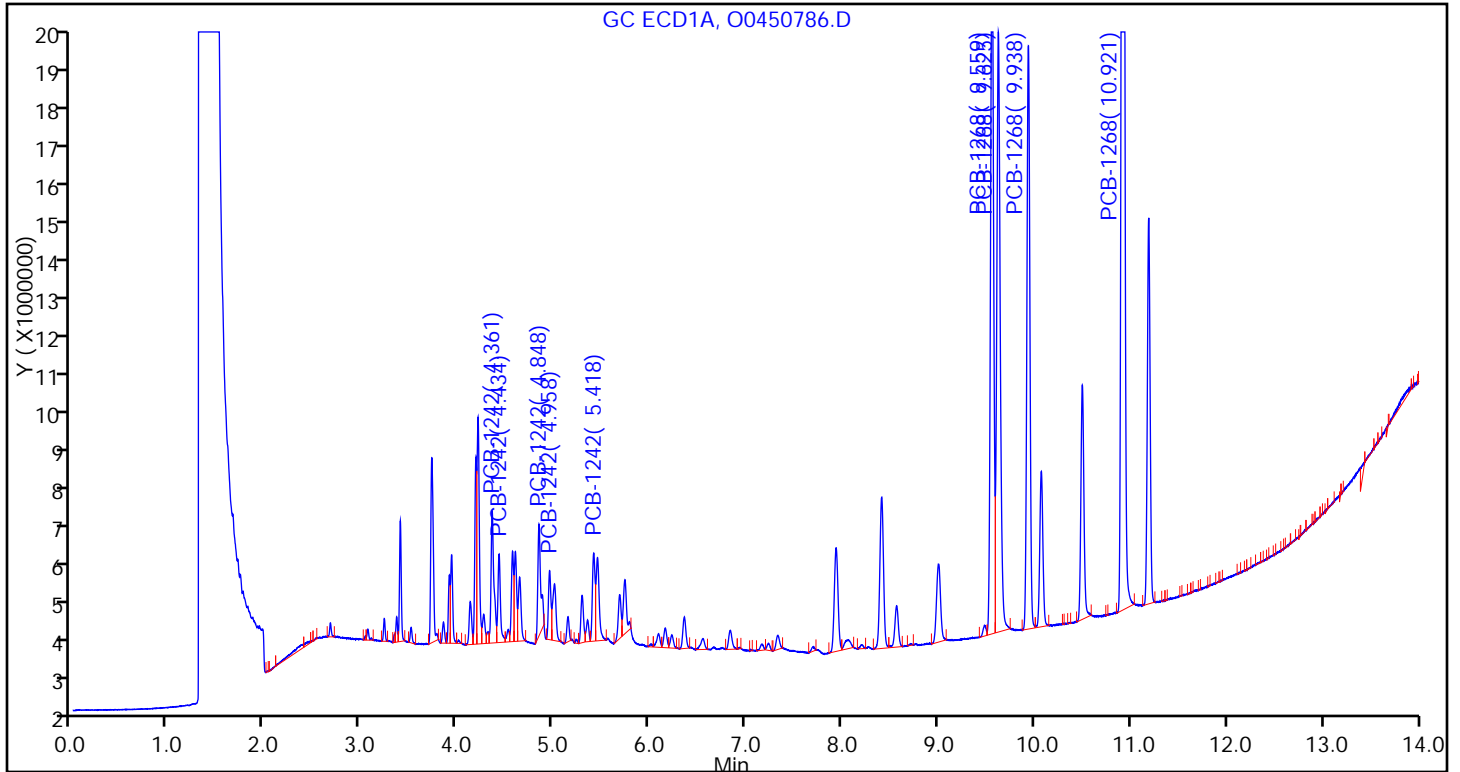
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

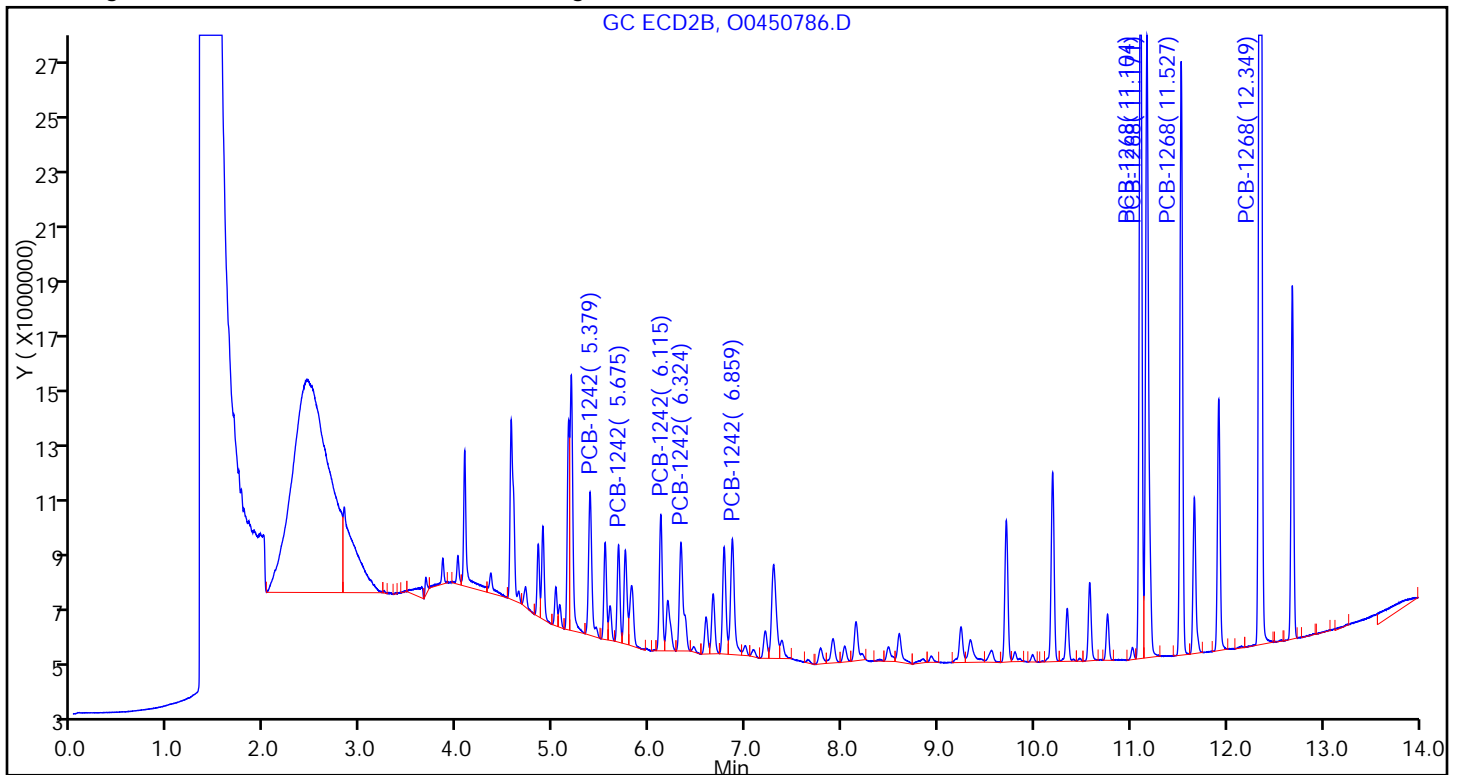
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450787.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 3  
 Inject. Date: 16-Apr-2015 13:09:51 ALS Bottle#: 10 Worklist Smp#: 10  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-010  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub9  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:18:50 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

3 PCB-1242

|   |       |       |        |          |        |        |  |
|---|-------|-------|--------|----------|--------|--------|--|
| 1 | 4.361 | 4.361 | 0.000  | 8480221H | 0.2500 | 0.2559 |  |
| 1 | 4.433 | 4.433 | 0.000  | 5850568H | 0.2500 | 0.2574 |  |
| 1 | 4.848 | 4.849 | -0.001 | 7676492H | 0.2500 | 0.2553 |  |
| 1 | 4.958 | 4.958 | 0.000  | 4721810H | 0.2500 | 0.2536 |  |
| 1 | 5.416 | 5.416 | 0.000  | 6006620H | 0.2500 | 0.2517 |  |

Average of Peak Amounts = 0.2548

|   |       |       |        |           |        |        |  |
|---|-------|-------|--------|-----------|--------|--------|--|
| 2 | 5.378 | 5.380 | -0.002 | 12664699H | 0.2500 | 0.2537 |  |
| 2 | 5.674 | 5.675 | -0.001 | 8516462H  | 0.2500 | 0.2532 |  |
| 2 | 6.115 | 6.115 | 0.000  | 11972071H | 0.2500 | 0.2557 |  |
| 2 | 6.324 | 6.325 | -0.001 | 9918550H  | 0.2500 | 0.2587 |  |
| 2 | 6.858 | 6.859 | -0.001 | 10593672H | 0.2500 | 0.2511 |  |

Average of Peak Amounts = 0.2545

RPD = 0.12

10 PCB-1268

|   |        |        |        |            |        |        |  |
|---|--------|--------|--------|------------|--------|--------|--|
| 1 | 9.560  | 9.560  | 0.000  | 45884150H  | 0.2500 | 0.2578 |  |
| 1 | 9.624  | 9.625  | -0.001 | 38491560H  | 0.2500 | 0.2569 |  |
| 1 | 9.938  | 9.938  | 0.000  | 37886337H  | 0.2500 | 0.2564 |  |
| 1 | 10.920 | 10.920 | 0.000  | 116172236H | 0.2500 | 0.2581 |  |

Average of Peak Amounts = 0.2573

|   |        |        |       |            |        |        |  |
|---|--------|--------|-------|------------|--------|--------|--|
| 2 | 11.105 | 11.104 | 0.001 | 67978527H  | 0.2500 | 0.2502 |  |
| 2 | 11.171 | 11.170 | 0.001 | 55248446H  | 0.2500 | 0.2510 |  |
| 2 | 11.528 | 11.528 | 0.000 | 52959314H  | 0.2500 | 0.2511 |  |
| 2 | 12.350 | 12.350 | 0.000 | 157944175H | 0.2500 | 0.2552 |  |

Average of Peak Amounts = 0.2519

RPD = 2.12

**Reagents:**

GCAR4268CALL3\_00001

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450787.D

Injection Date: 16-Apr-2015 13:09:51

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 10

Worklist Smp#: 10

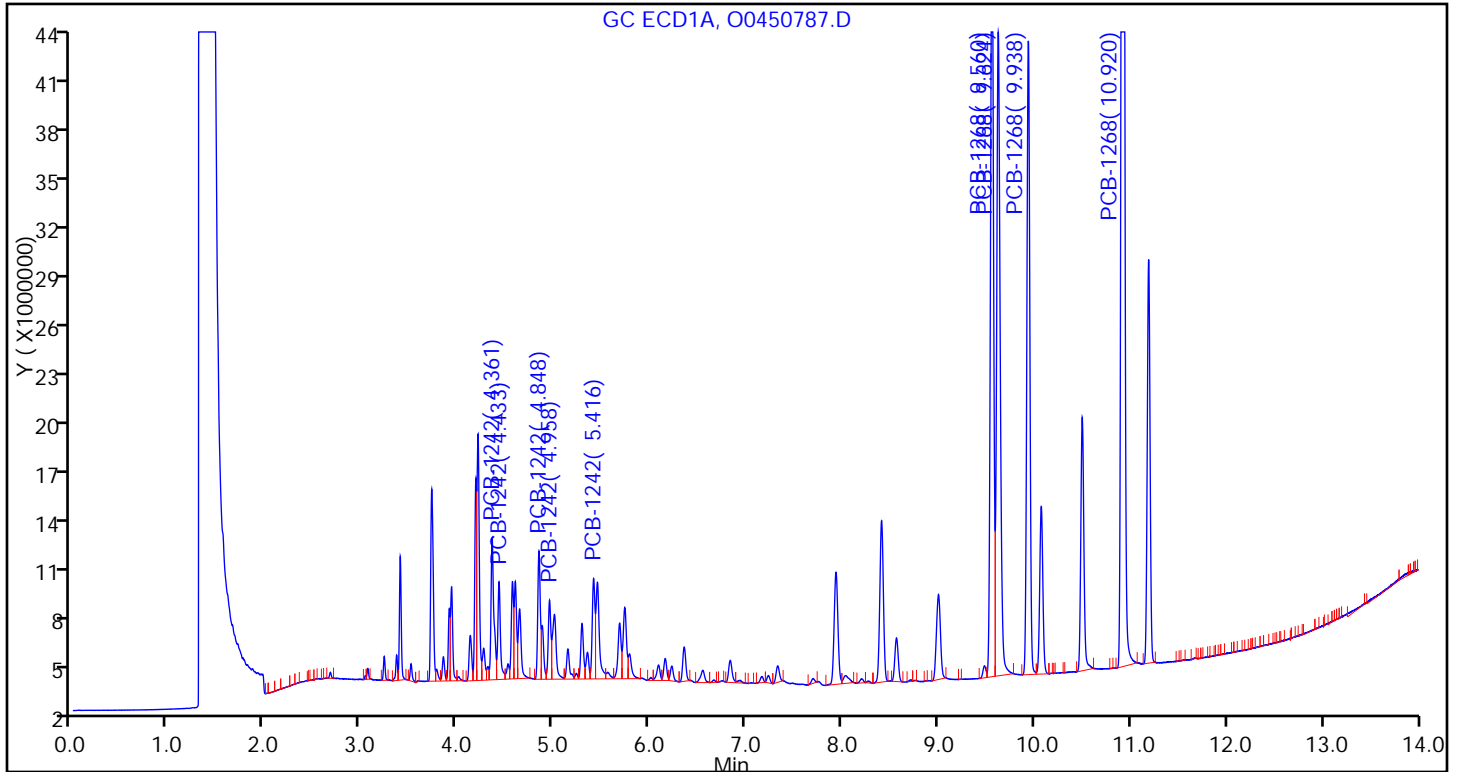
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

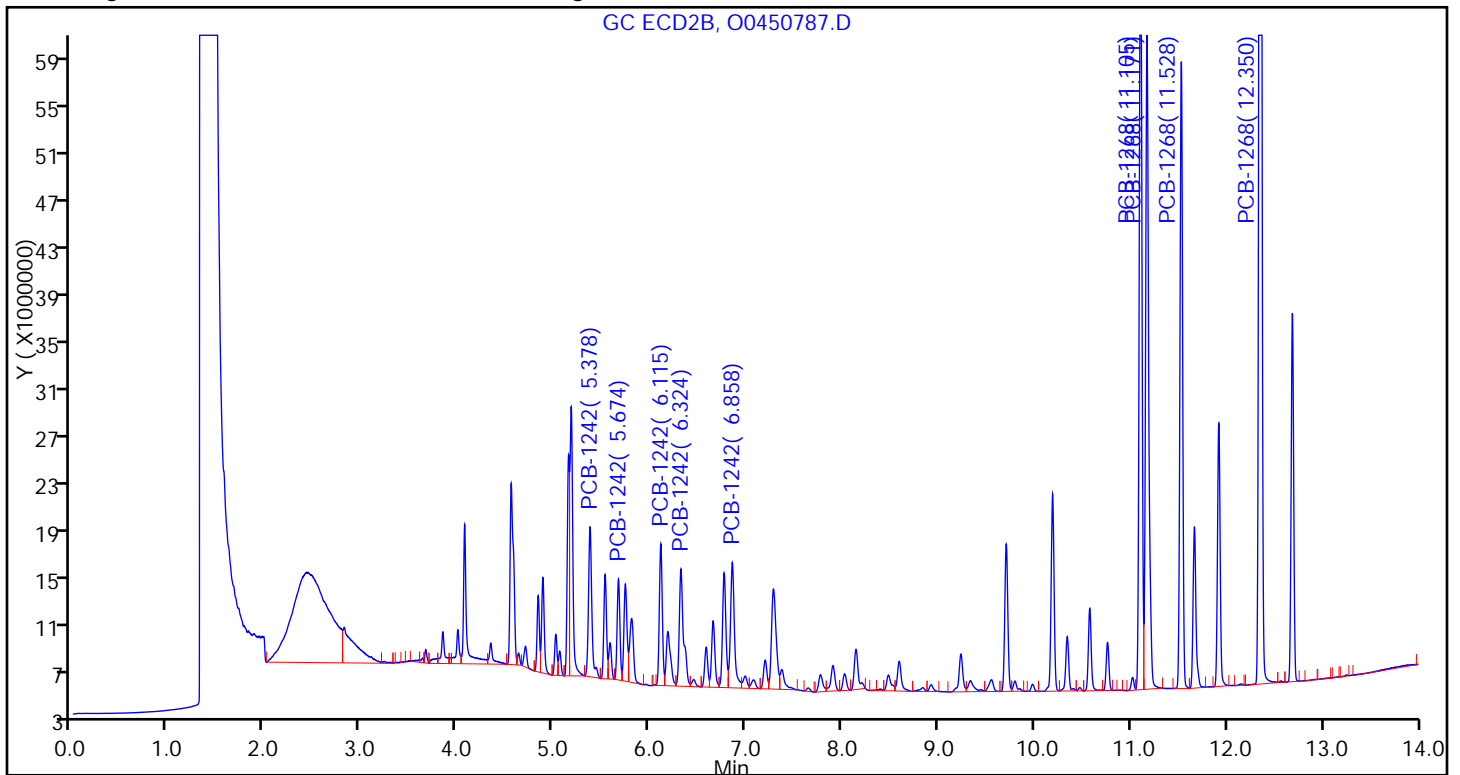
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450788.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 4  
 Inject. Date: 16-Apr-2015 13:29:42 ALS Bottle#: 11 Worklist Smp#: 11  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-011  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub9  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:18:53 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

3 PCB-1242

|   |       |       |       |           |        |        |  |
|---|-------|-------|-------|-----------|--------|--------|--|
| 1 | 4.361 | 4.361 | 0.000 | 16976528H | 0.5000 | 0.5123 |  |
| 1 | 4.433 | 4.433 | 0.000 | 11997074H | 0.5000 | 0.5279 |  |
| 1 | 4.849 | 4.849 | 0.000 | 15522397H | 0.5000 | 0.5162 |  |
| 1 | 4.958 | 4.958 | 0.000 | 9848746H  | 0.5000 | 0.5289 |  |
| 1 | 5.416 | 5.416 | 0.000 | 12600636H | 0.5000 | 0.5281 |  |

Average of Peak Amounts = 0.5227

|   |       |       |       |           |        |        |  |
|---|-------|-------|-------|-----------|--------|--------|--|
| 2 | 5.380 | 5.380 | 0.000 | 24882738H | 0.5000 | 0.4985 |  |
| 2 | 5.675 | 5.675 | 0.000 | 16533276H | 0.5000 | 0.4916 |  |
| 2 | 6.115 | 6.115 | 0.000 | 23000951H | 0.5000 | 0.4913 |  |
| 2 | 6.325 | 6.325 | 0.000 | 19170570H | 0.5000 | 0.4999 |  |
| 2 | 6.859 | 6.859 | 0.000 | 21071124H | 0.5000 | 0.4995 |  |

Average of Peak Amounts = 0.4962

RPD = 5.20

10 PCB-1268

|   |        |        |       |            |        |        |  |
|---|--------|--------|-------|------------|--------|--------|--|
| 1 | 9.560  | 9.560  | 0.000 | 87000475H  | 0.5000 | 0.4888 |  |
| 1 | 9.625  | 9.625  | 0.000 | 74505336H  | 0.5000 | 0.4972 |  |
| 1 | 9.938  | 9.938  | 0.000 | 72849328H  | 0.5000 | 0.4931 |  |
| 1 | 10.920 | 10.920 | 0.000 | 219721445H | 0.5000 | 0.4881 |  |

Average of Peak Amounts = 0.4918

|   |        |        |       |            |        |        |  |
|---|--------|--------|-------|------------|--------|--------|--|
| 2 | 11.104 | 11.104 | 0.000 | 129863872H | 0.5000 | 0.4780 |  |
| 2 | 11.170 | 11.170 | 0.000 | 107306017H | 0.5000 | 0.4874 |  |
| 2 | 11.528 | 11.528 | 0.000 | 102184028H | 0.5000 | 0.4845 |  |
| 2 | 12.350 | 12.350 | 0.000 | 299454556H | 0.5000 | 0.4839 |  |

Average of Peak Amounts = 0.4835

RPD = 1.70

**Reagents:**

GCAR4268CALL4\_00001

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450788.D

Injection Date: 16-Apr-2015 13:29:42

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 11

Worklist Smp#: 11

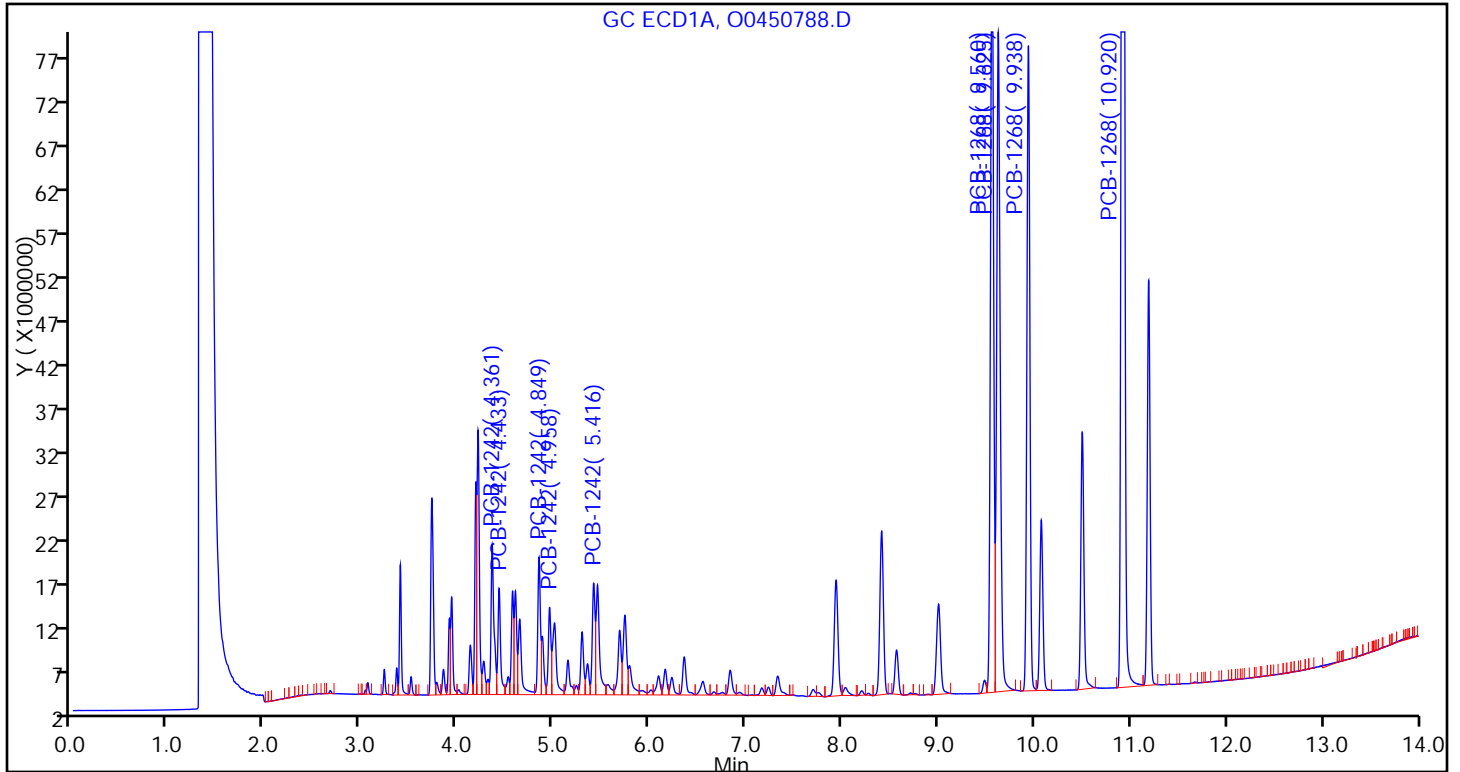
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

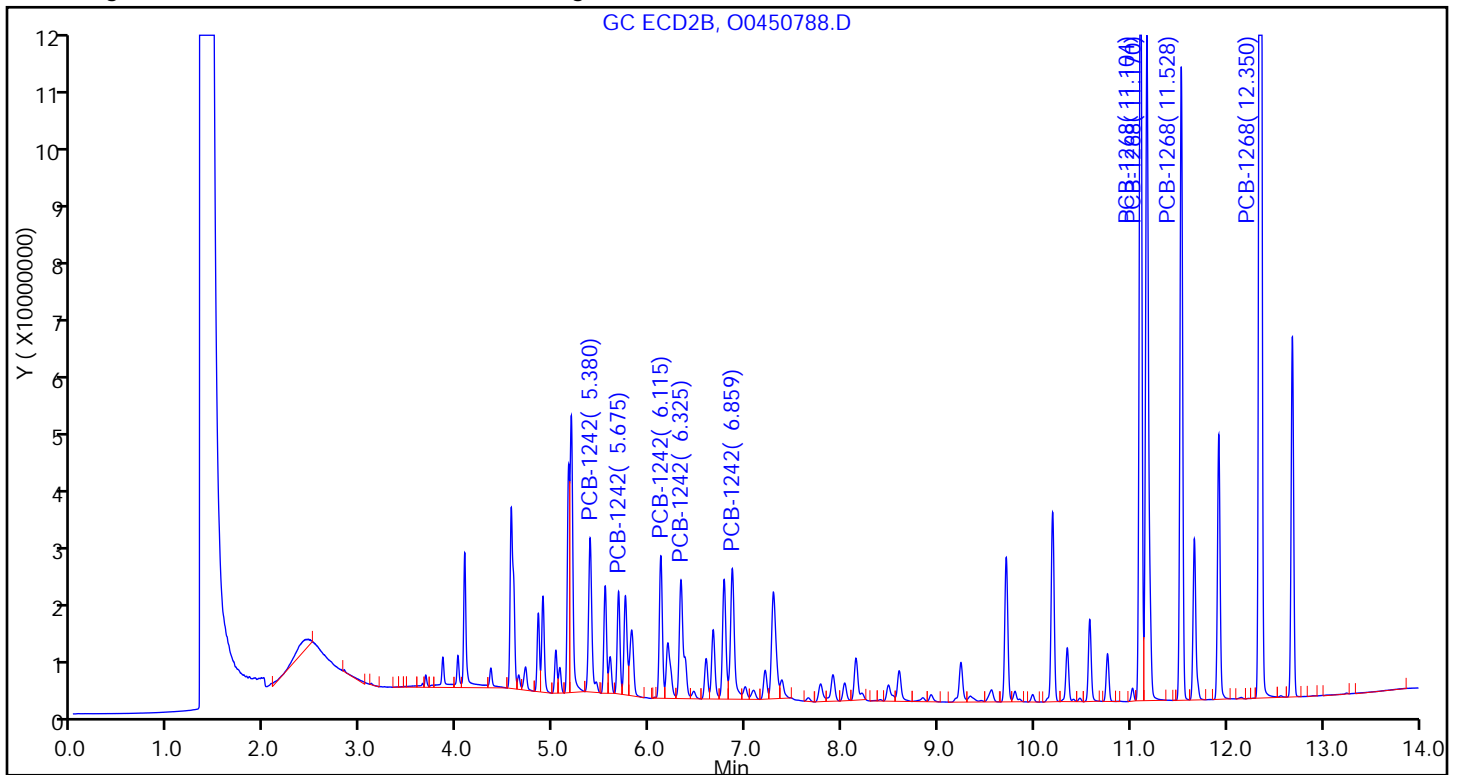
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3





TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450789.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 5  
 Inject. Date: 16-Apr-2015 13:49:26 ALS Bottle#: 12 Worklist Smp#: 12  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-012  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub9  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:18:56 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

3 PCB-1242

|   |       |       |        |           |      |      |  |
|---|-------|-------|--------|-----------|------|------|--|
| 1 | 4.361 | 4.361 | 0.000  | 33294557H | 1.00 | 1.00 |  |
| 1 | 4.433 | 4.433 | 0.000  | 23900857H | 1.00 | 1.05 |  |
| 1 | 4.848 | 4.849 | -0.001 | 30205958H | 1.00 | 1.00 |  |
| 1 | 4.958 | 4.958 | 0.000  | 19325907H | 1.00 | 1.04 |  |
| 1 | 5.416 | 5.416 | 0.000  | 25164955H | 1.00 | 1.05 |  |

Average of Peak Amounts = 1.03

|   |       |       |        |           |      |        |  |
|---|-------|-------|--------|-----------|------|--------|--|
| 2 | 5.378 | 5.380 | -0.002 | 47974387H | 1.00 | 0.9611 |  |
| 2 | 5.674 | 5.675 | -0.001 | 32260557H | 1.00 | 0.9593 |  |
| 2 | 6.113 | 6.115 | -0.002 | 44052249H | 1.00 | 0.9409 |  |
| 2 | 6.324 | 6.325 | -0.001 | 37482021H | 1.00 | 0.9774 |  |
| 2 | 6.858 | 6.859 | -0.001 | 40909207H | 1.00 | 0.9698 |  |

Average of Peak Amounts = 0.9617

RPD = 6.92

10 PCB-1268

|   |        |        |        |            |      |        |  |
|---|--------|--------|--------|------------|------|--------|--|
| 1 | 9.560  | 9.560  | 0.000  | 172727586H | 1.00 | 0.9704 |  |
| 1 | 9.624  | 9.625  | -0.001 | 145916261H | 1.00 | 0.9737 |  |
| 1 | 9.937  | 9.938  | -0.001 | 143582018H | 1.00 | 0.9718 |  |
| 1 | 10.922 | 10.920 | 0.002  | 444306287H | 1.00 | 0.9870 |  |

Average of Peak Amounts = 0.9757

|   |        |        |       |            |      |        |  |
|---|--------|--------|-------|------------|------|--------|--|
| 2 | 11.104 | 11.104 | 0.000 | 264428279H | 1.00 | 0.9734 |  |
| 2 | 11.171 | 11.170 | 0.001 | 211986868H | 1.00 | 0.9630 |  |
| 2 | 11.528 | 11.528 | 0.000 | 204817887H | 1.00 | 0.9712 |  |
| 2 | 12.350 | 12.350 | 0.000 | 618909386H | 1.00 | 1.00   |  |

Average of Peak Amounts = 0.9769

RPD = 0.12

**Reagents:**

GCAR4268CALL5\_00001

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450789.D

Injection Date: 16-Apr-2015 13:49:26

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 12

Worklist Smp#: 12

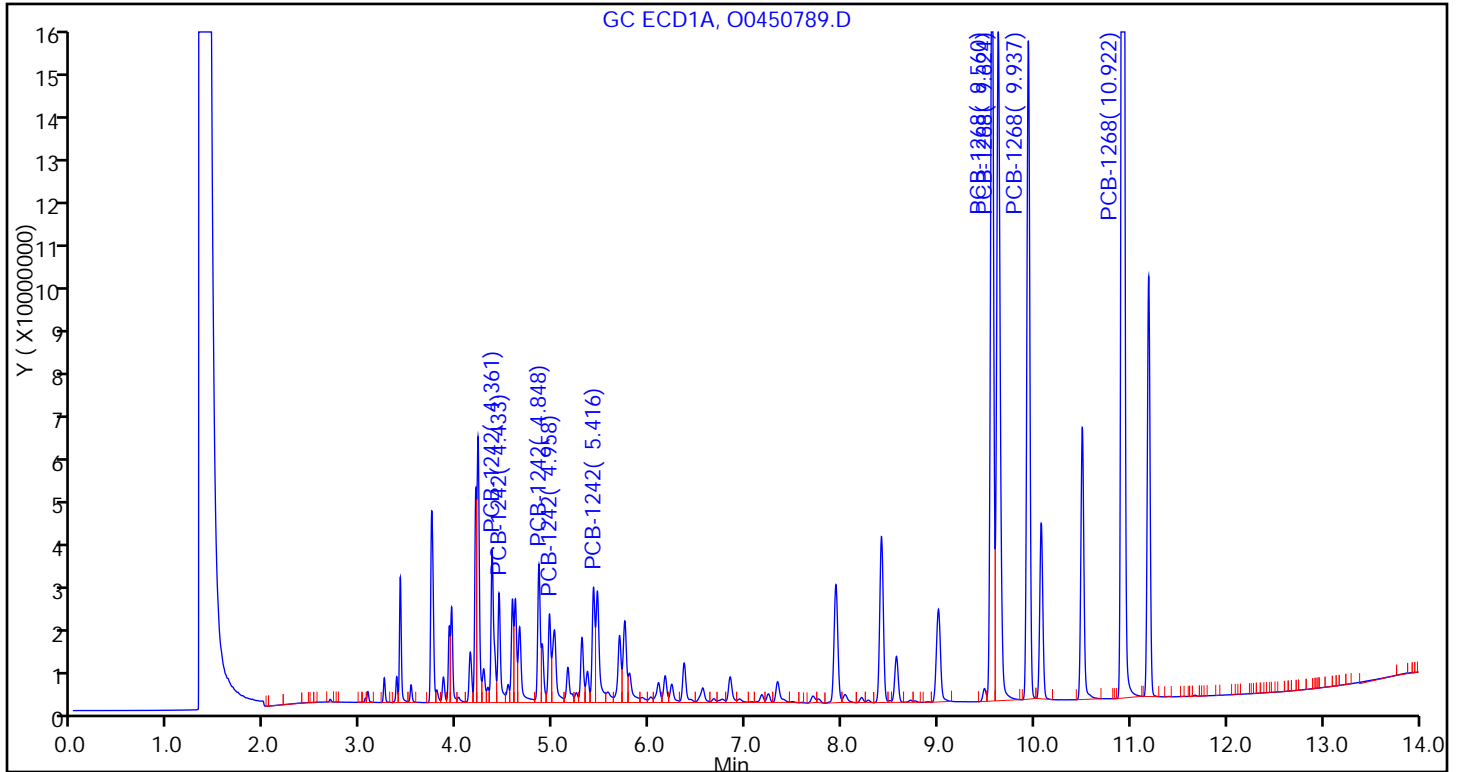
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

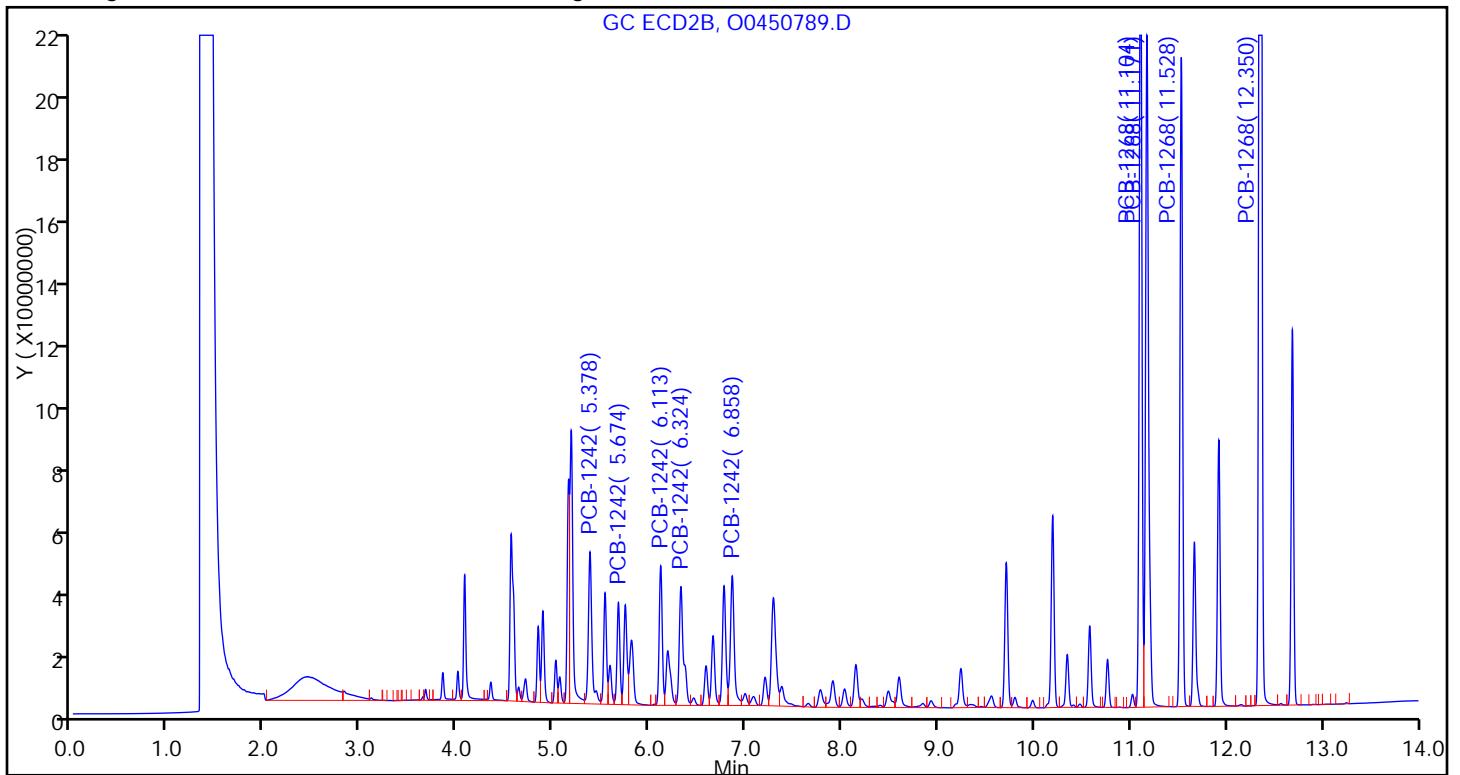
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP2 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 12:30 Calibration End Date: 04/16/2015 13:49 Calibration ID: 23379

Calibration Files:

| LEVEL:  | LAB SAMPLE ID:   | LAB FILE ID: |
|---------|------------------|--------------|
| Level 1 | IC 180-138696/8  | 00450785.D   |
| Level 2 | IC 180-138696/9  | 00450786.D   |
| Level 3 | IC 180-138696/10 | 00450787.D   |
| Level 4 | IC 180-138696/11 | 00450788.D   |
| Level 5 | IC 180-138696/12 | 00450789.D   |

| ANALYTE         | LVL 1  | LVL 2  | LVL 3  | LVL 4  | LVL 5  |  |  |  |  |  | RT WINDOW       | AVG RT |
|-----------------|--------|--------|--------|--------|--------|--|--|--|--|--|-----------------|--------|
| PCB-1242 Peak 1 | 5.378  | 5.379  | 5.378  | 5.380  | 5.378  |  |  |  |  |  | 5.330 - 5.430   | 5.379  |
| PCB-1242 Peak 2 | 5.678  | 5.675  | 5.674  | 5.675  | 5.674  |  |  |  |  |  | 5.625 - 5.725   | 5.675  |
| PCB-1242 Peak 3 | 6.116  | 6.115  | 6.115  | 6.115  | 6.113  |  |  |  |  |  | 6.065 - 6.165   | 6.115  |
| PCB-1242 Peak 4 | 6.324  | 6.324  | 6.324  | 6.325  | 6.324  |  |  |  |  |  | 6.275 - 6.375   | 6.324  |
| PCB-1242 Peak 5 | 6.862  | 6.859  | 6.858  | 6.859  | 6.858  |  |  |  |  |  | 6.809 - 6.909   | 6.859  |
| PCB-1268 Peak 1 | 11.105 | 11.104 | 11.105 | 11.104 | 11.104 |  |  |  |  |  | 11.054 - 11.154 | 11.104 |
| PCB-1268 Peak 2 | 11.171 | 11.171 | 11.171 | 11.170 | 11.171 |  |  |  |  |  | 11.120 - 11.220 | 11.171 |
| PCB-1268 Peak 3 | 11.529 | 11.527 | 11.528 | 11.528 | 11.528 |  |  |  |  |  | 11.478 - 11.578 | 11.528 |
| PCB-1268 Peak 4 | 12.350 | 12.349 | 12.350 | 12.350 | 12.350 |  |  |  |  |  | 12.300 - 12.400 | 12.350 |

FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP2 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 12:30 Calibration End Date: 04/16/2015 13:49 Calibration ID: 23379

Calibration Files:

|         |                  |              |
|---------|------------------|--------------|
| LEVEL:  | LAB SAMPLE ID:   | LAB FILE ID: |
| Level 1 | IC 180-138696/8  | 00450785.D   |
| Level 2 | IC 180-138696/9  | 00450786.D   |
| Level 3 | IC 180-138696/10 | 00450787.D   |
| Level 4 | IC 180-138696/11 | 00450788.D   |
| Level 5 | IC 180-138696/12 | 00450789.D   |

| ANALYTE         | CF                     |           |           |           | CURVE<br>TYPE | COEFFICIENT |            |    | # | MIN CF | %RSD | # | MAX<br>%RSD | R^2<br>OR COD | # | MIN R^2<br>OR COD |
|-----------------|------------------------|-----------|-----------|-----------|---------------|-------------|------------|----|---|--------|------|---|-------------|---------------|---|-------------------|
|                 | LVL 1<br>LVL 5         | LVL 2     | LVL 3     | LVL 4     |               | B           | M1         | M2 |   |        |      |   |             |               |   |                   |
| PCB-1242 Peak 1 | 49820300<br>47974387   | 51364060  | 50658796  | 49765476  | Ave           |             | 49916603.8 |    |   |        | 2.5  |   | 20.0        |               |   |                   |
| PCB-1242 Peak 2 | 33876300<br>32260557   | 34881340  | 34065848  | 33066552  | Ave           |             | 33630119.4 |    |   |        | 3.0  |   | 20.0        |               |   |                   |
| PCB-1242 Peak 3 | 47312900<br>44052249   | 48845580  | 47888284  | 46001902  | Ave           |             | 46820183.0 |    |   |        | 4.0  |   | 20.0        |               |   |                   |
| PCB-1242 Peak 4 | 37388700<br>37482021   | 38847780  | 39674200  | 38341140  | Ave           |             | 38346768.2 |    |   |        | 2.5  |   | 20.0        |               |   |                   |
| PCB-1242 Peak 5 | 44020400<br>40909207   | 41463230  | 42374688  | 42142248  | Ave           |             | 42181954.6 |    |   |        | 2.8  |   | 20.0        |               |   |                   |
| PCB-1268 Peak 1 | 288939600<br>264428279 | 273330680 | 271914108 | 259727744 | Ave           |             | 271668082  |    |   |        | 4.1  |   | 20.0        |               |   |                   |
| PCB-1268 Peak 2 | 230124600<br>211986868 | 222996920 | 220993784 | 214612034 | Ave           |             | 220142841  |    |   |        | 3.3  |   | 20.0        |               |   |                   |
| PCB-1268 Peak 3 | 220707800<br>204817887 | 212736740 | 211837256 | 204368056 | Ave           |             | 210893548  |    |   |        | 3.2  |   | 20.0        |               |   |                   |
| PCB-1268 Peak 4 | 623579100<br>618909386 | 620931980 | 631776700 | 598909112 | Ave           |             | 618821256  |    |   |        | 2.0  |   | 20.0        |               |   |                   |

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP2 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 12:30 Calibration End Date: 04/16/2015 13:49 Calibration ID: 23379

Calibration Files:

| LEVEL:  | LAB SAMPLE ID:   | LAB FILE ID: |
|---------|------------------|--------------|
| Level 1 | IC 180-138696/8  | 00450785.D   |
| Level 2 | IC 180-138696/9  | 00450786.D   |
| Level 3 | IC 180-138696/10 | 00450787.D   |
| Level 4 | IC 180-138696/11 | 00450788.D   |
| Level 5 | IC 180-138696/12 | 00450789.D   |

| ANALYTE         | CURVE<br>TYPE | RESPONSE |          |           |           |           | CONCENTRATION (NG) |       |       |       |       |
|-----------------|---------------|----------|----------|-----------|-----------|-----------|--------------------|-------|-------|-------|-------|
|                 |               | LVL 1    | LVL 2    | LVL 3     | LVL 4     | LVL 5     | LVL 1              | LVL 2 | LVL 3 | LVL 4 | LVL 5 |
| PCB-1242 Peak 1 | Ave           | 498203   | 5136406  | 12664699  | 24882738  | 47974387  | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1242 Peak 2 | Ave           | 338763   | 3488134  | 8516462   | 16533276  | 32260557  | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1242 Peak 3 | Ave           | 473129   | 4884558  | 11972071  | 23000951  | 44052249  | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1242 Peak 4 | Ave           | 373887   | 3884778  | 9918550   | 19170570  | 37482021  | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1242 Peak 5 | Ave           | 440204   | 4146323  | 10593672  | 21071124  | 40909207  | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1268 Peak 1 | Ave           | 2889396  | 27333068 | 67978527  | 129863872 | 264428279 | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1268 Peak 2 | Ave           | 2301246  | 22299692 | 55248446  | 107306017 | 211986868 | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1268 Peak 3 | Ave           | 2207078  | 21273674 | 52959314  | 102184028 | 204817887 | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |
| PCB-1268 Peak 4 | Ave           | 6235791  | 62093198 | 157944175 | 299454556 | 618909386 | 0.0100             | 0.100 | 0.250 | 0.500 | 1.00  |

Curve Type Legend:

Ave = Average by Height

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450785.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 1  
 Inject. Date: 16-Apr-2015 12:30:22 ALS Bottle#: 8 Worklist Smp#: 8  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-008  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub9  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:18:45 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

3 PCB-1242

|   |       |       |       |         |        |          |  |
|---|-------|-------|-------|---------|--------|----------|--|
| 1 | 4.361 | 4.361 | 0.000 | 306672H | 0.0100 | 0.009255 |  |
| 1 | 4.433 | 4.433 | 0.000 | 196371H | 0.0100 | 0.008641 |  |
| 1 | 4.849 | 4.849 | 0.000 | 297141H | 0.0100 | 0.009881 |  |
| 1 | 4.959 | 4.958 | 0.001 | 174868H | 0.0100 | 0.009391 |  |
| 1 | 5.418 | 5.416 | 0.002 | 223233H | 0.0100 | 0.009356 |  |

Average of Peak Amounts = 0.009305

|   |       |       |        |         |        |          |  |
|---|-------|-------|--------|---------|--------|----------|--|
| 2 | 5.378 | 5.380 | -0.002 | 498203H | 0.0100 | 0.0100   |  |
| 2 | 5.678 | 5.675 | 0.003  | 338763H | 0.0100 | 0.0101   |  |
| 2 | 6.116 | 6.115 | 0.001  | 473129H | 0.0100 | 0.0101   |  |
| 2 | 6.324 | 6.325 | -0.001 | 373887H | 0.0100 | 0.009750 |  |
| 2 | 6.862 | 6.859 | 0.003  | 440204H | 0.0100 | 0.0104   |  |

Average of Peak Amounts = 0.0101

RPD = 7.89

10 PCB-1268

|   |        |        |       |          |        |          |  |
|---|--------|--------|-------|----------|--------|----------|--|
| 1 | 9.560  | 9.560  | 0.000 | 1782737H | 0.0100 | 0.0100   |  |
| 1 | 9.625  | 9.625  | 0.000 | 1465194H | 0.0100 | 0.009777 |  |
| 1 | 9.939  | 9.938  | 0.001 | 1483459H | 0.0100 | 0.0100   |  |
| 1 | 10.921 | 10.920 | 0.001 | 4420772H | 0.0100 | 0.009820 |  |

Average of Peak Amounts = 0.0099

|   |        |        |       |          |        |        |  |
|---|--------|--------|-------|----------|--------|--------|--|
| 2 | 11.105 | 11.104 | 0.001 | 2889396H | 0.0100 | 0.0106 |  |
| 2 | 11.171 | 11.170 | 0.001 | 2301246H | 0.0100 | 0.0105 |  |
| 2 | 11.529 | 11.528 | 0.001 | 2207078H | 0.0100 | 0.0105 |  |
| 2 | 12.350 | 12.350 | 0.000 | 6235791H | 0.0100 | 0.0101 |  |

Average of Peak Amounts = 0.0104

RPD = 4.87

**Reagents:**

GCAR4268CALL1\_00001

Amount Added: 1.00

Units: mL



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450785.D

Injection Date: 16-Apr-2015 12:30:22

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 8

Worklist Smp#: 8

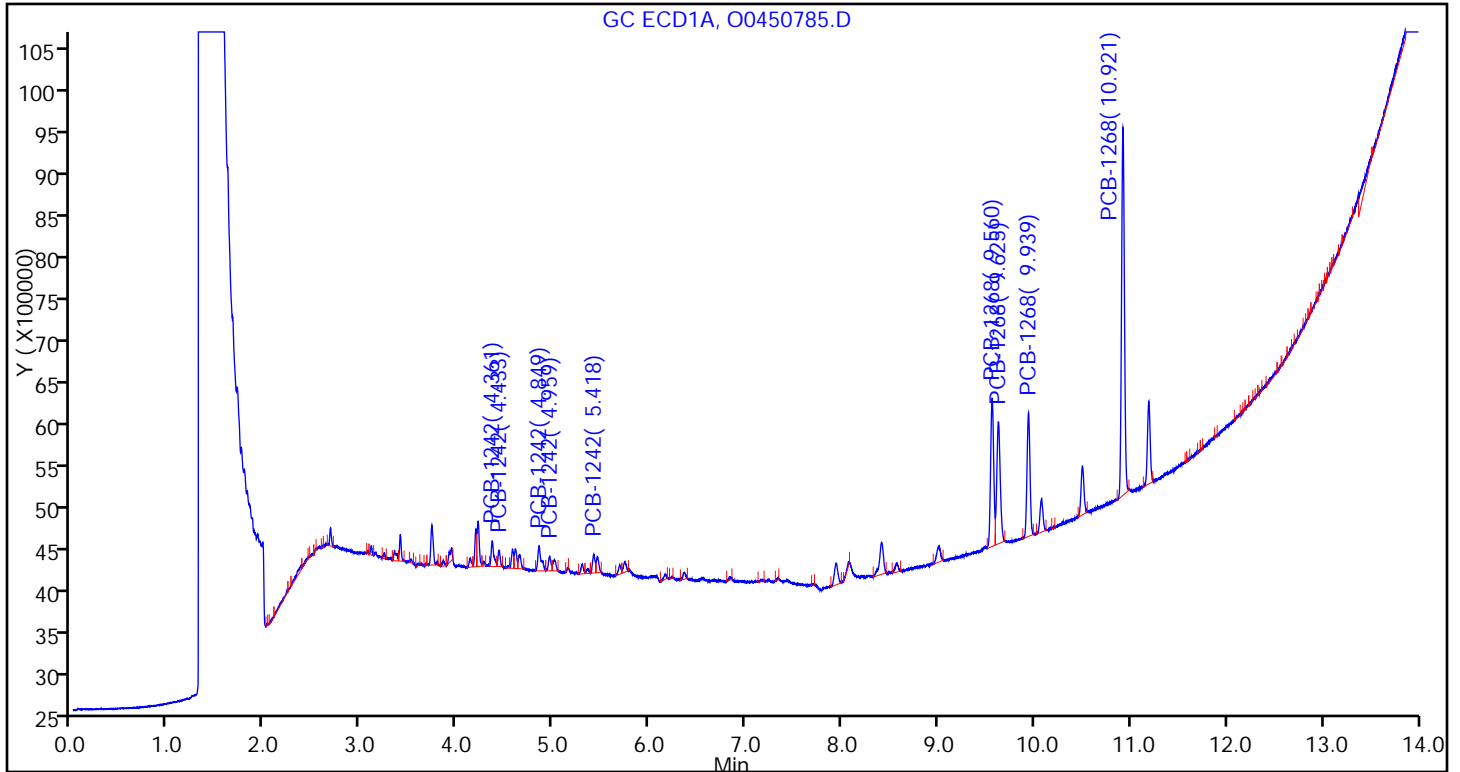
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

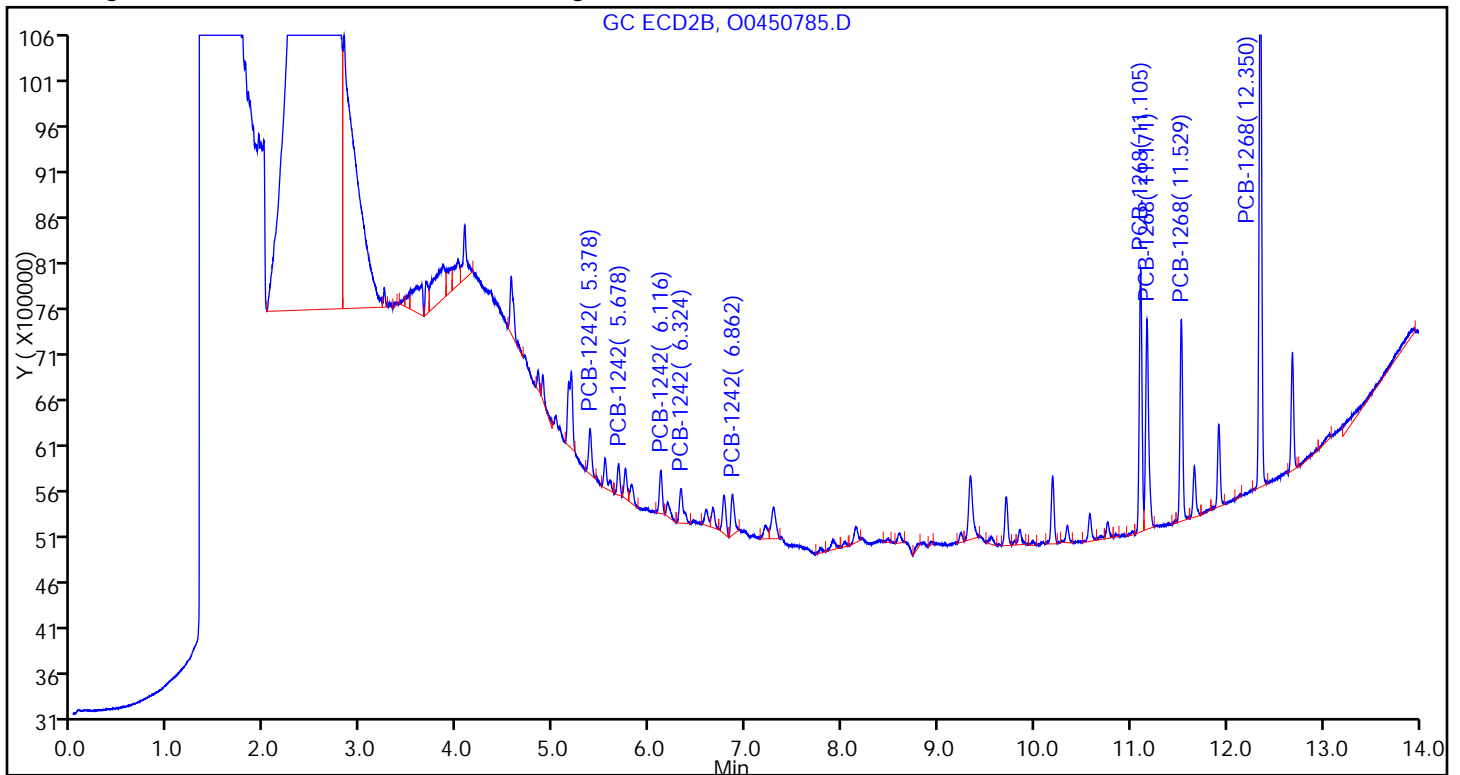
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450786.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 2  
 Inject. Date: 16-Apr-2015 12:50:06 ALS Bottle#: 9 Worklist Smp#: 9  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-009  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub9  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:18:48 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

3 PCB-1242

|   |       |       |        |          |        |        |  |
|---|-------|-------|--------|----------|--------|--------|--|
| 1 | 4.361 | 4.361 | 0.000  | 3384785H | 0.1000 | 0.1021 |  |
| 1 | 4.434 | 4.433 | 0.001  | 2269465H | 0.1000 | 0.0999 |  |
| 1 | 4.848 | 4.849 | -0.001 | 2869083H | 0.1000 | 0.0954 |  |
| 1 | 4.958 | 4.958 | 0.000  | 1771024H | 0.1000 | 0.0951 |  |
| 1 | 5.418 | 5.416 | 0.002  | 2258482H | 0.1000 | 0.0947 |  |

Average of Peak Amounts = 0.0974

|   |       |       |        |          |        |        |  |
|---|-------|-------|--------|----------|--------|--------|--|
| 2 | 5.379 | 5.380 | -0.001 | 5136406H | 0.1000 | 0.1029 |  |
| 2 | 5.675 | 5.675 | 0.000  | 3488134H | 0.1000 | 0.1037 |  |
| 2 | 6.115 | 6.115 | 0.000  | 4884558H | 0.1000 | 0.1043 |  |
| 2 | 6.324 | 6.325 | -0.001 | 3884778H | 0.1000 | 0.1013 |  |
| 2 | 6.859 | 6.859 | 0.000  | 4146323H | 0.1000 | 0.0983 |  |

Average of Peak Amounts = 0.1021

RPD = 4.69

10 PCB-1268

|   |        |        |        |           |        |        |  |
|---|--------|--------|--------|-----------|--------|--------|--|
| 1 | 9.559  | 9.560  | -0.001 | 18140595H | 0.1000 | 0.1019 |  |
| 1 | 9.625  | 9.625  | 0.000  | 15388281H | 0.1000 | 0.1027 |  |
| 1 | 9.938  | 9.938  | 0.000  | 14957071H | 0.1000 | 0.1012 |  |
| 1 | 10.921 | 10.920 | 0.001  | 46034984H | 0.1000 | 0.1023 |  |

Average of Peak Amounts = 0.1020

|   |        |        |        |           |        |        |  |
|---|--------|--------|--------|-----------|--------|--------|--|
| 2 | 11.104 | 11.104 | 0.000  | 27333068H | 0.1000 | 0.1006 |  |
| 2 | 11.171 | 11.170 | 0.001  | 22299692H | 0.1000 | 0.1013 |  |
| 2 | 11.527 | 11.528 | -0.001 | 21273674H | 0.1000 | 0.1009 |  |
| 2 | 12.349 | 12.350 | -0.001 | 62093198H | 0.1000 | 0.1003 |  |

Average of Peak Amounts = 0.1008

RPD = 1.23

**Reagents:**

GCAR4268CALL2\_00001

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450786.D

Injection Date: 16-Apr-2015 12:50:06

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 9

Worklist Smp#: 9

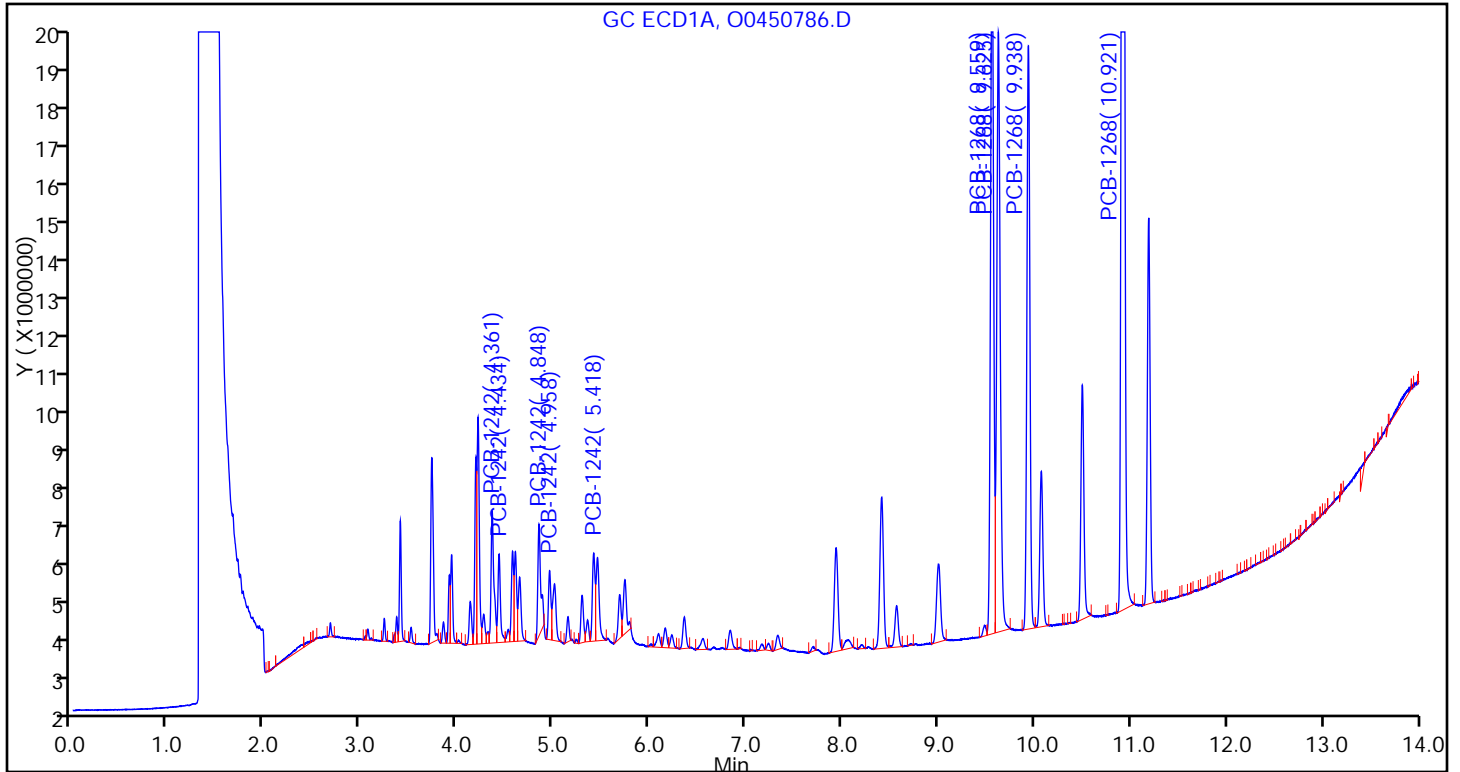
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

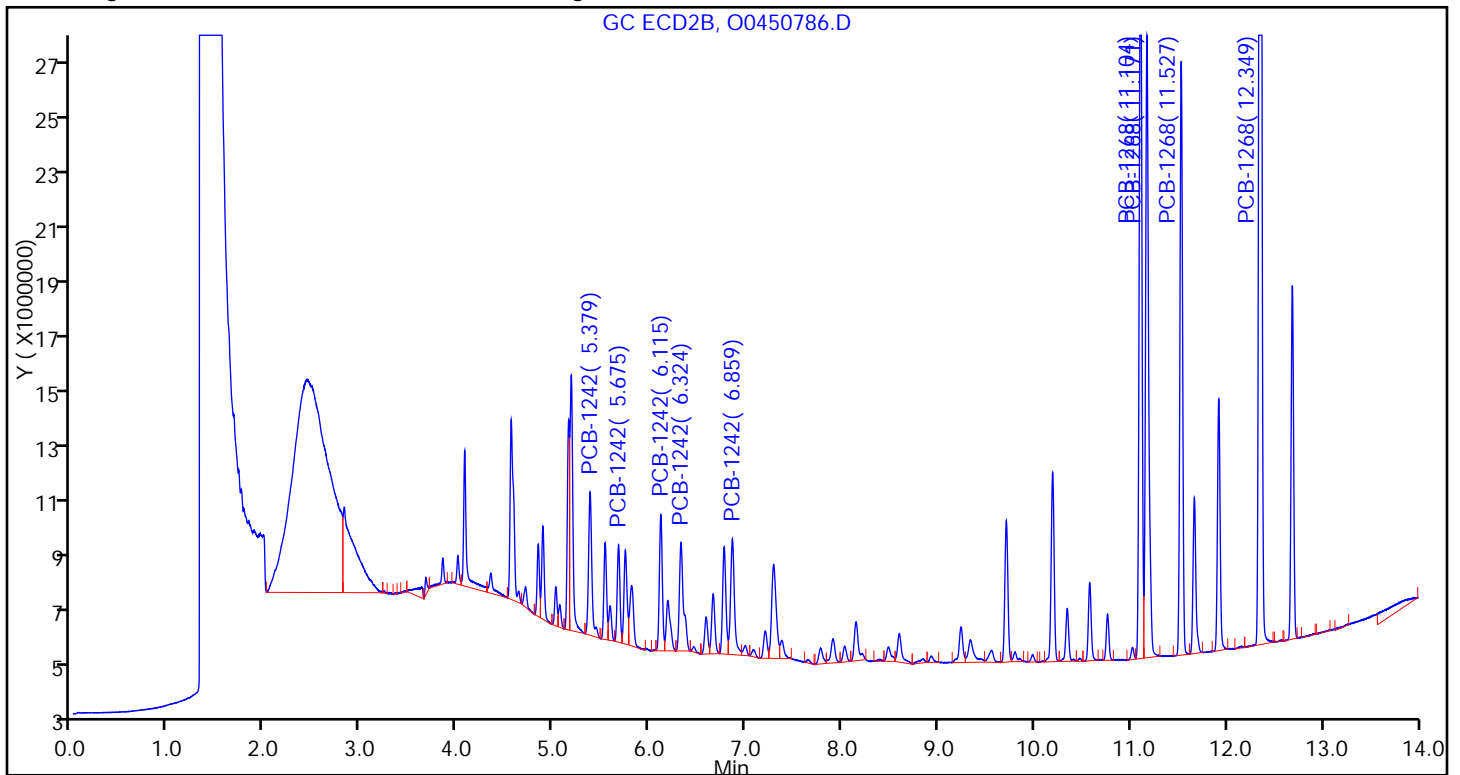
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450787.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 3  
 Inject. Date: 16-Apr-2015 13:09:51 ALS Bottle#: 10 Worklist Smp#: 10  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-010  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub9  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:18:50 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

3 PCB-1242

|   |       |       |        |          |        |        |  |
|---|-------|-------|--------|----------|--------|--------|--|
| 1 | 4.361 | 4.361 | 0.000  | 8480221H | 0.2500 | 0.2559 |  |
| 1 | 4.433 | 4.433 | 0.000  | 5850568H | 0.2500 | 0.2574 |  |
| 1 | 4.848 | 4.849 | -0.001 | 7676492H | 0.2500 | 0.2553 |  |
| 1 | 4.958 | 4.958 | 0.000  | 4721810H | 0.2500 | 0.2536 |  |
| 1 | 5.416 | 5.416 | 0.000  | 6006620H | 0.2500 | 0.2517 |  |

Average of Peak Amounts = 0.2548

|   |       |       |        |           |        |        |  |
|---|-------|-------|--------|-----------|--------|--------|--|
| 2 | 5.378 | 5.380 | -0.002 | 12664699H | 0.2500 | 0.2537 |  |
| 2 | 5.674 | 5.675 | -0.001 | 8516462H  | 0.2500 | 0.2532 |  |
| 2 | 6.115 | 6.115 | 0.000  | 11972071H | 0.2500 | 0.2557 |  |
| 2 | 6.324 | 6.325 | -0.001 | 9918550H  | 0.2500 | 0.2587 |  |
| 2 | 6.858 | 6.859 | -0.001 | 10593672H | 0.2500 | 0.2511 |  |

Average of Peak Amounts = 0.2545

RPD = 0.12

10 PCB-1268

|   |        |        |        |            |        |        |  |
|---|--------|--------|--------|------------|--------|--------|--|
| 1 | 9.560  | 9.560  | 0.000  | 45884150H  | 0.2500 | 0.2578 |  |
| 1 | 9.624  | 9.625  | -0.001 | 38491560H  | 0.2500 | 0.2569 |  |
| 1 | 9.938  | 9.938  | 0.000  | 37886337H  | 0.2500 | 0.2564 |  |
| 1 | 10.920 | 10.920 | 0.000  | 116172236H | 0.2500 | 0.2581 |  |

Average of Peak Amounts = 0.2573

|   |        |        |       |            |        |        |  |
|---|--------|--------|-------|------------|--------|--------|--|
| 2 | 11.105 | 11.104 | 0.001 | 67978527H  | 0.2500 | 0.2502 |  |
| 2 | 11.171 | 11.170 | 0.001 | 55248446H  | 0.2500 | 0.2510 |  |
| 2 | 11.528 | 11.528 | 0.000 | 52959314H  | 0.2500 | 0.2511 |  |
| 2 | 12.350 | 12.350 | 0.000 | 157944175H | 0.2500 | 0.2552 |  |

Average of Peak Amounts = 0.2519

RPD = 2.12

**Reagents:**

GCAR4268CALL3\_00001

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450787.D

Injection Date: 16-Apr-2015 13:09:51

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 10

Worklist Smp#: 10

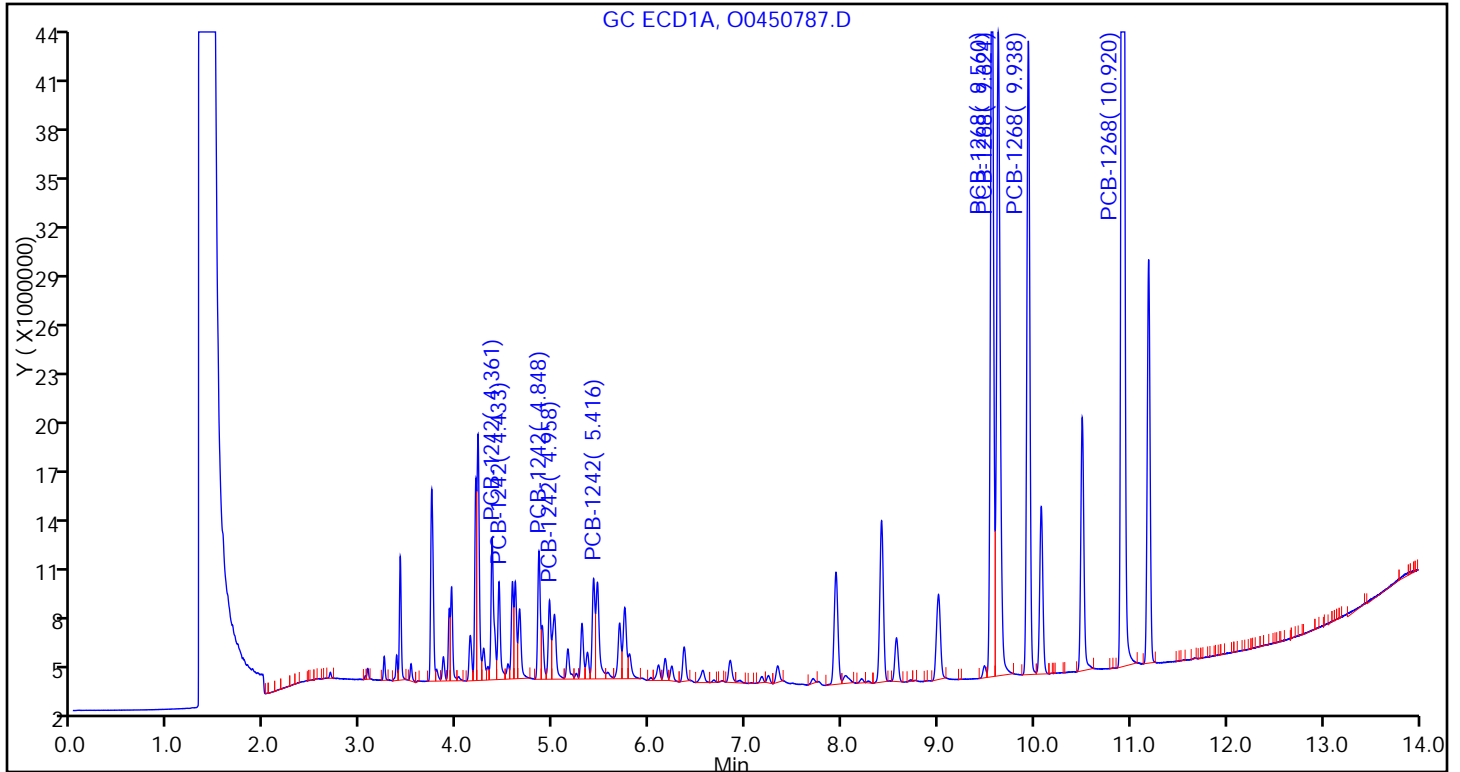
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

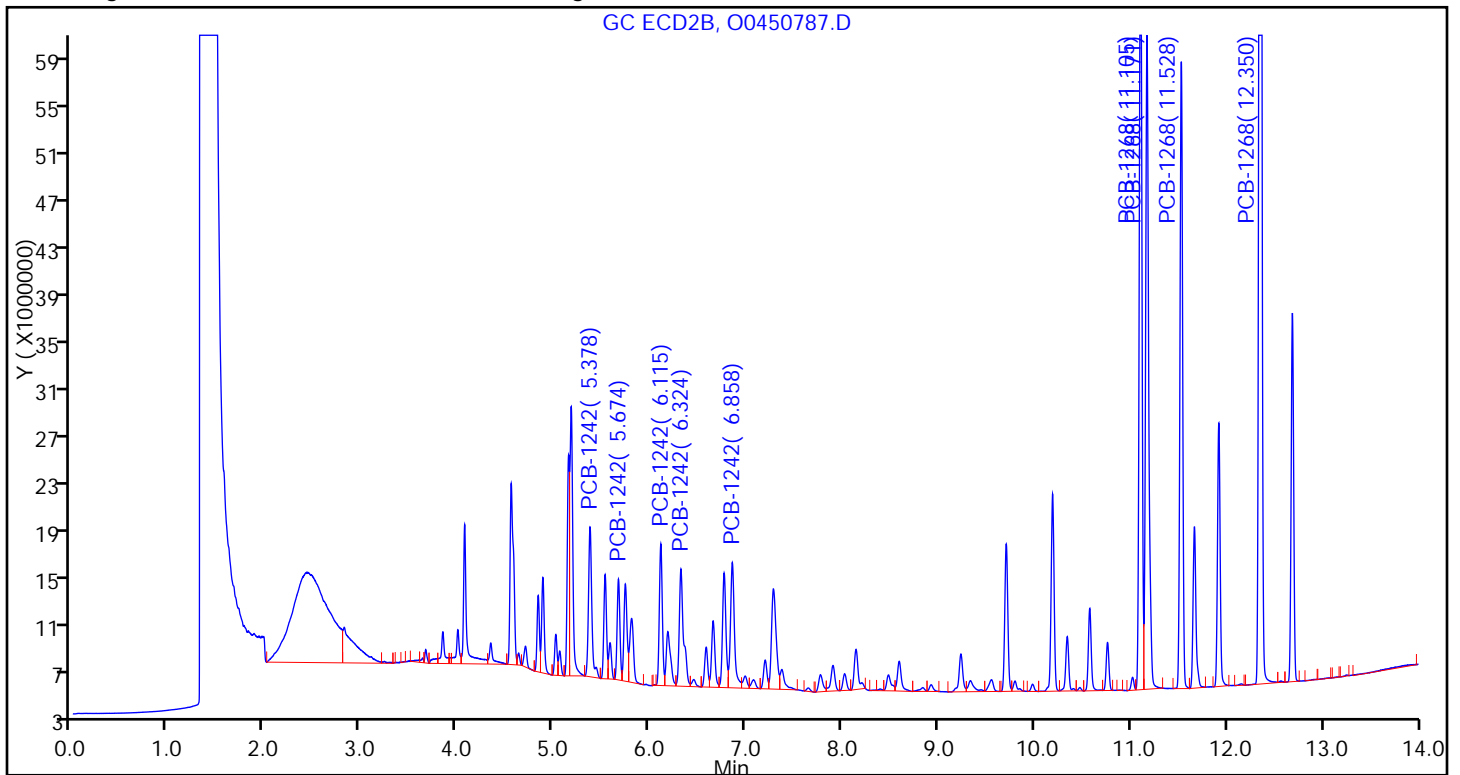
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450788.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 4  
 Inject. Date: 16-Apr-2015 13:29:42 ALS Bottle#: 11 Worklist Smp#: 11  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-011  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub9  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:18:53 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

3 PCB-1242

|   |       |       |       |           |        |        |  |
|---|-------|-------|-------|-----------|--------|--------|--|
| 1 | 4.361 | 4.361 | 0.000 | 16976528H | 0.5000 | 0.5123 |  |
| 1 | 4.433 | 4.433 | 0.000 | 11997074H | 0.5000 | 0.5279 |  |
| 1 | 4.849 | 4.849 | 0.000 | 15522397H | 0.5000 | 0.5162 |  |
| 1 | 4.958 | 4.958 | 0.000 | 9848746H  | 0.5000 | 0.5289 |  |
| 1 | 5.416 | 5.416 | 0.000 | 12600636H | 0.5000 | 0.5281 |  |

Average of Peak Amounts = 0.5227

|   |       |       |       |           |        |        |  |
|---|-------|-------|-------|-----------|--------|--------|--|
| 2 | 5.380 | 5.380 | 0.000 | 24882738H | 0.5000 | 0.4985 |  |
| 2 | 5.675 | 5.675 | 0.000 | 16533276H | 0.5000 | 0.4916 |  |
| 2 | 6.115 | 6.115 | 0.000 | 23000951H | 0.5000 | 0.4913 |  |
| 2 | 6.325 | 6.325 | 0.000 | 19170570H | 0.5000 | 0.4999 |  |
| 2 | 6.859 | 6.859 | 0.000 | 21071124H | 0.5000 | 0.4995 |  |

Average of Peak Amounts = 0.4962

RPD = 5.20

10 PCB-1268

|   |        |        |       |            |        |        |  |
|---|--------|--------|-------|------------|--------|--------|--|
| 1 | 9.560  | 9.560  | 0.000 | 87000475H  | 0.5000 | 0.4888 |  |
| 1 | 9.625  | 9.625  | 0.000 | 74505336H  | 0.5000 | 0.4972 |  |
| 1 | 9.938  | 9.938  | 0.000 | 72849328H  | 0.5000 | 0.4931 |  |
| 1 | 10.920 | 10.920 | 0.000 | 219721445H | 0.5000 | 0.4881 |  |

Average of Peak Amounts = 0.4918

|   |        |        |       |            |        |        |  |
|---|--------|--------|-------|------------|--------|--------|--|
| 2 | 11.104 | 11.104 | 0.000 | 129863872H | 0.5000 | 0.4780 |  |
| 2 | 11.170 | 11.170 | 0.000 | 107306017H | 0.5000 | 0.4874 |  |
| 2 | 11.528 | 11.528 | 0.000 | 102184028H | 0.5000 | 0.4845 |  |
| 2 | 12.350 | 12.350 | 0.000 | 299454556H | 0.5000 | 0.4839 |  |

Average of Peak Amounts = 0.4835

RPD = 1.70



**Reagents:**

GCAR4268CALL4\_00001

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450788.D

Injection Date: 16-Apr-2015 13:29:42

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 11

Worklist Smp#: 11

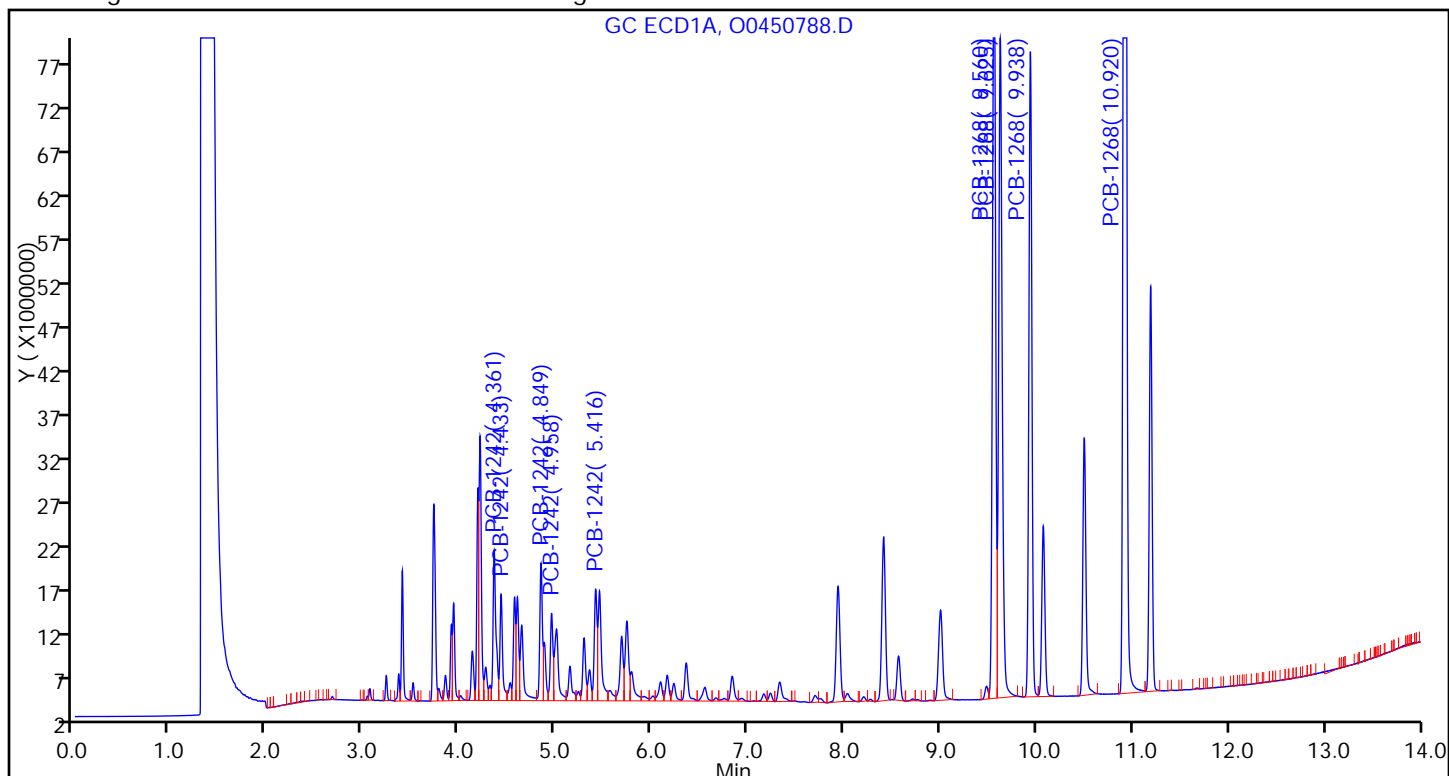
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

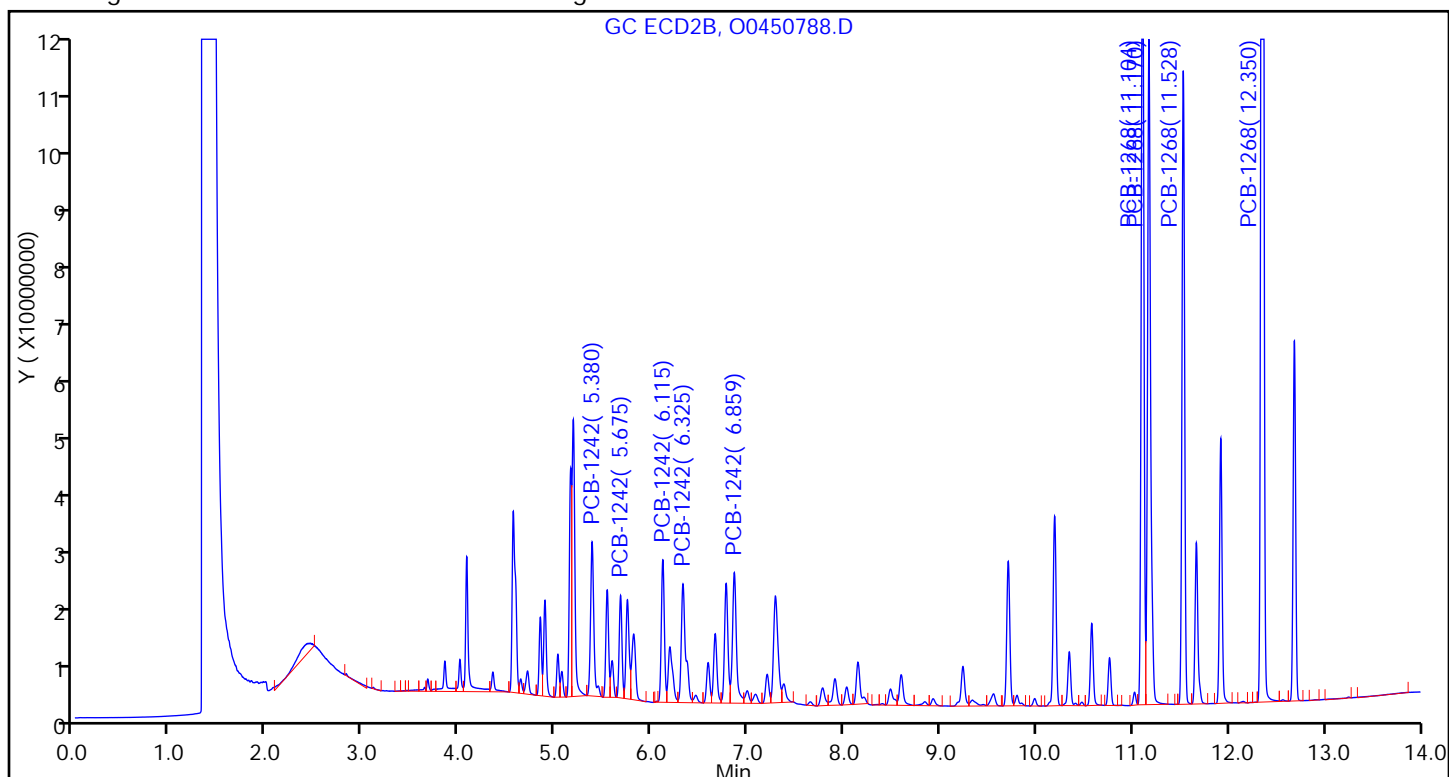
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450789.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 5  
 Inject. Date: 16-Apr-2015 13:49:26 ALS Bottle#: 12 Worklist Smp#: 12  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-012  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub9  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:18:56 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

3 PCB-1242

|   |       |       |        |           |      |      |
|---|-------|-------|--------|-----------|------|------|
| 1 | 4.361 | 4.361 | 0.000  | 33294557H | 1.00 | 1.00 |
| 1 | 4.433 | 4.433 | 0.000  | 23900857H | 1.00 | 1.05 |
| 1 | 4.848 | 4.849 | -0.001 | 30205958H | 1.00 | 1.00 |
| 1 | 4.958 | 4.958 | 0.000  | 19325907H | 1.00 | 1.04 |
| 1 | 5.416 | 5.416 | 0.000  | 25164955H | 1.00 | 1.05 |

Average of Peak Amounts = 1.03

|   |       |       |        |           |      |        |
|---|-------|-------|--------|-----------|------|--------|
| 2 | 5.378 | 5.380 | -0.002 | 47974387H | 1.00 | 0.9611 |
| 2 | 5.674 | 5.675 | -0.001 | 32260557H | 1.00 | 0.9593 |
| 2 | 6.113 | 6.115 | -0.002 | 44052249H | 1.00 | 0.9409 |
| 2 | 6.324 | 6.325 | -0.001 | 37482021H | 1.00 | 0.9774 |
| 2 | 6.858 | 6.859 | -0.001 | 40909207H | 1.00 | 0.9698 |

Average of Peak Amounts = 0.9617

RPD = 6.92

10 PCB-1268

|   |        |        |        |            |      |        |
|---|--------|--------|--------|------------|------|--------|
| 1 | 9.560  | 9.560  | 0.000  | 172727586H | 1.00 | 0.9704 |
| 1 | 9.624  | 9.625  | -0.001 | 145916261H | 1.00 | 0.9737 |
| 1 | 9.937  | 9.938  | -0.001 | 143582018H | 1.00 | 0.9718 |
| 1 | 10.922 | 10.920 | 0.002  | 444306287H | 1.00 | 0.9870 |

Average of Peak Amounts = 0.9757

|   |        |        |       |            |      |        |
|---|--------|--------|-------|------------|------|--------|
| 2 | 11.104 | 11.104 | 0.000 | 264428279H | 1.00 | 0.9734 |
| 2 | 11.171 | 11.170 | 0.001 | 211986868H | 1.00 | 0.9630 |
| 2 | 11.528 | 11.528 | 0.000 | 204817887H | 1.00 | 0.9712 |
| 2 | 12.350 | 12.350 | 0.000 | 618909386H | 1.00 | 1.00   |

Average of Peak Amounts = 0.9769

RPD = 0.12

**Reagents:**

GCAR4268CALL5\_00001

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450789.D

Injection Date: 16-Apr-2015 13:49:26

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 12

Worklist Smp#: 12

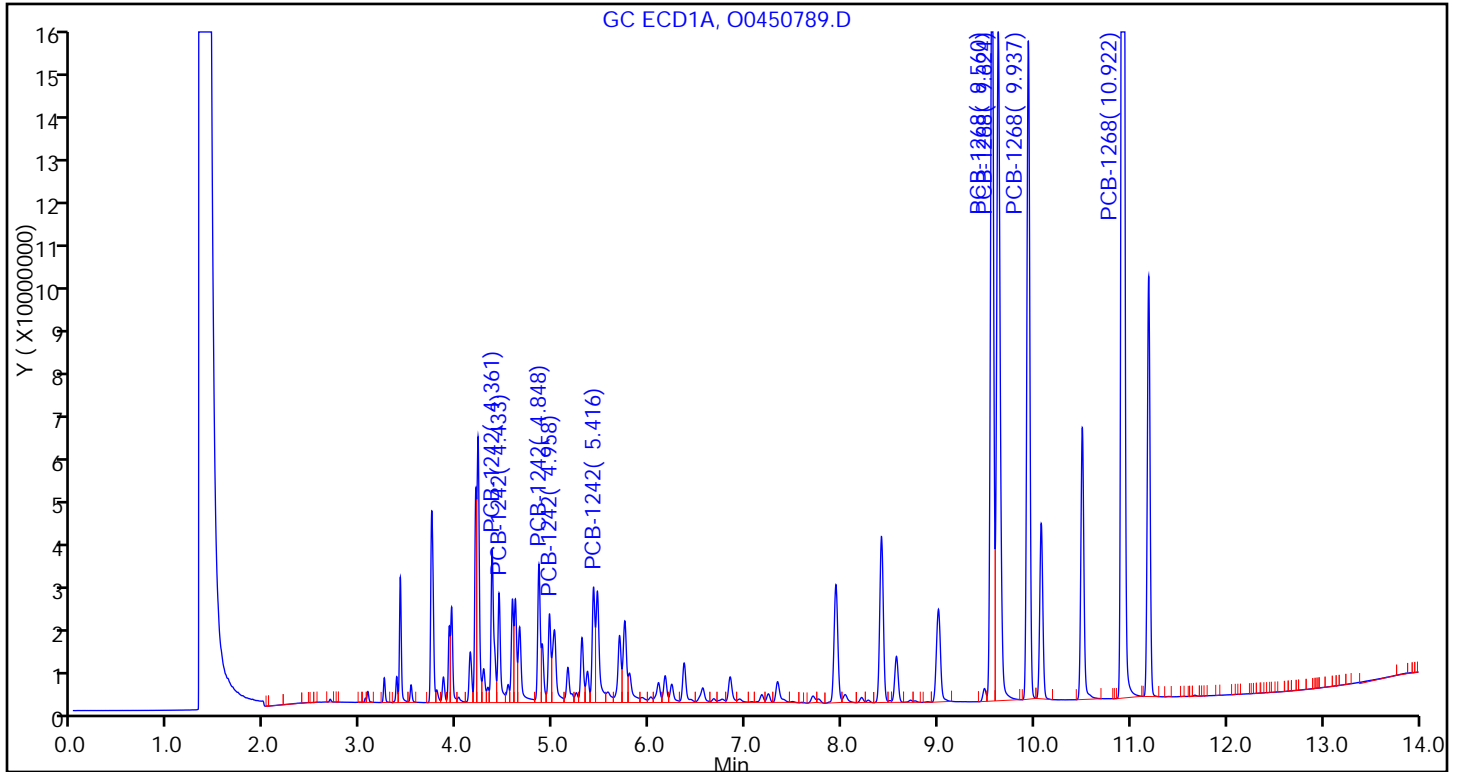
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

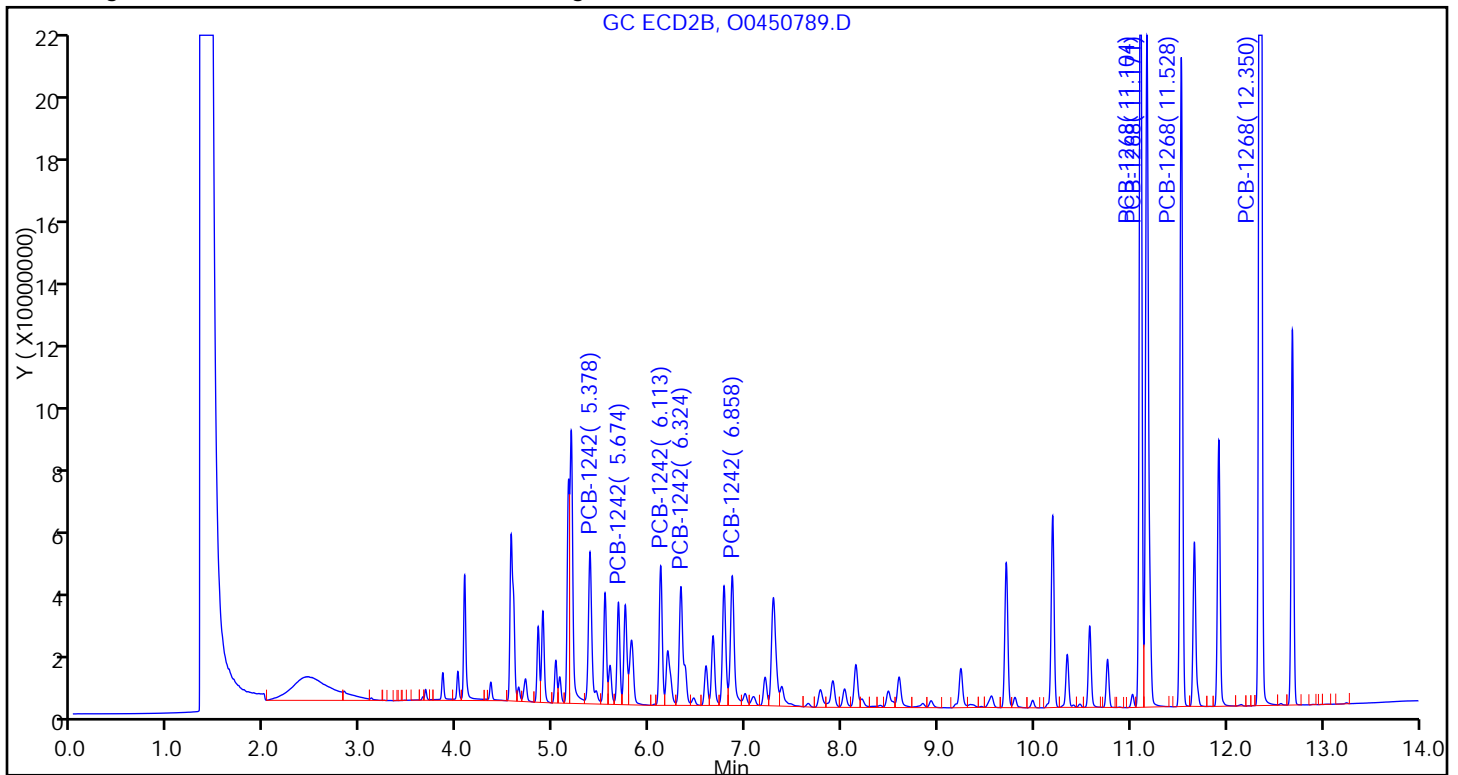
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP1 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 14:09 Calibration End Date: 04/16/2015 14:09 Calibration ID: 23384

Calibration Files:

|         |                  |              |
|---------|------------------|--------------|
| LEVEL:  | LAB SAMPLE ID:   | LAB FILE ID: |
| Level 1 | IC 180-138696/13 | 00450790.D   |

| ANALYTE         | LVL 1  |  |  |  |  |  |  |  |  |  | RT WINDOW       | AVG RT |
|-----------------|--------|--|--|--|--|--|--|--|--|--|-----------------|--------|
| PCB-1232 Peak 1 | 3.239  |  |  |  |  |  |  |  |  |  | 3.189 - 3.289   | 3.239  |
| PCB-1232 Peak 2 | 3.938  |  |  |  |  |  |  |  |  |  | 3.888 - 3.988   | 3.938  |
| PCB-1232 Peak 3 | 4.572  |  |  |  |  |  |  |  |  |  | 4.522 - 4.622   | 4.572  |
| PCB-1232 Peak 4 | 5.353  |  |  |  |  |  |  |  |  |  | 5.303 - 5.403   | 5.353  |
| PCB-1232 Peak 5 | 6.142  |  |  |  |  |  |  |  |  |  | 6.092 - 6.192   | 6.142  |
| PCB-1262 Peak 1 | 7.394  |  |  |  |  |  |  |  |  |  | 7.344 - 7.444   | 7.394  |
| PCB-1262 Peak 2 | 8.032  |  |  |  |  |  |  |  |  |  | 7.982 - 8.082   | 8.032  |
| PCB-1262 Peak 3 | 8.498  |  |  |  |  |  |  |  |  |  | 8.448 - 8.548   | 8.498  |
| PCB-1262 Peak 4 | 10.085 |  |  |  |  |  |  |  |  |  | 10.035 - 10.135 | 10.085 |
| PCB-1262 Peak 5 | 10.497 |  |  |  |  |  |  |  |  |  | 10.447 - 10.547 | 10.497 |

FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP1 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 14:09 Calibration End Date: 04/16/2015 14:09 Calibration ID: 23384

Calibration Files:

|         |                  |              |
|---------|------------------|--------------|
| LEVEL:  | LAB SAMPLE ID:   | LAB FILE ID: |
| Level 1 | IC 180-138696/13 | 00450790.D   |

| ANALYTE         | CF       |  |  |  | CURVE<br>TYPE | COEFFICIENT |            |    | # | MIN CF | %RSD | # | MAX<br>%RSD | R^2<br>OR COD | # | MIN R^2<br>OR COD |
|-----------------|----------|--|--|--|---------------|-------------|------------|----|---|--------|------|---|-------------|---------------|---|-------------------|
|                 | LVL 1    |  |  |  |               | B           | M1         | M2 |   |        |      |   |             |               |   |                   |
| PCB-1232 Peak 1 | 15483638 |  |  |  | Ave           |             | 15483638.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1232 Peak 2 | 12927364 |  |  |  | Ave           |             | 12927364.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1232 Peak 3 | 12030432 |  |  |  | Ave           |             | 12030432.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1232 Peak 4 | 10354058 |  |  |  | Ave           |             | 10354058.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1232 Peak 5 | 9614036  |  |  |  | Ave           |             | 9614036.00 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1262 Peak 1 | 22044268 |  |  |  | Ave           |             | 22044268.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1262 Peak 2 | 31028658 |  |  |  | Ave           |             | 31028658.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1262 Peak 3 | 29278234 |  |  |  | Ave           |             | 29278234.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1262 Peak 4 | 24137088 |  |  |  | Ave           |             | 24137088.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1262 Peak 5 | 55653560 |  |  |  | Ave           |             | 55653560.0 |    |   |        |      |   | 20.0        |               |   |                   |

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP1 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 14:09 Calibration End Date: 04/16/2015 14:09 Calibration ID: 23384

Calibration Files:

|         |                  |              |
|---------|------------------|--------------|
| LEVEL:  | LAB SAMPLE ID:   | LAB FILE ID: |
| Level 1 | IC 180-138696/13 | 00450790.D   |

| ANALYTE         | CURVE<br>TYPE | RESPONSE |  |  |  |  | CONCENTRATION (NG) |  |  |  |  |
|-----------------|---------------|----------|--|--|--|--|--------------------|--|--|--|--|
|                 |               | LVL 1    |  |  |  |  | LVL 1              |  |  |  |  |
| PCB-1232 Peak 1 | Ave           | 7741819  |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1232 Peak 2 | Ave           | 6463682  |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1232 Peak 3 | Ave           | 6015216  |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1232 Peak 4 | Ave           | 5177029  |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1232 Peak 5 | Ave           | 4807018  |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1262 Peak 1 | Ave           | 11022134 |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1262 Peak 2 | Ave           | 15514329 |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1262 Peak 3 | Ave           | 14639117 |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1262 Peak 4 | Ave           | 12068544 |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1262 Peak 5 | Ave           | 27826780 |  |  |  |  | 0.500              |  |  |  |  |

Curve Type Legend:

Ave = Average by Height



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450790.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 4  
 Inject. Date: 16-Apr-2015 14:09:12 ALS Bottle#: 13 Worklist Smp#: 13  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-013  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub10  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:18:58 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

5 PCB-1232

|   |       |       |       |          |        |        |
|---|-------|-------|-------|----------|--------|--------|
| 1 | 3.239 | 3.239 | 0.000 | 7741819H | 0.5000 | 0.5000 |
| 1 | 3.938 | 3.938 | 0.000 | 6463682H | 0.5000 | 0.5000 |
| 1 | 4.572 | 4.572 | 0.000 | 6015216H | 0.5000 | 0.5000 |
| 1 | 5.353 | 5.353 | 0.000 | 5177029H | 0.5000 | 0.5000 |
| 1 | 6.142 | 6.142 | 0.000 | 4807018H | 0.5000 | 0.5000 |

Average of Peak Amounts = 0.5000

|   |       |       |       |           |        |        |
|---|-------|-------|-------|-----------|--------|--------|
| 2 | 3.847 | 3.847 | 0.000 | 12280272H | 0.5000 | 0.5000 |
| 2 | 4.003 | 4.003 | 0.000 | 8911942H  | 0.5000 | 0.5000 |
| 2 | 4.888 | 4.888 | 0.000 | 9227787H  | 0.5000 | 0.5000 |
| 2 | 5.536 | 5.536 | 0.000 | 9970238H  | 0.5000 | 0.5000 |
| 2 | 6.323 | 6.323 | 0.000 | 9796207H  | 0.5000 | 0.5000 |

Average of Peak Amounts = 0.5000

RPD = 0.00

9 PCB-1262

|   |        |        |       |           |        |        |
|---|--------|--------|-------|-----------|--------|--------|
| 1 | 7.394  | 7.394  | 0.000 | 11022134H | 0.5000 | 0.5000 |
| 1 | 8.032  | 8.032  | 0.000 | 15514329H | 0.5000 | 0.5000 |
| 1 | 8.498  | 8.498  | 0.000 | 14639117H | 0.5000 | 0.5000 |
| 1 | 10.085 | 10.085 | 0.000 | 12068544H | 0.5000 | 0.5000 |
| 1 | 10.497 | 10.497 | 0.000 | 27826780H | 0.5000 | 0.5000 |

Average of Peak Amounts = 0.5000

|   |        |        |       |           |        |        |
|---|--------|--------|-------|-----------|--------|--------|
| 2 | 9.551  | 9.551  | 0.000 | 26794140H | 0.5000 | 0.5000 |
| 2 | 9.799  | 9.799  | 0.000 | 27672771H | 0.5000 | 0.5000 |
| 2 | 10.297 | 10.297 | 0.000 | 24320950H | 0.5000 | 0.5000 |
| 2 | 11.697 | 11.697 | 0.000 | 16587270H | 0.5000 | 0.5000 |
| 2 | 11.917 | 11.917 | 0.000 | 40291403H | 0.5000 | 0.5000 |

Average of Peak Amounts = 0.5000

RPD = 0.00

**Reagents:**

GCAR3262CALL4\_00001

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450790.D

Injection Date: 16-Apr-2015 14:09:12

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 13

Worklist Smp#: 13

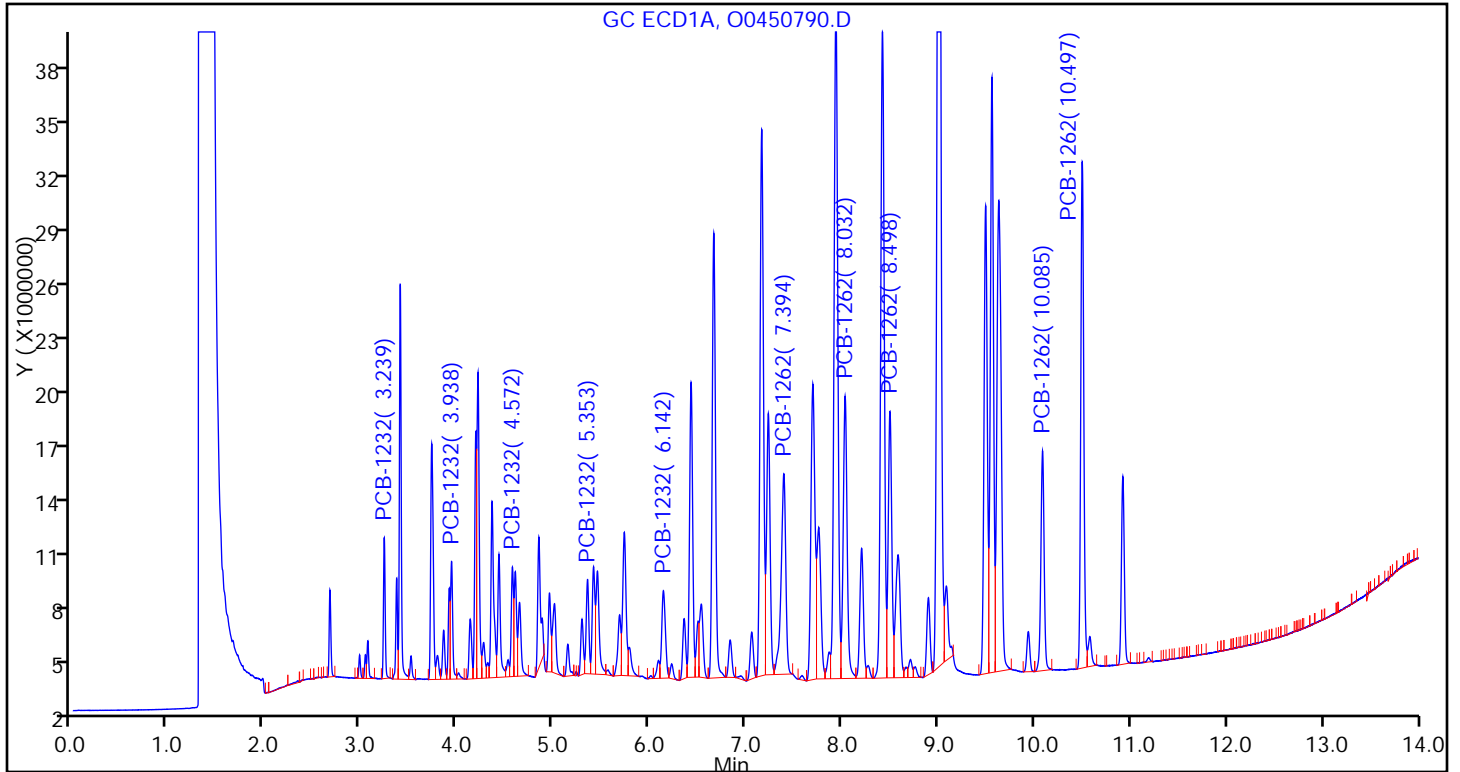
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

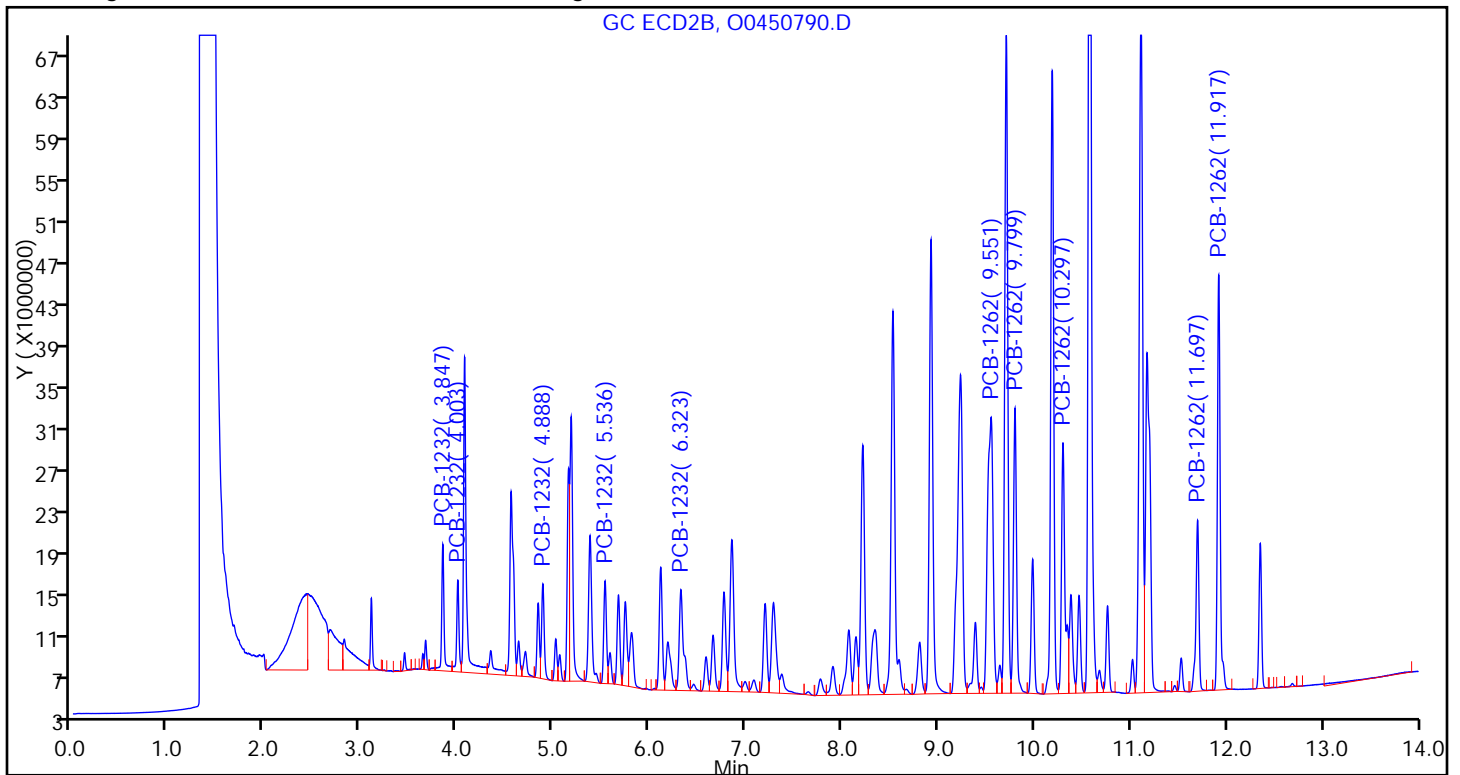
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP2 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 14:09 Calibration End Date: 04/16/2015 14:09 Calibration ID: 23385

Calibration Files:

|         |                  |              |
|---------|------------------|--------------|
| LEVEL:  | LAB SAMPLE ID:   | LAB FILE ID: |
| Level 1 | IC 180-138696/13 | 00450790.D   |

| ANALYTE         | LVL 1  |  |  |  |  |  |  |  |  |  | RT WINDOW       | AVG RT |
|-----------------|--------|--|--|--|--|--|--|--|--|--|-----------------|--------|
| PCB-1232 Peak 1 | 3.847  |  |  |  |  |  |  |  |  |  | 3.797 - 3.897   | 3.847  |
| PCB-1232 Peak 2 | 4.003  |  |  |  |  |  |  |  |  |  | 3.953 - 4.053   | 4.003  |
| PCB-1232 Peak 3 | 4.888  |  |  |  |  |  |  |  |  |  | 4.838 - 4.938   | 4.888  |
| PCB-1232 Peak 4 | 5.536  |  |  |  |  |  |  |  |  |  | 5.486 - 5.586   | 5.536  |
| PCB-1232 Peak 5 | 6.323  |  |  |  |  |  |  |  |  |  | 6.273 - 6.373   | 6.323  |
| PCB-1262 Peak 1 | 9.551  |  |  |  |  |  |  |  |  |  | 9.501 - 9.601   | 9.551  |
| PCB-1262 Peak 2 | 9.799  |  |  |  |  |  |  |  |  |  | 9.749 - 9.849   | 9.799  |
| PCB-1262 Peak 3 | 10.297 |  |  |  |  |  |  |  |  |  | 10.247 - 10.347 | 10.297 |
| PCB-1262 Peak 4 | 11.697 |  |  |  |  |  |  |  |  |  | 11.647 - 11.747 | 11.697 |
| PCB-1262 Peak 5 | 11.917 |  |  |  |  |  |  |  |  |  | 11.867 - 11.967 | 11.917 |

FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP2 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 14:09 Calibration End Date: 04/16/2015 14:09 Calibration ID: 23385

Calibration Files:

|         |                  |              |
|---------|------------------|--------------|
| LEVEL:  | LAB SAMPLE ID:   | LAB FILE ID: |
| Level 1 | IC 180-138696/13 | 00450790.D   |

| ANALYTE         | CF       |  |  |  | CURVE<br>TYPE | COEFFICIENT |            |    | # | MIN CF | %RSD | # | MAX<br>%RSD | R^2<br>OR COD | # | MIN R^2<br>OR COD |
|-----------------|----------|--|--|--|---------------|-------------|------------|----|---|--------|------|---|-------------|---------------|---|-------------------|
|                 | LVL 1    |  |  |  |               | B           | M1         | M2 |   |        |      |   |             |               |   |                   |
| PCB-1232 Peak 1 | 24560544 |  |  |  | Ave           |             | 24560544.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1232 Peak 2 | 17823884 |  |  |  | Ave           |             | 17823884.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1232 Peak 3 | 18455574 |  |  |  | Ave           |             | 18455574.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1232 Peak 4 | 19940476 |  |  |  | Ave           |             | 19940476.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1232 Peak 5 | 19592414 |  |  |  | Ave           |             | 19592414.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1262 Peak 1 | 53588280 |  |  |  | Ave           |             | 53588280.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1262 Peak 2 | 55345542 |  |  |  | Ave           |             | 55345542.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1262 Peak 3 | 48641900 |  |  |  | Ave           |             | 48641900.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1262 Peak 4 | 33174540 |  |  |  | Ave           |             | 33174540.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1262 Peak 5 | 80582806 |  |  |  | Ave           |             | 80582806.0 |    |   |        |      |   | 20.0        |               |   |                   |

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP2 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 14:09 Calibration End Date: 04/16/2015 14:09 Calibration ID: 23385

Calibration Files:

|         |                  |              |
|---------|------------------|--------------|
| LEVEL:  | LAB SAMPLE ID:   | LAB FILE ID: |
| Level 1 | IC 180-138696/13 | 00450790.D   |

| ANALYTE         | CURVE<br>TYPE | RESPONSE |  |  |  |  | CONCENTRATION (NG) |  |  |  |  |
|-----------------|---------------|----------|--|--|--|--|--------------------|--|--|--|--|
|                 |               | LVL 1    |  |  |  |  | LVL 1              |  |  |  |  |
| PCB-1232 Peak 1 | Ave           | 12280272 |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1232 Peak 2 | Ave           | 8911942  |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1232 Peak 3 | Ave           | 9227787  |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1232 Peak 4 | Ave           | 9970238  |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1232 Peak 5 | Ave           | 9796207  |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1262 Peak 1 | Ave           | 26794140 |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1262 Peak 2 | Ave           | 27672771 |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1262 Peak 3 | Ave           | 24320950 |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1262 Peak 4 | Ave           | 16587270 |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1262 Peak 5 | Ave           | 40291403 |  |  |  |  | 0.500              |  |  |  |  |

Curve Type Legend:

Ave = Average by Height

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450790.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 4  
 Inject. Date: 16-Apr-2015 14:09:12 ALS Bottle#: 13 Worklist Smp#: 13  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-013  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub10  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:18:58 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

5 PCB-1232

|   |       |       |       |          |        |        |
|---|-------|-------|-------|----------|--------|--------|
| 1 | 3.239 | 3.239 | 0.000 | 7741819H | 0.5000 | 0.5000 |
| 1 | 3.938 | 3.938 | 0.000 | 6463682H | 0.5000 | 0.5000 |
| 1 | 4.572 | 4.572 | 0.000 | 6015216H | 0.5000 | 0.5000 |
| 1 | 5.353 | 5.353 | 0.000 | 5177029H | 0.5000 | 0.5000 |
| 1 | 6.142 | 6.142 | 0.000 | 4807018H | 0.5000 | 0.5000 |

Average of Peak Amounts = 0.5000

|   |       |       |       |           |        |        |
|---|-------|-------|-------|-----------|--------|--------|
| 2 | 3.847 | 3.847 | 0.000 | 12280272H | 0.5000 | 0.5000 |
| 2 | 4.003 | 4.003 | 0.000 | 8911942H  | 0.5000 | 0.5000 |
| 2 | 4.888 | 4.888 | 0.000 | 9227787H  | 0.5000 | 0.5000 |
| 2 | 5.536 | 5.536 | 0.000 | 9970238H  | 0.5000 | 0.5000 |
| 2 | 6.323 | 6.323 | 0.000 | 9796207H  | 0.5000 | 0.5000 |

Average of Peak Amounts = 0.5000

RPD = 0.00

9 PCB-1262

|   |        |        |       |           |        |        |
|---|--------|--------|-------|-----------|--------|--------|
| 1 | 7.394  | 7.394  | 0.000 | 11022134H | 0.5000 | 0.5000 |
| 1 | 8.032  | 8.032  | 0.000 | 15514329H | 0.5000 | 0.5000 |
| 1 | 8.498  | 8.498  | 0.000 | 14639117H | 0.5000 | 0.5000 |
| 1 | 10.085 | 10.085 | 0.000 | 12068544H | 0.5000 | 0.5000 |
| 1 | 10.497 | 10.497 | 0.000 | 27826780H | 0.5000 | 0.5000 |

Average of Peak Amounts = 0.5000

|   |        |        |       |           |        |        |
|---|--------|--------|-------|-----------|--------|--------|
| 2 | 9.551  | 9.551  | 0.000 | 26794140H | 0.5000 | 0.5000 |
| 2 | 9.799  | 9.799  | 0.000 | 27672771H | 0.5000 | 0.5000 |
| 2 | 10.297 | 10.297 | 0.000 | 24320950H | 0.5000 | 0.5000 |
| 2 | 11.697 | 11.697 | 0.000 | 16587270H | 0.5000 | 0.5000 |
| 2 | 11.917 | 11.917 | 0.000 | 40291403H | 0.5000 | 0.5000 |

Average of Peak Amounts = 0.5000

RPD = 0.00

**Reagents:**

GCAR3262CALL4\_00001

Amount Added: 1.00

Units: mL



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450790.D

Injection Date: 16-Apr-2015 14:09:12

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 13

Worklist Smp#: 13

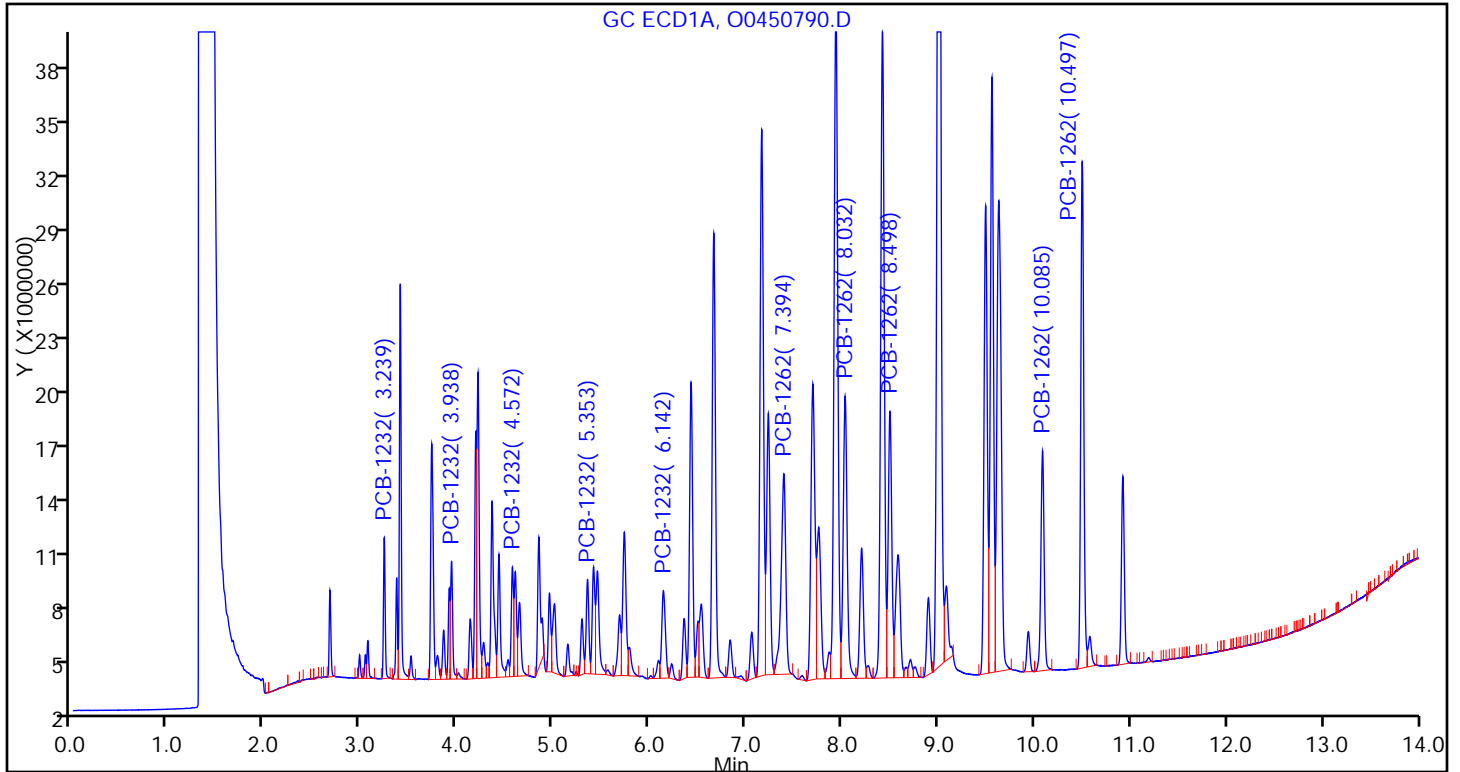
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

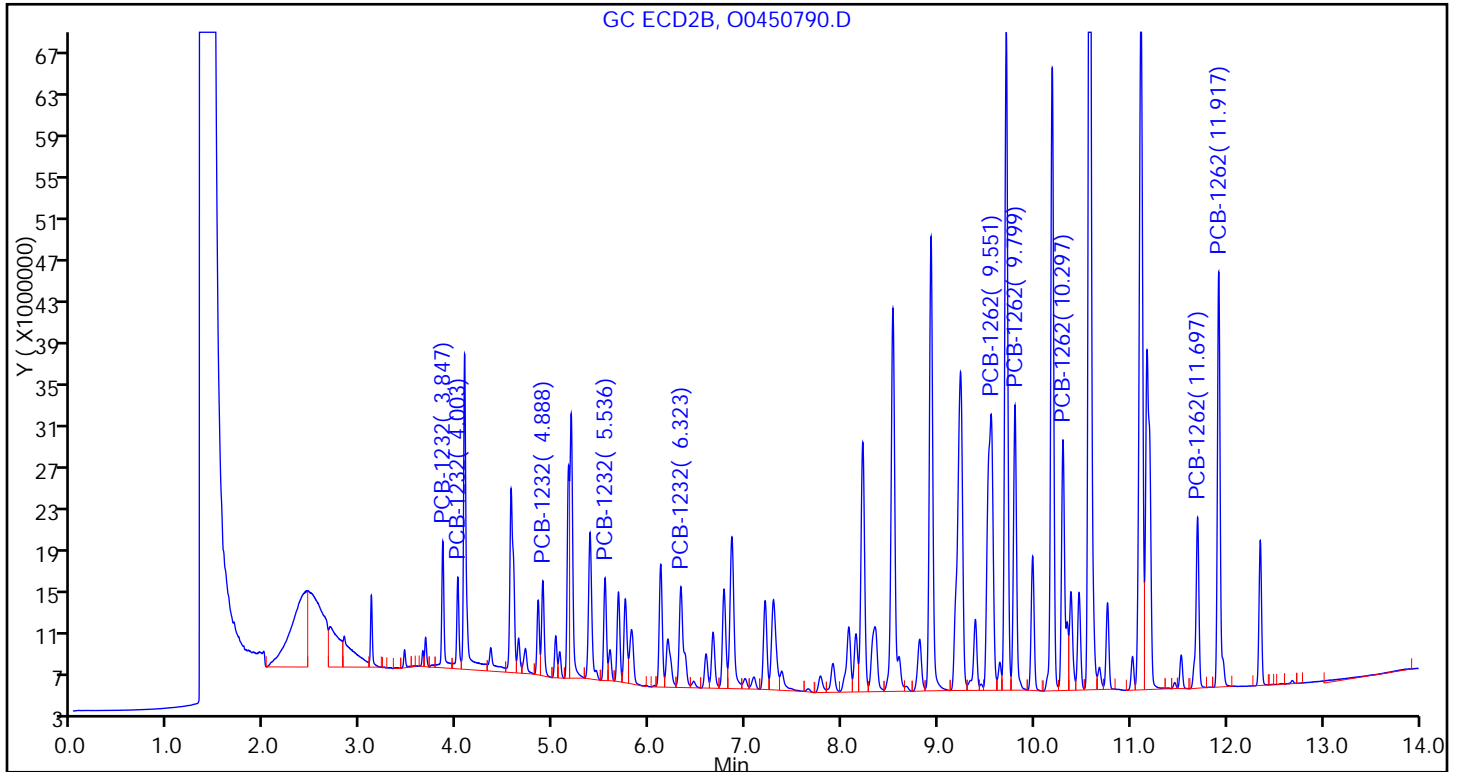
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP1 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 14:28 Calibration End Date: 04/16/2015 14:28 Calibration ID: 23390

Calibration Files:

|         |                  |              |
|---------|------------------|--------------|
| LEVEL:  | LAB SAMPLE ID:   | LAB FILE ID: |
| Level 1 | IC 180-138696/14 | 00450791.D   |

| ANALYTE         | LVL 1 |  |  |  |  |  |  |  |  |  | RT WINDOW     | AVG RT |
|-----------------|-------|--|--|--|--|--|--|--|--|--|---------------|--------|
| PCB-1248 Peak 1 | 4.213 |  |  |  |  |  |  |  |  |  | 4.163 - 4.263 | 4.213  |
| PCB-1248 Peak 2 | 4.432 |  |  |  |  |  |  |  |  |  | 4.382 - 4.482 | 4.432  |
| PCB-1248 Peak 3 | 5.295 |  |  |  |  |  |  |  |  |  | 5.245 - 5.345 | 5.295  |
| PCB-1248 Peak 4 | 5.686 |  |  |  |  |  |  |  |  |  | 5.636 - 5.736 | 5.686  |
| PCB-1248 Peak 5 | 6.357 |  |  |  |  |  |  |  |  |  | 6.307 - 6.407 | 6.357  |

FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP1 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 14:28 Calibration End Date: 04/16/2015 14:28 Calibration ID: 23390

Calibration Files:

|         |                  |              |
|---------|------------------|--------------|
| LEVEL:  | LAB SAMPLE ID:   | LAB FILE ID: |
| Level 1 | IC 180-138696/14 | 00450791.D   |

| ANALYTE         | CF       |  |  |  | CURVE<br>TYPE | COEFFICIENT |            |    | # | MIN CF | %RSD | # | MAX<br>%RSD | R^2<br>OR COD | # | MIN R^2<br>OR COD |
|-----------------|----------|--|--|--|---------------|-------------|------------|----|---|--------|------|---|-------------|---------------|---|-------------------|
|                 | LVL 1    |  |  |  |               | B           | M1         | M2 |   |        |      |   |             |               |   |                   |
| PCB-1248 Peak 1 | 35877182 |  |  |  | Ave           |             | 35877182.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1248 Peak 2 | 12737264 |  |  |  | Ave           |             | 12737264.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1248 Peak 3 | 20012144 |  |  |  | Ave           |             | 20012144.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1248 Peak 4 | 23775592 |  |  |  | Ave           |             | 23775592.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1248 Peak 5 | 23581858 |  |  |  | Ave           |             | 23581858.0 |    |   |        |      |   | 20.0        |               |   |                   |

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP1 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 14:28 Calibration End Date: 04/16/2015 14:28 Calibration ID: 23390

Calibration Files:

|         |                  |              |
|---------|------------------|--------------|
| LEVEL:  | LAB SAMPLE ID:   | LAB FILE ID: |
| Level 1 | IC 180-138696/14 | 00450791.D   |

| ANALYTE         | CURVE<br>TYPE | RESPONSE |  |  |  |  | CONCENTRATION (NG) |  |  |  |  |
|-----------------|---------------|----------|--|--|--|--|--------------------|--|--|--|--|
|                 |               | LVL 1    |  |  |  |  | LVL 1              |  |  |  |  |
| PCB-1248 Peak 1 | Ave           | 17938591 |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1248 Peak 2 | Ave           | 6368632  |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1248 Peak 3 | Ave           | 10006072 |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1248 Peak 4 | Ave           | 11887796 |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1248 Peak 5 | Ave           | 11790929 |  |  |  |  | 0.500              |  |  |  |  |

Curve Type Legend:

Ave = Average by Height

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450791.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 4  
 Inject. Date: 16-Apr-2015 14:28:58 ALS Bottle#: 14 Worklist Smp#: 14  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-014  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub5  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:19:01 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

6 PCB-1248

|                           |       |       |       |           |        |        |  |
|---------------------------|-------|-------|-------|-----------|--------|--------|--|
| 1                         | 4.213 | 4.213 | 0.000 | 17938591H | 0.5000 | 0.5000 |  |
| 1                         | 4.432 | 4.432 | 0.000 | 6368632H  | 0.5000 | 0.5000 |  |
| 1                         | 5.295 | 5.295 | 0.000 | 10006072H | 0.5000 | 0.5000 |  |
| 1                         | 5.686 | 5.686 | 0.000 | 11887796H | 0.5000 | 0.5000 |  |
| 1                         | 6.357 | 6.357 | 0.000 | 11790929H | 0.5000 | 0.5000 |  |
| Average of Peak Amounts = |       |       |       |           |        | 0.5000 |  |
| 2                         | 6.324 | 6.324 | 0.000 | 30271042H | 0.5000 | 0.5000 |  |
| 2                         | 6.659 | 6.659 | 0.000 | 17122596H | 0.5000 | 0.5000 |  |
| 2                         | 7.905 | 7.905 | 0.000 | 10989500H | 0.5000 | 0.5000 |  |
| 2                         | 8.145 | 8.145 | 0.000 | 18627371H | 0.5000 | 0.5000 |  |
| 2                         | 9.234 | 9.234 | 0.000 | 11483714H | 0.5000 | 0.5000 |  |

Average of Peak Amounts = 0.5000

RPD = 0.00

Reagents:

GCAR1248CALL4\_00010

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450791.D

Injection Date: 16-Apr-2015 14:28:58

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 14

Worklist Smp#: 14

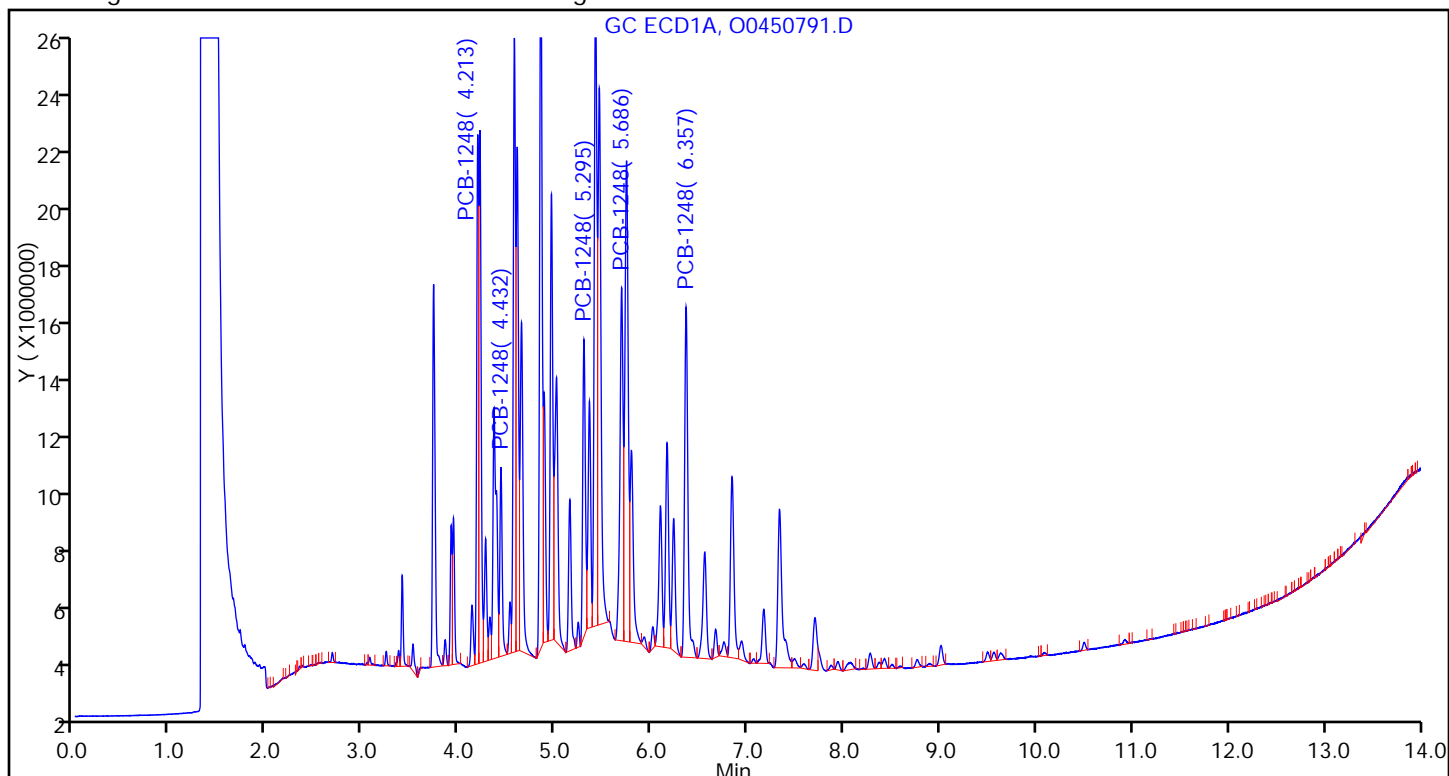
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

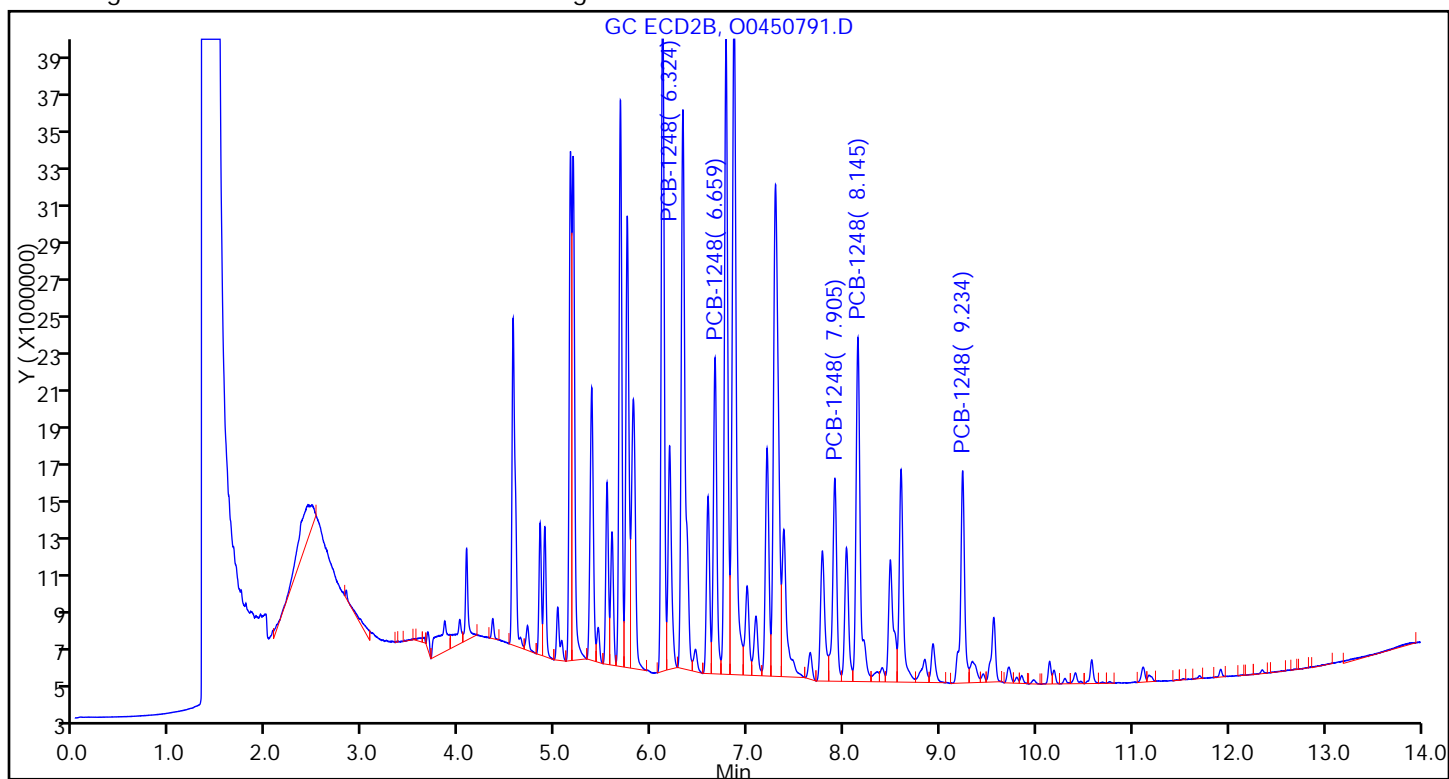
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP2 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 14:28 Calibration End Date: 04/16/2015 14:28 Calibration ID: 23391

Calibration Files:

|         |                  |              |
|---------|------------------|--------------|
| LEVEL:  | LAB SAMPLE ID:   | LAB FILE ID: |
| Level 1 | IC 180-138696/14 | 00450791.D   |

| ANALYTE         | LVL 1 |  |  |  |  |  |  |  |  |  | RT WINDOW     | AVG RT |
|-----------------|-------|--|--|--|--|--|--|--|--|--|---------------|--------|
| PCB-1248 Peak 1 | 6.324 |  |  |  |  |  |  |  |  |  | 6.274 - 6.374 | 6.324  |
| PCB-1248 Peak 2 | 6.659 |  |  |  |  |  |  |  |  |  | 6.609 - 6.709 | 6.659  |
| PCB-1248 Peak 3 | 7.905 |  |  |  |  |  |  |  |  |  | 7.855 - 7.955 | 7.905  |
| PCB-1248 Peak 4 | 8.145 |  |  |  |  |  |  |  |  |  | 8.095 - 8.195 | 8.145  |
| PCB-1248 Peak 5 | 9.234 |  |  |  |  |  |  |  |  |  | 9.184 - 9.284 | 9.234  |

FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP2 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 14:28 Calibration End Date: 04/16/2015 14:28 Calibration ID: 23391

Calibration Files:

|         |                  |              |
|---------|------------------|--------------|
| LEVEL:  | LAB SAMPLE ID:   | LAB FILE ID: |
| Level 1 | IC 180-138696/14 | 00450791.D   |

| ANALYTE         | CF       |  |  |  | CURVE<br>TYPE | COEFFICIENT |            |    | # | MIN CF | %RSD | # | MAX<br>%RSD | R^2<br>OR COD | # | MIN R^2<br>OR COD |
|-----------------|----------|--|--|--|---------------|-------------|------------|----|---|--------|------|---|-------------|---------------|---|-------------------|
|                 | LVL 1    |  |  |  |               | B           | M1         | M2 |   |        |      |   |             |               |   |                   |
| PCB-1248 Peak 1 | 60542084 |  |  |  | Ave           |             | 60542084.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1248 Peak 2 | 34245192 |  |  |  | Ave           |             | 34245192.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1248 Peak 3 | 21979000 |  |  |  | Ave           |             | 21979000.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1248 Peak 4 | 37254742 |  |  |  | Ave           |             | 37254742.0 |    |   |        |      |   | 20.0        |               |   |                   |
| PCB-1248 Peak 5 | 22967428 |  |  |  | Ave           |             | 22967428.0 |    |   |        |      |   | 20.0        |               |   |                   |

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.



FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP2 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 14:28 Calibration End Date: 04/16/2015 14:28 Calibration ID: 23391

Calibration Files:

|         |                  |              |
|---------|------------------|--------------|
| LEVEL:  | LAB SAMPLE ID:   | LAB FILE ID: |
| Level 1 | IC 180-138696/14 | 00450791.D   |

| ANALYTE         | CURVE<br>TYPE | RESPONSE |  |  |  |  | CONCENTRATION (NG) |  |  |  |  |
|-----------------|---------------|----------|--|--|--|--|--------------------|--|--|--|--|
|                 |               | LVL 1    |  |  |  |  | LVL 1              |  |  |  |  |
| PCB-1248 Peak 1 | Ave           | 30271042 |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1248 Peak 2 | Ave           | 17122596 |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1248 Peak 3 | Ave           | 10989500 |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1248 Peak 4 | Ave           | 18627371 |  |  |  |  | 0.500              |  |  |  |  |
| PCB-1248 Peak 5 | Ave           | 11483714 |  |  |  |  | 0.500              |  |  |  |  |

Curve Type Legend:

Ave = Average by Height

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450791.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 4  
 Inject. Date: 16-Apr-2015 14:28:58 ALS Bottle#: 14 Worklist Smp#: 14  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-014  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub5  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:19:01 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

6 PCB-1248

|                           |       |       |       |           |        |        |  |
|---------------------------|-------|-------|-------|-----------|--------|--------|--|
| 1                         | 4.213 | 4.213 | 0.000 | 17938591H | 0.5000 | 0.5000 |  |
| 1                         | 4.432 | 4.432 | 0.000 | 6368632H  | 0.5000 | 0.5000 |  |
| 1                         | 5.295 | 5.295 | 0.000 | 10006072H | 0.5000 | 0.5000 |  |
| 1                         | 5.686 | 5.686 | 0.000 | 11887796H | 0.5000 | 0.5000 |  |
| 1                         | 6.357 | 6.357 | 0.000 | 11790929H | 0.5000 | 0.5000 |  |
| Average of Peak Amounts = |       |       |       |           |        | 0.5000 |  |
| 2                         | 6.324 | 6.324 | 0.000 | 30271042H | 0.5000 | 0.5000 |  |
| 2                         | 6.659 | 6.659 | 0.000 | 17122596H | 0.5000 | 0.5000 |  |
| 2                         | 7.905 | 7.905 | 0.000 | 10989500H | 0.5000 | 0.5000 |  |
| 2                         | 8.145 | 8.145 | 0.000 | 18627371H | 0.5000 | 0.5000 |  |
| 2                         | 9.234 | 9.234 | 0.000 | 11483714H | 0.5000 | 0.5000 |  |

Average of Peak Amounts = 0.5000

RPD = 0.00

Reagents:

GCAR1248CALL4\_00010

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450791.D

Injection Date: 16-Apr-2015 14:28:58

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 14

Worklist Smp#: 14

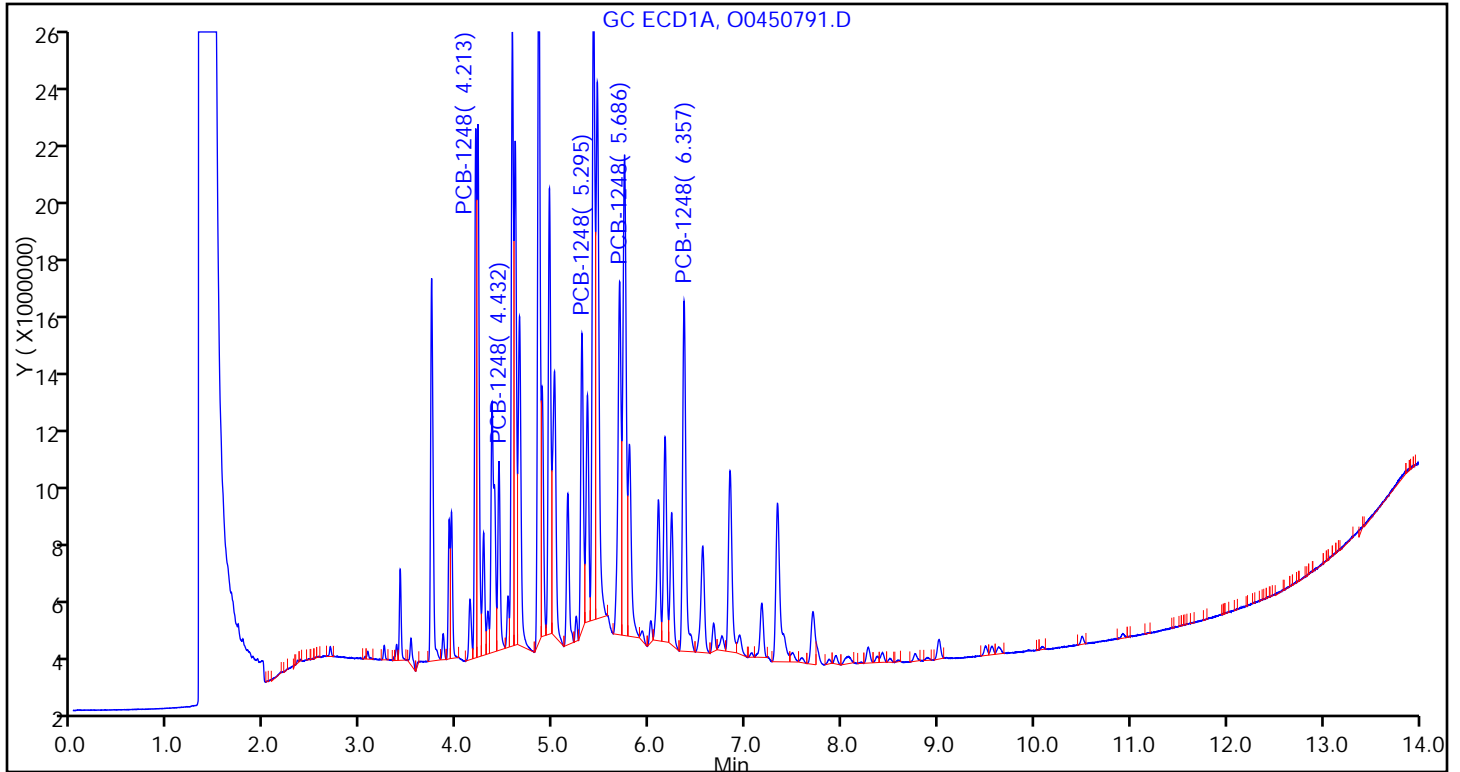
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

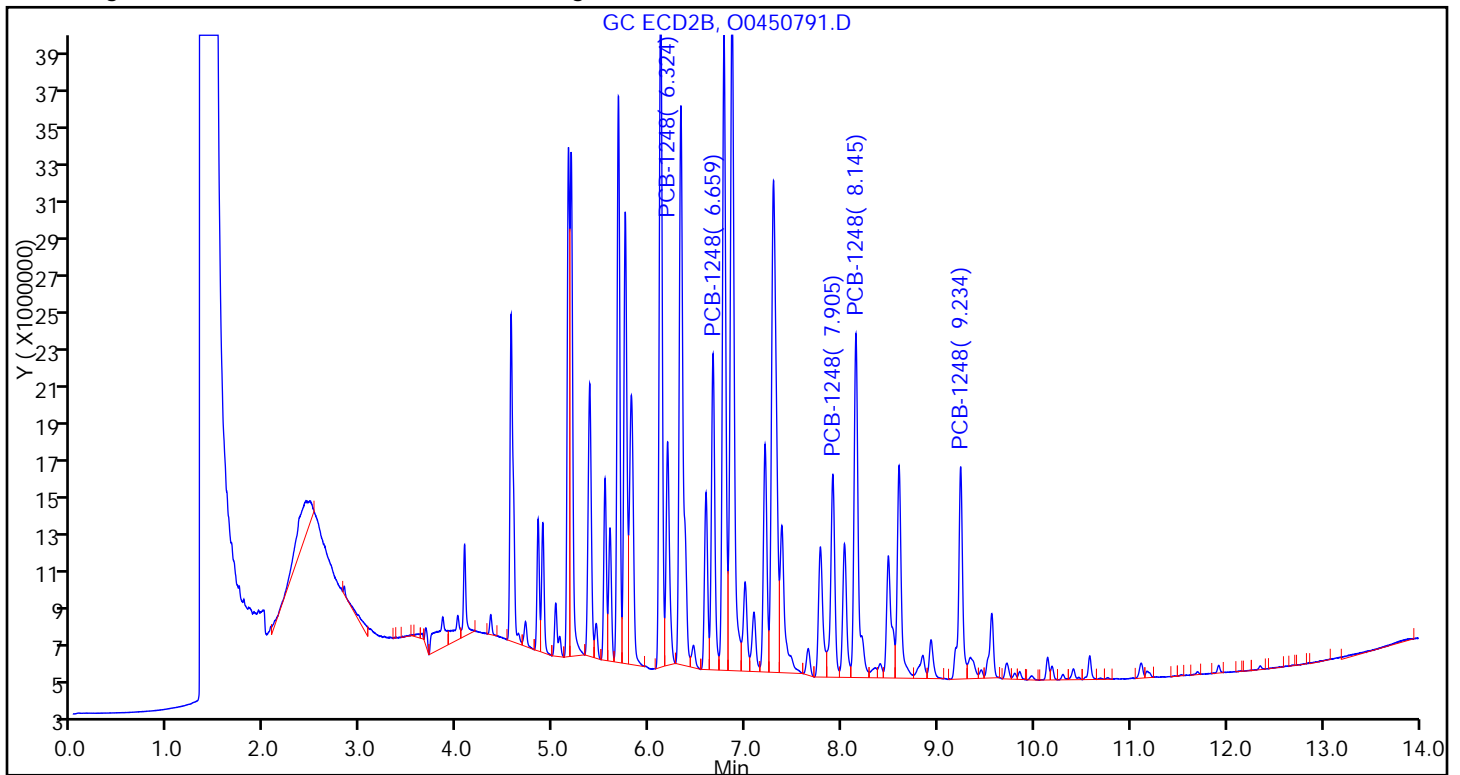
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP1 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 14:48 Calibration End Date: 04/16/2015 16:47 Calibration ID: 23396

Calibration Files:

| LEVEL:  | LAB SAMPLE ID:     | LAB FILE ID: |
|---------|--------------------|--------------|
| Level 1 | IC 180-138696/15   | 00450792.D   |
| Level 2 | IC 180-138696/16   | 00450793.D   |
| Level 3 | IC 180-138696/17   | 00450794.D   |
| Level 4 | ICRT 180-138696/18 | 00450795.D   |
| Level 5 | IC 180-138696/19   | 00450796.D   |
| Level 6 | IC 180-138696/20   | 00450797.D   |
| Level 7 | IC 180-138696/21   | 00450798.D   |

| ANALYTE                       | LVL 1  | LVL 2  | LVL 3  | LVL 4  | LVL 5  | LVL 6  | LVL 7  |  |  |  | RT WINDOW       | AVG RT |
|-------------------------------|--------|--------|--------|--------|--------|--------|--------|--|--|--|-----------------|--------|
| PCB-1016 Peak 1               | 3.405  | 3.404  | 3.406  | 3.406  | 3.405  | 3.404  | 3.406  |  |  |  | 3.356 - 3.456   | 3.405  |
| PCB-1016 Peak 2               | 3.731  | 3.732  | 3.733  | 3.733  | 3.732  | 3.732  | 3.733  |  |  |  | 3.683 - 3.783   | 3.732  |
| PCB-1016 Peak 3               | 4.359  | 4.360  | 4.361  | 4.361  | 4.359  | 4.359  | 4.359  |  |  |  | 4.311 - 4.411   | 4.360  |
| PCB-1016 Peak 4               | 4.432  | 4.431  | 4.433  | 4.433  | 4.432  | 4.430  | 4.432  |  |  |  | 4.383 - 4.483   | 4.432  |
| PCB-1016 Peak 5               | 4.844  | 4.845  | 4.848  | 4.848  | 4.846  | 4.845  | 4.846  |  |  |  | 4.798 - 4.898   | 4.846  |
| PCB-1260 Peak 1               | 6.664  | 6.664  | 6.666  | 6.666  | 6.665  | 6.663  | 6.663  |  |  |  | 6.616 - 6.716   | 6.664  |
| PCB-1260 Peak 2               | 7.163  | 7.164  | 7.165  | 7.165  | 7.163  | 7.162  | 7.161  |  |  |  | 7.115 - 7.215   | 7.163  |
| PCB-1260 Peak 3               | 7.693  | 7.694  | 7.696  | 7.697  | 7.695  | 7.694  | 7.694  |  |  |  | 7.647 - 7.747   | 7.695  |
| PCB-1260 Peak 4               | 8.419  | 8.421  | 8.422  | 8.422  | 8.420  | 8.418  | 8.418  |  |  |  | 8.372 - 8.472   | 8.420  |
| PCB-1260 Peak 5               | 9.009  | 9.007  | 9.009  | 9.010  | 9.007  | 9.006  | 9.006  |  |  |  | 8.960 - 9.060   | 9.008  |
| Tetrachloro-m-xylene (Surr)   | 3.099  | 3.099  | 3.101  | 3.100  | 3.100  | 3.099  | 3.102  |  |  |  | 3.050 - 3.150   | 3.100  |
| DCB Decachlorobiphenyl (Surr) | 11.189 | 11.188 | 11.189 | 11.190 | 11.188 | 11.187 | 11.188 |  |  |  | 11.120 - 11.260 | 11.188 |

FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP1 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 14:48 Calibration End Date: 04/16/2015 16:47 Calibration ID: 23396

Calibration Files:

|         |                    |              |
|---------|--------------------|--------------|
| LEVEL:  | LAB SAMPLE ID:     | LAB FILE ID: |
| Level 1 | IC 180-138696/15   | 00450792.D   |
| Level 2 | IC 180-138696/16   | 00450793.D   |
| Level 3 | IC 180-138696/17   | 00450794.D   |
| Level 4 | ICRT 180-138696/18 | 00450795.D   |
| Level 5 | IC 180-138696/19   | 00450796.D   |
| Level 6 | IC 180-138696/20   | 00450797.D   |
| Level 7 | IC 180-138696/21   | 00450798.D   |

| ANALYTE                       | CF                       |                          |                          |            | CURVE TYPE | COEFFICIENT |            |    | # | MIN CF | %RSD | # | MAX %RSD | R^2 OR COD | # | MIN R^2 OR COD |
|-------------------------------|--------------------------|--------------------------|--------------------------|------------|------------|-------------|------------|----|---|--------|------|---|----------|------------|---|----------------|
|                               | LVL 1<br>LVL 5           | LVL 2<br>LVL 6           | LVL 3<br>LVL 7           | LVL 4      |            | B           | M1         | M2 |   |        |      |   |          |            |   |                |
| PCB-1016 Peak 1               | 35793300<br>36990431     | 35890680<br>32893579     | 36195625<br>34047322     | 35029228   | Ave        |             | 35262880.6 |    |   |        | 4.0  |   | 20.0     |            |   |                |
| PCB-1016 Peak 2               | 54771000<br>56198390     | 54348360<br>48537201     | 55626300<br>50475391     | 53946280   | Ave        |             | 53414703.1 |    |   |        | 5.3  |   | 20.0     |            |   |                |
| PCB-1016 Peak 3               | 36301000<br>44393552     | 37762060<br>38553108     | 40914235<br>41707950     | 41397054   | Ave        |             | 40146994.1 |    |   |        | 6.9  |   | 20.0     |            |   |                |
| PCB-1016 Peak 4               | 23772000<br>32002151     | 25287720<br>27862504     | 28509355<br>30117019     | 29494356   | Ave        |             | 28149300.6 |    |   |        | 10.1 |   | 20.0     |            |   |                |
| PCB-1016 Peak 5               | 35632800<br>38768677     | 32706620<br>33476624     | 36148940<br>35616758     | 37045628   | Ave        |             | 35628006.7 |    |   |        | 5.8  |   | 20.0     |            |   |                |
| PCB-1260 Peak 1               | 58513500<br>63675705     | 58926720<br>52386604     | 60555255<br>55318615     | 61319994   | Ave        |             | 58670913.3 |    |   |        | 6.5  |   | 20.0     |            |   |                |
| PCB-1260 Peak 2               | 77812100<br>87829147     | 80164240<br>71363072     | 82848335<br>75742271     | 83397852   | Ave        |             | 79879573.8 |    |   |        | 6.8  |   | 20.0     |            |   |                |
| PCB-1260 Peak 3               | 53378100<br>64595163     | 55073900<br>53195586     | 59513090<br>57461019     | 60335662   | Ave        |             | 57650359.9 |    |   |        | 7.2  |   | 20.0     |            |   |                |
| PCB-1260 Peak 4               | 48991000<br>57033427     | 50830620<br>46360058     | 53742005<br>49388844     | 54531750   | Ave        |             | 51553957.7 |    |   |        | 7.2  |   | 20.0     |            |   |                |
| PCB-1260 Peak 5               | 103298700<br>128190489   | 110499560<br>102315365   | 119996430<br>110206187   | 121113386  | Ave        |             | 113660017  |    |   |        | 8.5  |   | 20.0     |            |   |                |
| Tetrachloro-m-xylene (Surr)   | 2134298000<br>2403251160 | 2106991600<br>2137986120 | 2315325600<br>2169928760 | 2327036880 | Ave        |             | 2227831160 |    |   |        | 5.3  |   | 20.0     |            |   |                |
| DCB Decachlorobiphenyl (Surr) | 1271792000<br>1311107720 | 1287308400<br>1027987440 | 1294676600<br>1121862000 | 1250690720 | Ave        |             | 1223632126 |    |   |        | 8.7  |   | 20.0     |            |   |                |

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP1 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 14:48 Calibration End Date: 04/16/2015 16:47 Calibration ID: 23396

Calibration Files:

| LEVEL:  | LAB SAMPLE ID:     | LAB FILE ID: |
|---------|--------------------|--------------|
| Level 1 | IC 180-138696/15   | 00450792.D   |
| Level 2 | IC 180-138696/16   | 00450793.D   |
| Level 3 | IC 180-138696/17   | 00450794.D   |
| Level 4 | ICRT 180-138696/18 | 00450795.D   |
| Level 5 | IC 180-138696/19   | 00450796.D   |
| Level 6 | IC 180-138696/20   | 00450797.D   |
| Level 7 | IC 180-138696/21   | 00450798.D   |

| ANALYTE                       | CURVE TYPE | RESPONSE             |                      |          |          |           | CONCENTRATION (NG) |                  |        |        |        |
|-------------------------------|------------|----------------------|----------------------|----------|----------|-----------|--------------------|------------------|--------|--------|--------|
|                               |            | LVL 1<br>LVL 6       | LVL 2<br>LVL 7       | LVL 3    | LVL 4    | LVL 5     | LVL 1<br>LVL 6     | LVL 2<br>LVL 7   | LVL 3  | LVL 4  | LVL 5  |
| PCB-1016 Peak 1               | Ave        | 357933<br>65787157   | 1794534<br>136189287 | 7239125  | 17514614 | 36990431  | 0.0100<br>2.00     | 0.0500<br>4.00   | 0.200  | 0.500  | 1.00   |
| PCB-1016 Peak 2               | Ave        | 547710<br>97074401   | 2717418<br>201901565 | 11125260 | 26973140 | 56198390  | 0.0100<br>2.00     | 0.0500<br>4.00   | 0.200  | 0.500  | 1.00   |
| PCB-1016 Peak 3               | Ave        | 363010<br>77106216   | 1888103<br>166831798 | 8182847  | 20698527 | 44393552  | 0.0100<br>2.00     | 0.0500<br>4.00   | 0.200  | 0.500  | 1.00   |
| PCB-1016 Peak 4               | Ave        | 237720<br>55725008   | 1264386<br>120468074 | 5701871  | 14747178 | 32002151  | 0.0100<br>2.00     | 0.0500<br>4.00   | 0.200  | 0.500  | 1.00   |
| PCB-1016 Peak 5               | Ave        | 356328<br>66953248   | 1635331<br>142467031 | 7229788  | 18522814 | 38768677  | 0.0100<br>2.00     | 0.0500<br>4.00   | 0.200  | 0.500  | 1.00   |
| PCB-1260 Peak 1               | Ave        | 585135<br>104773208  | 2946336<br>221274459 | 12111051 | 30659997 | 63675705  | 0.0100<br>2.00     | 0.0500<br>4.00   | 0.200  | 0.500  | 1.00   |
| PCB-1260 Peak 2               | Ave        | 778121<br>142726143  | 4008212<br>302969084 | 16569667 | 41698926 | 87829147  | 0.0100<br>2.00     | 0.0500<br>4.00   | 0.200  | 0.500  | 1.00   |
| PCB-1260 Peak 3               | Ave        | 533781<br>106391171  | 2753695<br>229844075 | 11902618 | 30167831 | 64595163  | 0.0100<br>2.00     | 0.0500<br>4.00   | 0.200  | 0.500  | 1.00   |
| PCB-1260 Peak 4               | Ave        | 489910<br>92720116   | 2541531<br>197555375 | 10748401 | 27265875 | 57033427  | 0.0100<br>2.00     | 0.0500<br>4.00   | 0.200  | 0.500  | 1.00   |
| PCB-1260 Peak 5               | Ave        | 1032987<br>204630730 | 5524978<br>440824747 | 23999286 | 60556693 | 128190489 | 0.0100<br>2.00     | 0.0500<br>4.00   | 0.200  | 0.500  | 1.00   |
| Tetrachloro-m-xylene (Surr)   | Ave        | 1067149<br>213798612 | 5267479<br>433985752 | 23153256 | 58175922 | 120162558 | 0.000500<br>0.100  | 0.00250<br>0.200 | 0.0100 | 0.0250 | 0.0500 |
| DCB Decachlorobiphenyl (Surr) | Ave        | 635896<br>102798744  | 3218271<br>224372400 | 12946766 | 31267268 | 65555386  | 0.000500<br>0.100  | 0.00250<br>0.200 | 0.0100 | 0.0250 | 0.0500 |

Curve Type Legend:

Ave = Average by Height

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450792.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 1  
 Inject. Date: 16-Apr-2015 14:48:40 ALS Bottle#: 15 Worklist Smp#: 15  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-015  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub1  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:19:05 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

\$ 1 Tetrachloro-m-xylene

|   |       |       |        |          |          |          |
|---|-------|-------|--------|----------|----------|----------|
| 1 | 3.099 | 3.100 | -0.001 | 1067149H | 0.000500 | 0.000479 |
| 2 | 3.556 | 3.557 | -0.001 | 1850691H | 0.000500 | 0.000489 |

RPD = 2.00

4 PCB-1016

|   |       |       |        |         |        |          |
|---|-------|-------|--------|---------|--------|----------|
| 1 | 3.405 | 3.406 | -0.001 | 357933H | 0.0100 | 0.0102   |
| 1 | 3.731 | 3.733 | -0.002 | 547710H | 0.0100 | 0.0103   |
| 1 | 4.359 | 4.361 | -0.002 | 363010H | 0.0100 | 0.009042 |
| 1 | 4.432 | 4.433 | -0.001 | 237720H | 0.0100 | 0.008445 |
| 1 | 4.844 | 4.848 | -0.004 | 356328H | 0.0100 | 0.0100   |

Average of Peak Amounts = 0.009579

|   |       |       |        |         |        |          |
|---|-------|-------|--------|---------|--------|----------|
| 2 | 5.379 | 5.379 | 0.000  | 597808H | 0.0100 | 0.009895 |
| 2 | 5.534 | 5.536 | -0.002 | 399074H | 0.0100 | 0.009315 |
| 2 | 6.113 | 6.114 | -0.001 | 553265H | 0.0100 | 0.0102   |
| 2 | 6.851 | 6.850 | 0.001  | 427468H | 0.0100 | 0.0107   |
| 2 | 7.197 | 7.200 | -0.003 | 344672H | 0.0100 | 0.0107   |

Average of Peak Amounts = 0.0102

RPD = 5.90

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450792.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 8 PCB-1260

|   |       |       |        |          |        |          |  |
|---|-------|-------|--------|----------|--------|----------|--|
| 1 | 6.664 | 6.666 | -0.002 | 585135H  | 0.0100 | 0.0100   |  |
| 1 | 7.163 | 7.165 | -0.002 | 778121H  | 0.0100 | 0.009741 |  |
| 1 | 7.693 | 7.697 | -0.004 | 533781H  | 0.0100 | 0.009259 |  |
| 1 | 8.419 | 8.422 | -0.003 | 489910H  | 0.0100 | 0.009503 |  |
| 1 | 9.009 | 9.010 | -0.001 | 1032987H | 0.0100 | 0.009088 |  |

Average of Peak Amounts = 0.009513

|   |        |        |        |          |        |        |  |
|---|--------|--------|--------|----------|--------|--------|--|
| 2 | 9.219  | 9.221  | -0.002 | 618887H  | 0.0100 | 0.0102 |  |
| 2 | 9.554  | 9.555  | -0.001 | 1030651H | 0.0100 | 0.0106 |  |
| 2 | 9.707  | 9.709  | -0.002 | 935810H  | 0.0100 | 0.0109 |  |
| 2 | 10.184 | 10.185 | -0.001 | 996655H  | 0.0100 | 0.0107 |  |
| 2 | 10.575 | 10.577 | -0.002 | 1901231H | 0.0100 | 0.0099 |  |

Average of Peak Amounts = 0.0105

RPD = 9.45

## \$ 11 DCB Decachlorobiphenyl (Surr)

|   |        |        |        |         |          |          |  |
|---|--------|--------|--------|---------|----------|----------|--|
| 1 | 11.189 | 11.190 | -0.001 | 635896H | 0.000500 | 0.000520 |  |
| 2 | 12.683 | 12.683 | 0.000  | 787226H | 0.000500 | 0.000500 |  |

RPD = 3.92

## Reagents:

GCAR1660CALL1\_00015

Amount Added: 1.00

Units: mL



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450792.D

Injection Date: 16-Apr-2015 14:48:40

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 15

Worklist Smp#: 15

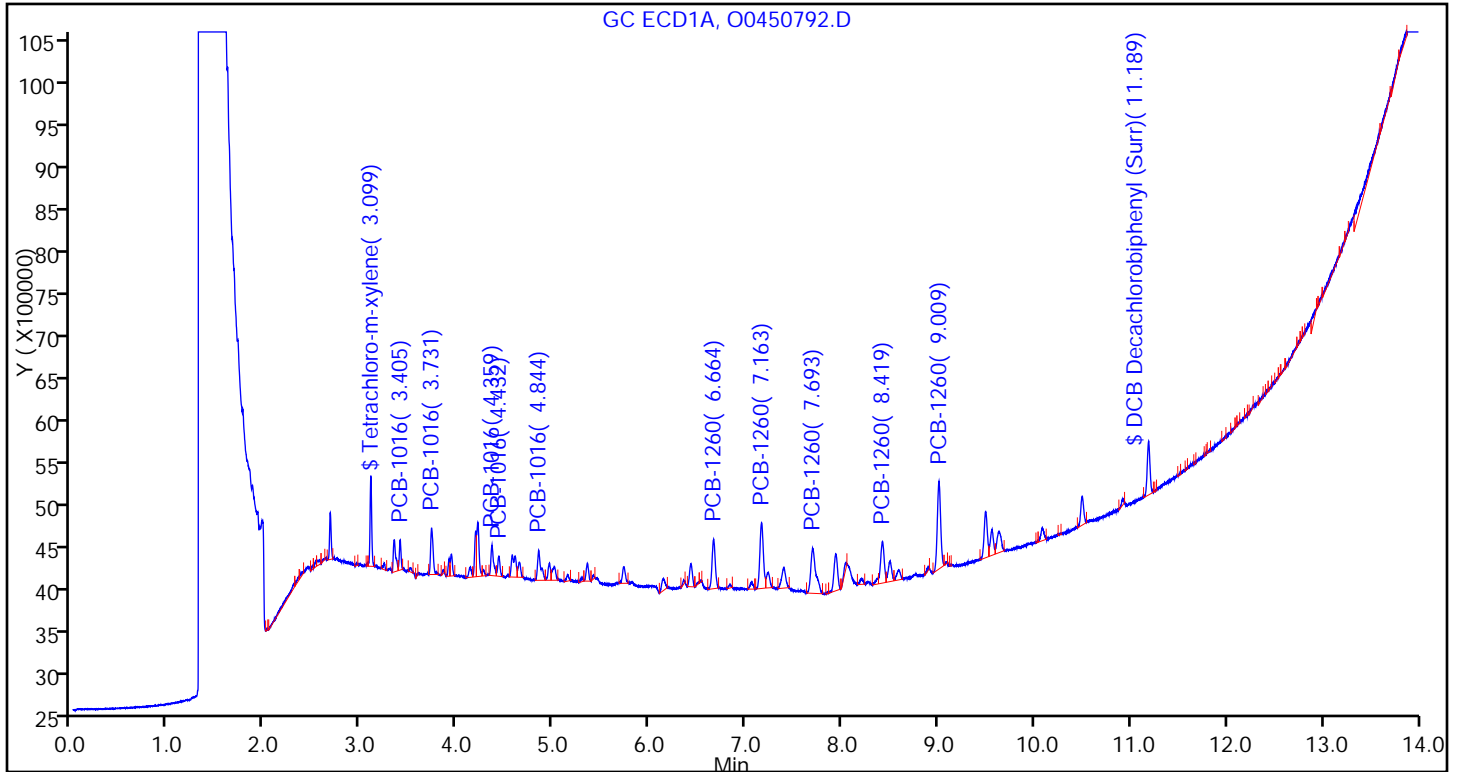
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

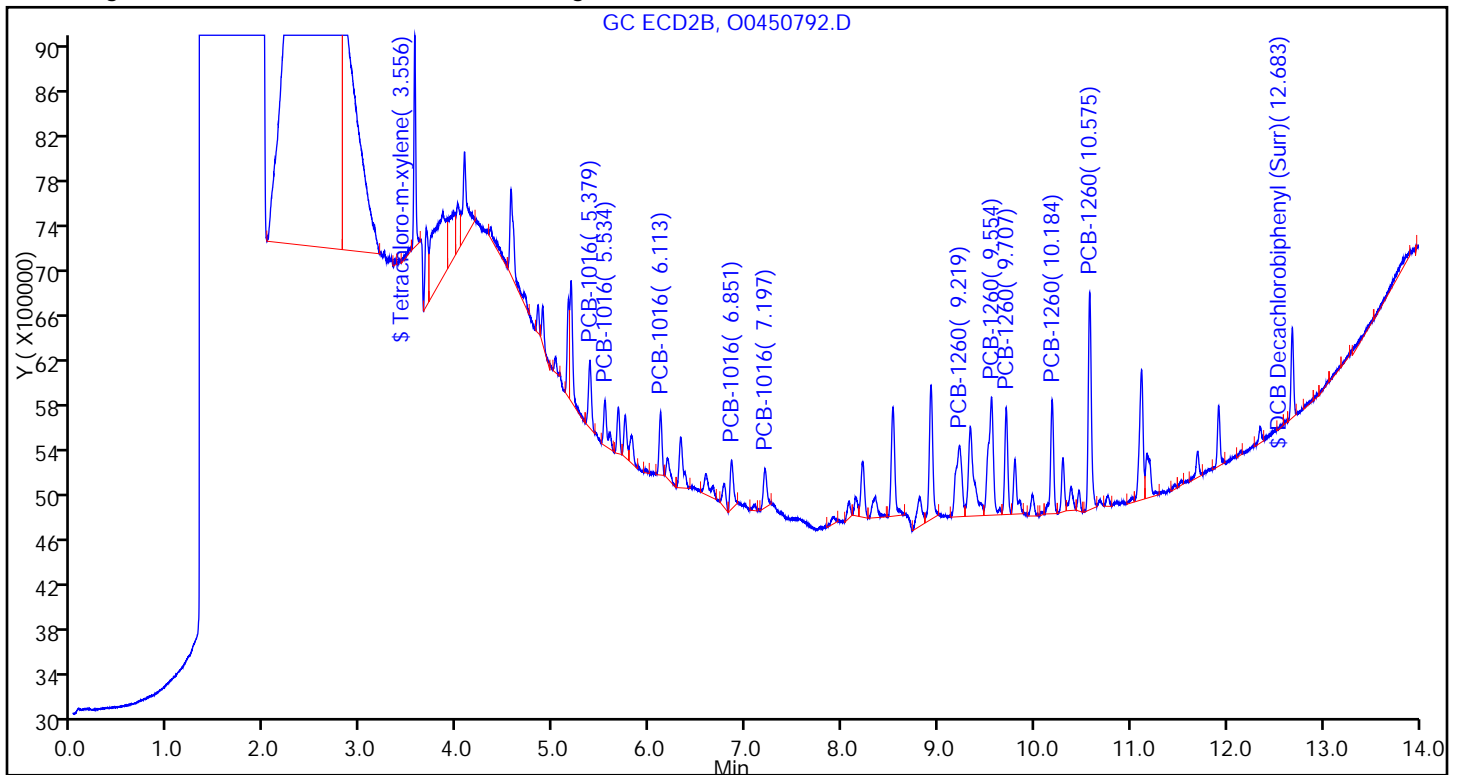
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450793.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 2  
 Inject. Date: 16-Apr-2015 15:08:23 ALS Bottle#: 16 Worklist Smp#: 16  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-016  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub1  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:19:08 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

\$ 1 Tetrachloro-m-xylene

|   |       |       |        |          |          |          |
|---|-------|-------|--------|----------|----------|----------|
| 1 | 3.099 | 3.100 | -0.001 | 5267479H | 0.002500 | 0.002364 |
| 2 | 3.556 | 3.557 | -0.001 | 9397799H | 0.002500 | 0.002482 |

RPD = 4.84

4 PCB-1016

|   |       |       |        |          |        |        |
|---|-------|-------|--------|----------|--------|--------|
| 1 | 3.404 | 3.406 | -0.002 | 1794534H | 0.0500 | 0.0509 |
| 1 | 3.732 | 3.733 | -0.001 | 2717418H | 0.0500 | 0.0509 |
| 1 | 4.360 | 4.361 | -0.001 | 1888103H | 0.0500 | 0.0470 |
| 1 | 4.431 | 4.433 | -0.002 | 1264386H | 0.0500 | 0.0449 |
| 1 | 4.845 | 4.848 | -0.003 | 1635331H | 0.0500 | 0.0459 |

Average of Peak Amounts = 0.0479

|   |       |       |        |          |        |        |
|---|-------|-------|--------|----------|--------|--------|
| 2 | 5.377 | 5.379 | -0.002 | 3008548H | 0.0500 | 0.0498 |
| 2 | 5.534 | 5.536 | -0.002 | 2034124H | 0.0500 | 0.0475 |
| 2 | 6.114 | 6.114 | 0.000  | 2695144H | 0.0500 | 0.0498 |
| 2 | 6.848 | 6.850 | -0.002 | 2034810H | 0.0500 | 0.0510 |
| 2 | 7.198 | 7.200 | -0.002 | 1696442H | 0.0500 | 0.0524 |

Average of Peak Amounts = 0.0501

RPD = 4.46

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450793.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 8 PCB-1260

|   |       |       |        |          |        |        |  |
|---|-------|-------|--------|----------|--------|--------|--|
| 1 | 6.664 | 6.666 | -0.002 | 2946336H | 0.0500 | 0.0502 |  |
| 1 | 7.164 | 7.165 | -0.001 | 4008212H | 0.0500 | 0.0502 |  |
| 1 | 7.694 | 7.697 | -0.003 | 2753695H | 0.0500 | 0.0478 |  |
| 1 | 8.421 | 8.422 | -0.001 | 2541531H | 0.0500 | 0.0493 |  |
| 1 | 9.007 | 9.010 | -0.003 | 5524978H | 0.0500 | 0.0486 |  |

Average of Peak Amounts = 0.0492

|   |        |        |        |          |        |        |  |
|---|--------|--------|--------|----------|--------|--------|--|
| 2 | 9.217  | 9.221  | -0.004 | 3087296H | 0.0500 | 0.0508 |  |
| 2 | 9.555  | 9.555  | 0.000  | 4994038H | 0.0500 | 0.0514 |  |
| 2 | 9.707  | 9.709  | -0.002 | 4494479H | 0.0500 | 0.0522 |  |
| 2 | 10.186 | 10.185 | 0.001  | 4837183H | 0.0500 | 0.0519 |  |
| 2 | 10.575 | 10.577 | -0.002 | 9607605H | 0.0500 | 0.0501 |  |

Average of Peak Amounts = 0.0513

RPD = 4.14

## \$ 11 DCB Decachlorobiphenyl (Surr)

|   |        |        |        |          |          |          |  |
|---|--------|--------|--------|----------|----------|----------|--|
| 1 | 11.188 | 11.190 | -0.002 | 3218271H | 0.002500 | 0.002630 |  |
| 2 | 12.684 | 12.683 | 0.001  | 4163008H | 0.002500 | 0.002643 |  |

RPD = 0.47

## Reagents:

GCAR1660CALL2\_00010

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450793.D

Injection Date: 16-Apr-2015 15:08:23

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 16

Worklist Smp#: 16

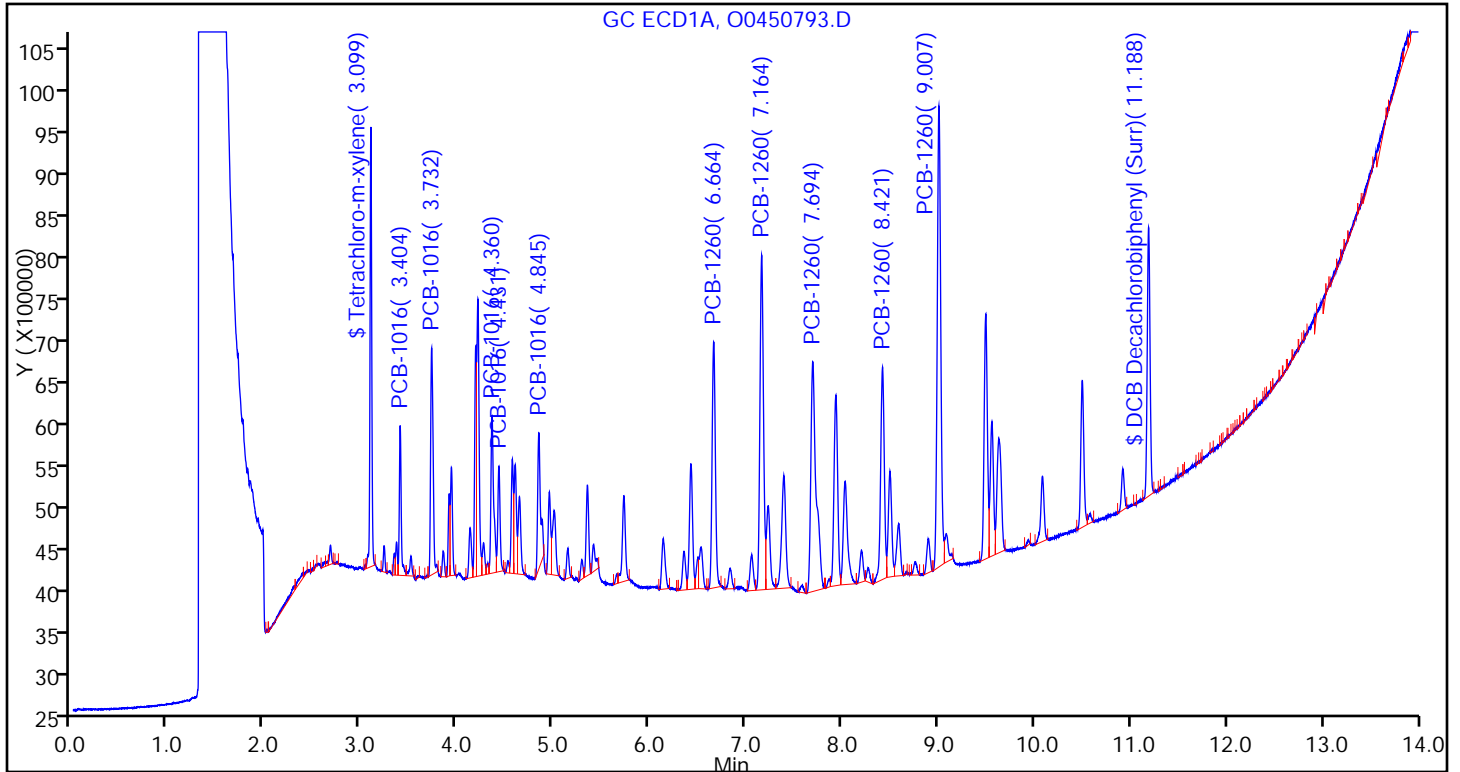
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

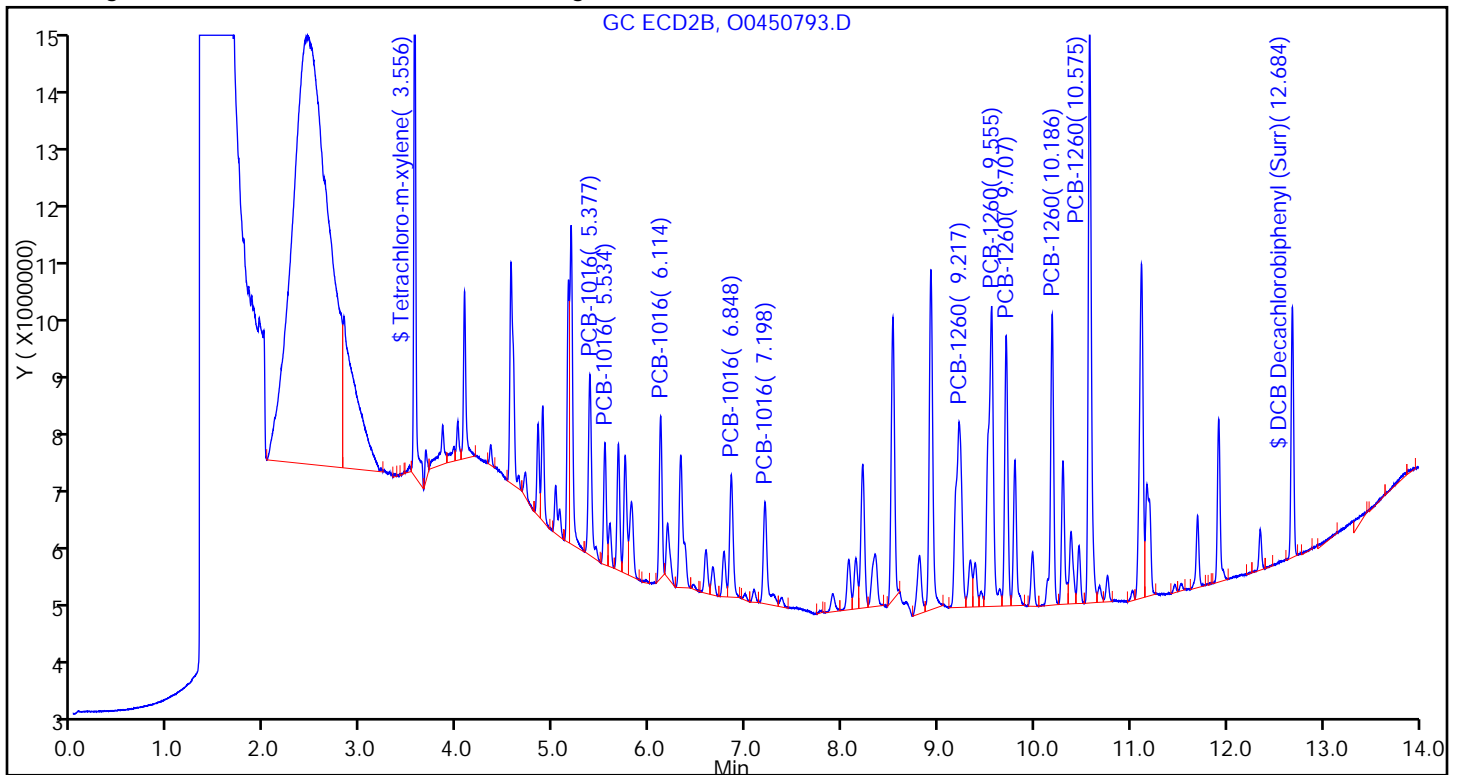
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450794.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 3  
 Inject. Date: 16-Apr-2015 15:28:07 ALS Bottle#: 17 Worklist Smp#: 17  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-017  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub1  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:19:11 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

\$ 1 Tetrachloro-m-xylene

|   |       |       |       |           |        |        |  |
|---|-------|-------|-------|-----------|--------|--------|--|
| 1 | 3.101 | 3.100 | 0.001 | 23153256H | 0.0100 | 0.0104 |  |
| 2 | 3.557 | 3.557 | 0.000 | 39587992H | 0.0100 | 0.0105 |  |

RPD = 0.58

4 PCB-1016

|   |       |       |       |           |        |        |  |
|---|-------|-------|-------|-----------|--------|--------|--|
| 1 | 3.406 | 3.406 | 0.000 | 7239125H  | 0.2000 | 0.2053 |  |
| 1 | 3.733 | 3.733 | 0.000 | 11125260H | 0.2000 | 0.2083 |  |
| 1 | 4.361 | 4.361 | 0.000 | 8182847H  | 0.2000 | 0.2038 |  |
| 1 | 4.433 | 4.433 | 0.000 | 5701871H  | 0.2000 | 0.2026 |  |
| 1 | 4.848 | 4.848 | 0.000 | 7229788H  | 0.2000 | 0.2029 |  |

Average of Peak Amounts = 0.2046

|   |       |       |        |           |        |        |  |
|---|-------|-------|--------|-----------|--------|--------|--|
| 2 | 5.379 | 5.379 | 0.000  | 12174266H | 0.2000 | 0.2015 |  |
| 2 | 5.536 | 5.536 | 0.000  | 8529902H  | 0.2000 | 0.1991 |  |
| 2 | 6.114 | 6.114 | 0.000  | 11247196H | 0.2000 | 0.2078 |  |
| 2 | 6.848 | 6.850 | -0.002 | 8036749H  | 0.2000 | 0.2016 |  |
| 2 | 7.199 | 7.200 | -0.001 | 6671348H  | 0.2000 | 0.2062 |  |

Average of Peak Amounts = 0.2032

RPD = 0.66

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450794.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 8 PCB-1260

|   |       |       |        |           |        |        |  |
|---|-------|-------|--------|-----------|--------|--------|--|
| 1 | 6.666 | 6.666 | 0.000  | 12111051H | 0.2000 | 0.2064 |  |
| 1 | 7.165 | 7.165 | 0.000  | 16569667H | 0.2000 | 0.2074 |  |
| 1 | 7.696 | 7.697 | -0.001 | 11902618H | 0.2000 | 0.2065 |  |
| 1 | 8.422 | 8.422 | 0.000  | 10748401H | 0.2000 | 0.2085 |  |
| 1 | 9.009 | 9.010 | -0.001 | 23999286H | 0.2000 | 0.2111 |  |

Average of Peak Amounts = 0.2080

|   |        |        |        |           |        |        |  |
|---|--------|--------|--------|-----------|--------|--------|--|
| 2 | 9.221  | 9.221  | 0.000  | 12837324H | 0.2000 | 0.2114 |  |
| 2 | 9.556  | 9.555  | 0.001  | 20043056H | 0.2000 | 0.2065 |  |
| 2 | 9.707  | 9.709  | -0.002 | 17925449H | 0.2000 | 0.2082 |  |
| 2 | 10.185 | 10.185 | 0.000  | 19594677H | 0.2000 | 0.2101 |  |
| 2 | 10.576 | 10.577 | -0.001 | 39048494H | 0.2000 | 0.2038 |  |

Average of Peak Amounts = 0.2080

RPD = 0.00

## \$ 11 DCB Decachlorobiphenyl (Surr)

|   |        |        |        |           |        |        |  |
|---|--------|--------|--------|-----------|--------|--------|--|
| 1 | 11.189 | 11.190 | -0.001 | 12946766H | 0.0100 | 0.0106 |  |
| 2 | 12.683 | 12.683 | 0.000  | 16372316H | 0.0100 | 0.0104 |  |

RPD = 1.79

## Reagents:

GCAR1660CALL3\_00009

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450794.D

Injection Date: 16-Apr-2015 15:28:07

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 17

Worklist Smp#: 17

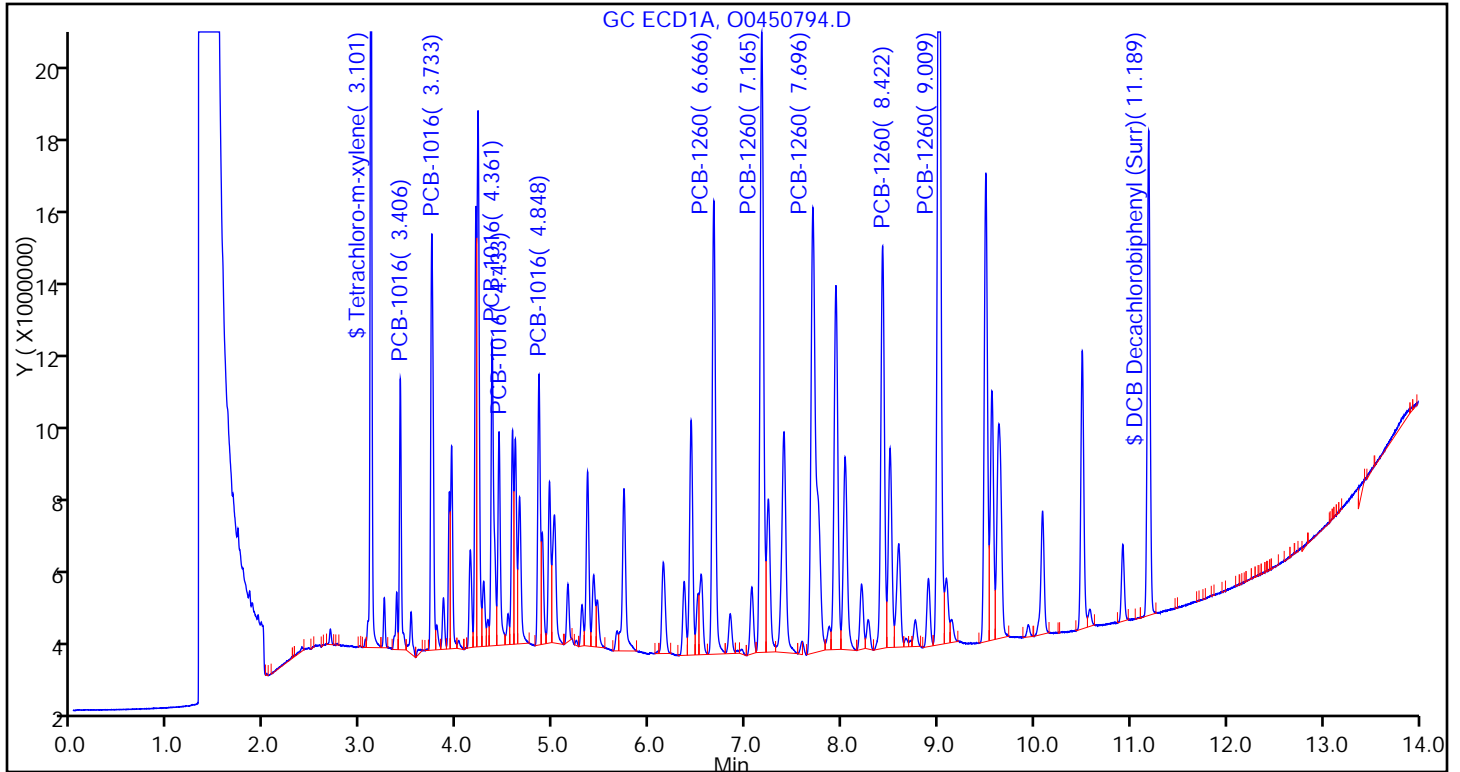
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

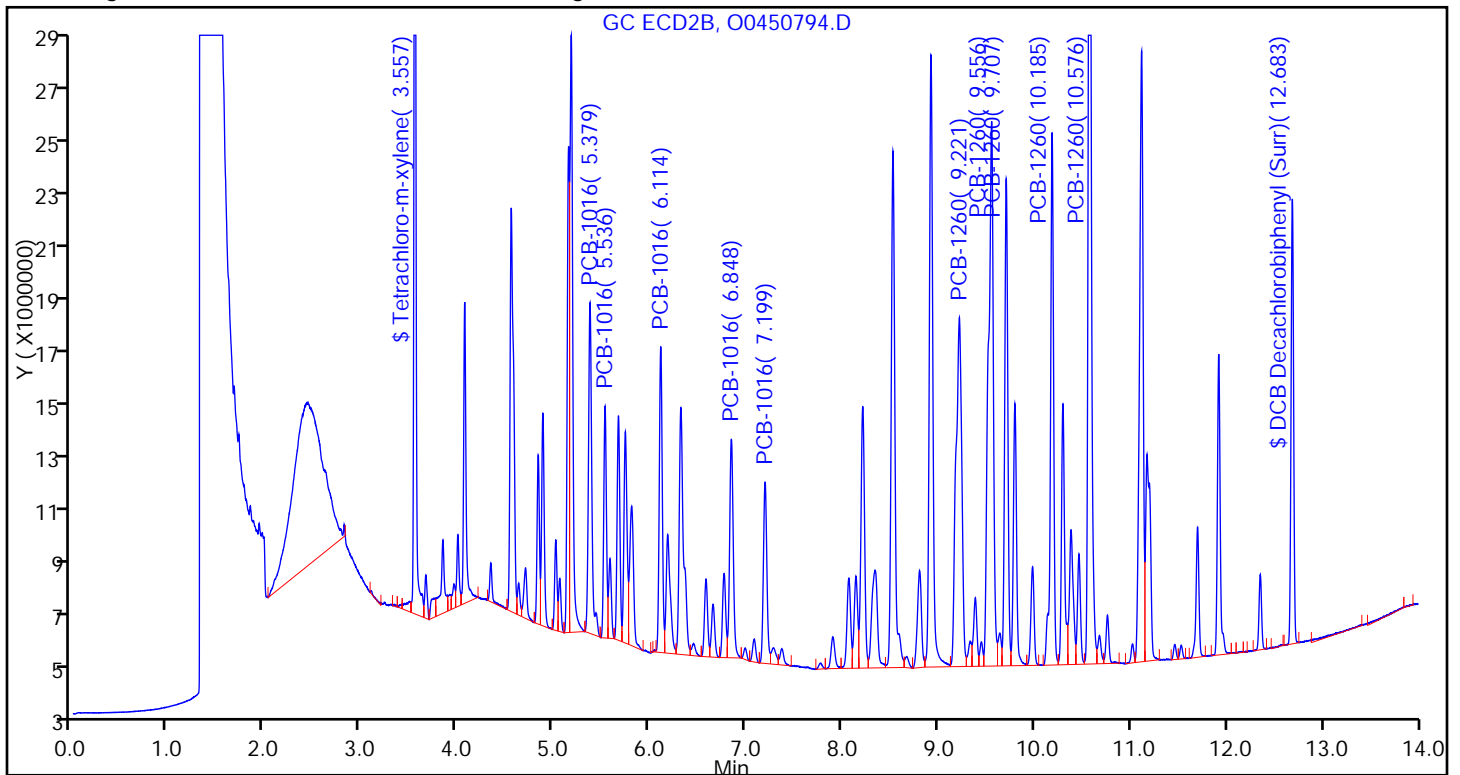
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450795.D  
 Lims ID: ICRT  
 Client ID:  
 Sample Type: ICRT Calib Level: 4  
 Inject. Date: 16-Apr-2015 15:47:57 ALS Bottle#: 18 Worklist Smp#: 18  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-018  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub1  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:19:14 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D  
 Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B  
 Process Host: XAWRK020

First Level Reviewer: guptaa

Date: 17-Apr-2015 08:03:40

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## \$ 1 Tetrachloro-m-xylene

|   |       |       |       |           |        |        |
|---|-------|-------|-------|-----------|--------|--------|
| 1 | 3.100 | 3.100 | 0.000 | 58175922H | 0.0250 | 0.0261 |
| 2 | 3.557 | 3.557 | 0.000 | 96635390H | 0.0250 | 0.0255 |

RPD = 2.31

## 4 PCB-1016

|   |       |       |       |           |        |        |
|---|-------|-------|-------|-----------|--------|--------|
| 1 | 3.406 | 3.406 | 0.000 | 17514614H | 0.5000 | 0.4967 |
| 1 | 3.733 | 3.733 | 0.000 | 26973140H | 0.5000 | 0.5050 |
| 1 | 4.361 | 4.361 | 0.000 | 20698527H | 0.5000 | 0.5156 |
| 1 | 4.433 | 4.433 | 0.000 | 14747178H | 0.5000 | 0.5239 |
| 1 | 4.848 | 4.848 | 0.000 | 18522814H | 0.5000 | 0.5199 |

Average of Peak Amounts = 0.5122

|   |       |       |       |           |        |        |
|---|-------|-------|-------|-----------|--------|--------|
| 2 | 5.379 | 5.379 | 0.000 | 30472608H | 0.5000 | 0.5044 |
| 2 | 5.536 | 5.536 | 0.000 | 21261706H | 0.5000 | 0.4963 |
| 2 | 6.114 | 6.114 | 0.000 | 27616582H | 0.5000 | 0.5102 |
| 2 | 6.850 | 6.850 | 0.000 | 20095919H | 0.5000 | 0.5041 |
| 2 | 7.200 | 7.200 | 0.000 | 16265360H | 0.5000 | 0.5027 |

Average of Peak Amounts = 0.5035

RPD = 1.71



Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450795.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 8 PCB-1260

|   |       |       |       |           |        |        |  |
|---|-------|-------|-------|-----------|--------|--------|--|
| 1 | 6.666 | 6.666 | 0.000 | 30659997H | 0.5000 | 0.5226 |  |
| 1 | 7.165 | 7.165 | 0.000 | 41698926H | 0.5000 | 0.5220 |  |
| 1 | 7.697 | 7.697 | 0.000 | 30167831H | 0.5000 | 0.5233 |  |
| 1 | 8.422 | 8.422 | 0.000 | 27265875H | 0.5000 | 0.5289 |  |
| 1 | 9.010 | 9.010 | 0.000 | 60556693H | 0.5000 | 0.5328 |  |

Average of Peak Amounts = 0.5259

|   |        |        |       |           |        |        |  |
|---|--------|--------|-------|-----------|--------|--------|--|
| 2 | 9.221  | 9.221  | 0.000 | 31108955H | 0.5000 | 0.5123 |  |
| 2 | 9.555  | 9.555  | 0.000 | 49838184H | 0.5000 | 0.5134 |  |
| 2 | 9.709  | 9.709  | 0.000 | 43209267H | 0.5000 | 0.5019 |  |
| 2 | 10.185 | 10.185 | 0.000 | 47599977H | 0.5000 | 0.5103 |  |
| 2 | 10.577 | 10.577 | 0.000 | 98048396H | 0.5000 | 0.5117 |  |

Average of Peak Amounts = 0.5099

RPD = 3.09

## \$ 11 DCB Decachlorobiphenyl (Surr)

|   |        |        |       |           |        |        |  |
|---|--------|--------|-------|-----------|--------|--------|--|
| 1 | 11.190 | 11.190 | 0.000 | 31267268H | 0.0250 | 0.0256 |  |
| 2 | 12.683 | 12.683 | 0.000 | 40470888H | 0.0250 | 0.0257 |  |

RPD = 0.53

## Reagents:

GCAR1660CALL4\_00009

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450795.D

Injection Date: 16-Apr-2015 15:47:57

Instrument ID: CHGC8

Lims ID: ICRT

Client ID:

Operator ID: 402360

ALS Bottle#: 18

Worklist Smp#: 18

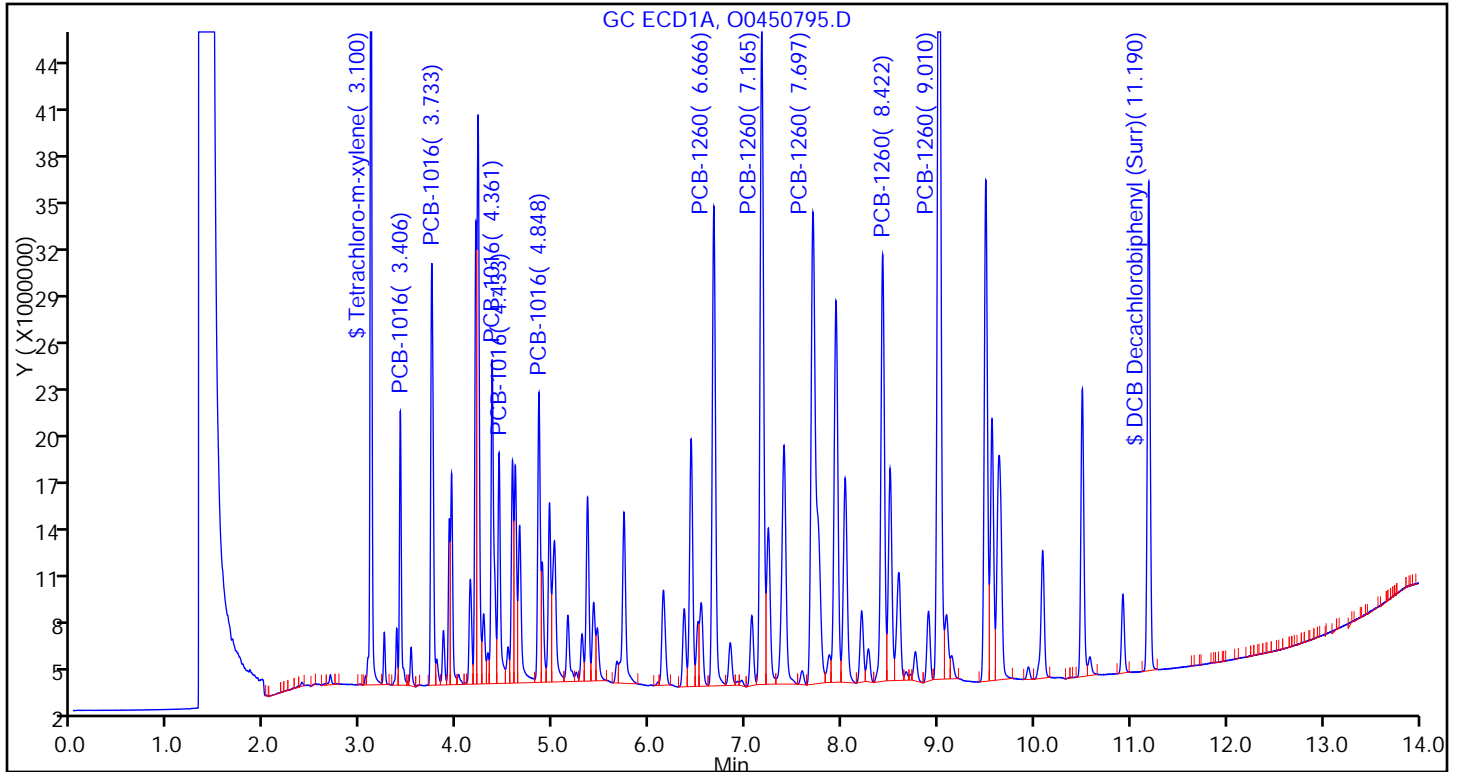
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

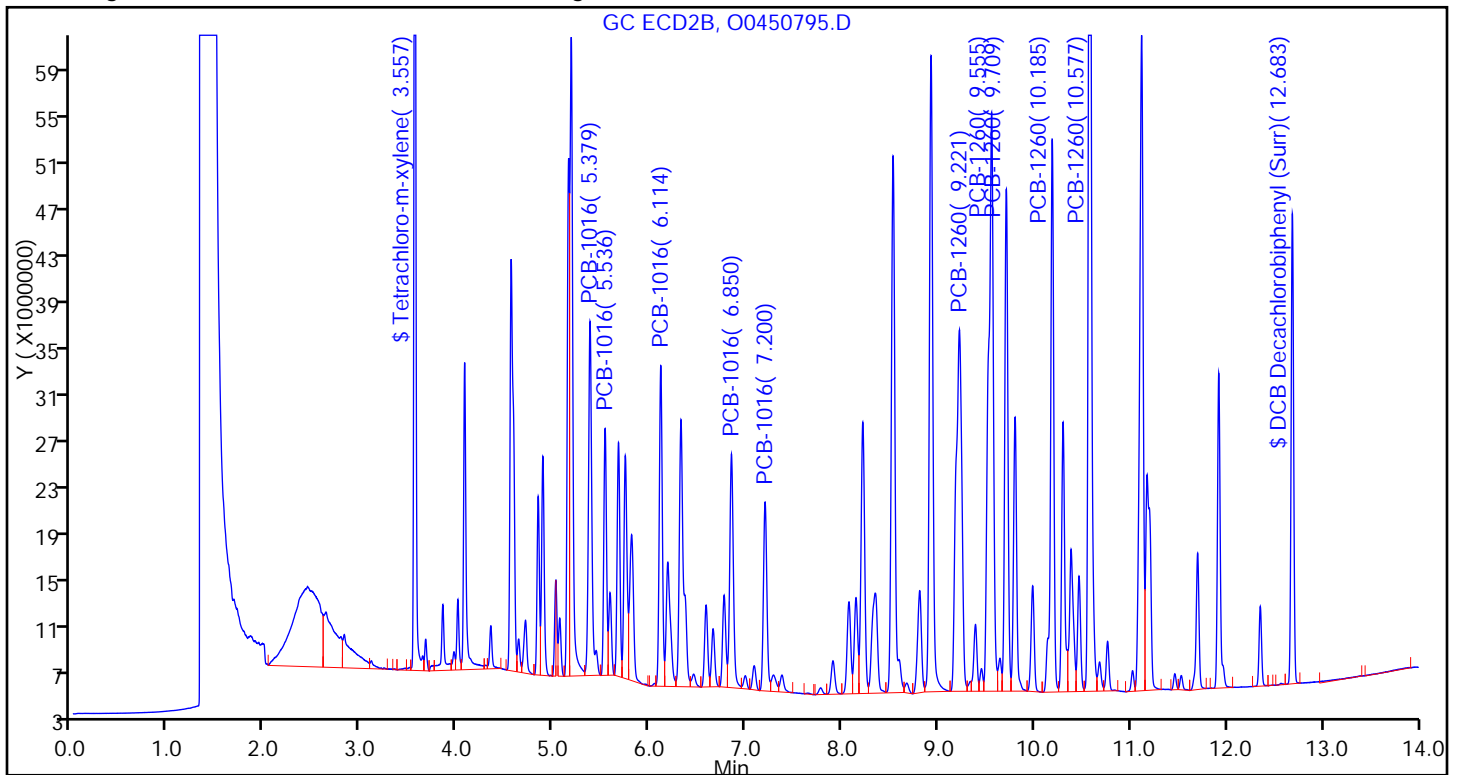
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450796.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 5  
 Inject. Date: 16-Apr-2015 16:07:39 ALS Bottle#: 19 Worklist Smp#: 19  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-019  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub1  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:19:17 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D  
 Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B  
 Process Host: XAWRK020

First Level Reviewer: guptaa

Date: 17-Apr-2015 07:40:06

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## \$ 1 Tetrachloro-m-xylene

|   |       |       |       |            |        |        |
|---|-------|-------|-------|------------|--------|--------|
| 1 | 3.100 | 3.100 | 0.000 | 120162558H | 0.0500 | 0.0539 |
| 2 | 3.557 | 3.557 | 0.000 | 202358032H | 0.0500 | 0.0534 |

RPD = 0.94

## 4 PCB-1016

|   |       |       |        |           |      |      |
|---|-------|-------|--------|-----------|------|------|
| 1 | 3.405 | 3.406 | -0.001 | 36990431H | 1.00 | 1.05 |
| 1 | 3.732 | 3.733 | -0.001 | 56198390H | 1.00 | 1.05 |
| 1 | 4.359 | 4.361 | -0.002 | 44393552H | 1.00 | 1.11 |
| 1 | 4.432 | 4.433 | -0.001 | 32002151H | 1.00 | 1.14 |
| 1 | 4.846 | 4.848 | -0.002 | 38768677H | 1.00 | 1.09 |

Average of Peak Amounts = 1.09

|   |       |       |        |           |      |      |
|---|-------|-------|--------|-----------|------|------|
| 2 | 5.378 | 5.379 | -0.001 | 65130325H | 1.00 | 1.08 |
| 2 | 5.535 | 5.536 | -0.001 | 47765560H | 1.00 | 1.11 |
| 2 | 6.113 | 6.114 | -0.001 | 57663925H | 1.00 | 1.07 |
| 2 | 6.848 | 6.850 | -0.002 | 41696881H | 1.00 | 1.05 |
| 2 | 7.198 | 7.200 | -0.002 | 33681117H | 1.00 | 1.04 |

Average of Peak Amounts = 1.07

RPD = 1.61

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450796.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 8 PCB-1260

|   |       |       |        |            |      |      |  |
|---|-------|-------|--------|------------|------|------|--|
| 1 | 6.665 | 6.666 | -0.001 | 63675705H  | 1.00 | 1.09 |  |
| 1 | 7.163 | 7.165 | -0.002 | 87829147H  | 1.00 | 1.10 |  |
| 1 | 7.695 | 7.697 | -0.002 | 64595163H  | 1.00 | 1.12 |  |
| 1 | 8.420 | 8.422 | -0.002 | 57033427H  | 1.00 | 1.11 |  |
| 1 | 9.007 | 9.010 | -0.003 | 128190489H | 1.00 | 1.13 |  |

Average of Peak Amounts = 1.11

|   |        |        |        |            |      |      |  |
|---|--------|--------|--------|------------|------|------|--|
| 2 | 9.218  | 9.221  | -0.003 | 64483952H  | 1.00 | 1.06 |  |
| 2 | 9.554  | 9.555  | -0.001 | 102587624H | 1.00 | 1.06 |  |
| 2 | 9.708  | 9.709  | -0.001 | 91388186H  | 1.00 | 1.06 |  |
| 2 | 10.184 | 10.185 | -0.001 | 98664107H  | 1.00 | 1.06 |  |
| 2 | 10.575 | 10.577 | -0.002 | 207745968H | 1.00 | 1.08 |  |

Average of Peak Amounts = 1.06

RPD = 4.00

## \$ 11 DCB Decachlorobiphenyl (Surr)

|   |        |        |        |           |        |        |  |
|---|--------|--------|--------|-----------|--------|--------|--|
| 1 | 11.188 | 11.190 | -0.002 | 65555386H | 0.0500 | 0.0536 |  |
| 2 | 12.683 | 12.683 | 0.000  | 85587101H | 0.0500 | 0.0543 |  |

RPD = 1.40

## Reagents:

GCAR1660CALL5\_00010

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450796.D

Injection Date: 16-Apr-2015 16:07:39

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 19

Worklist Smp#: 19

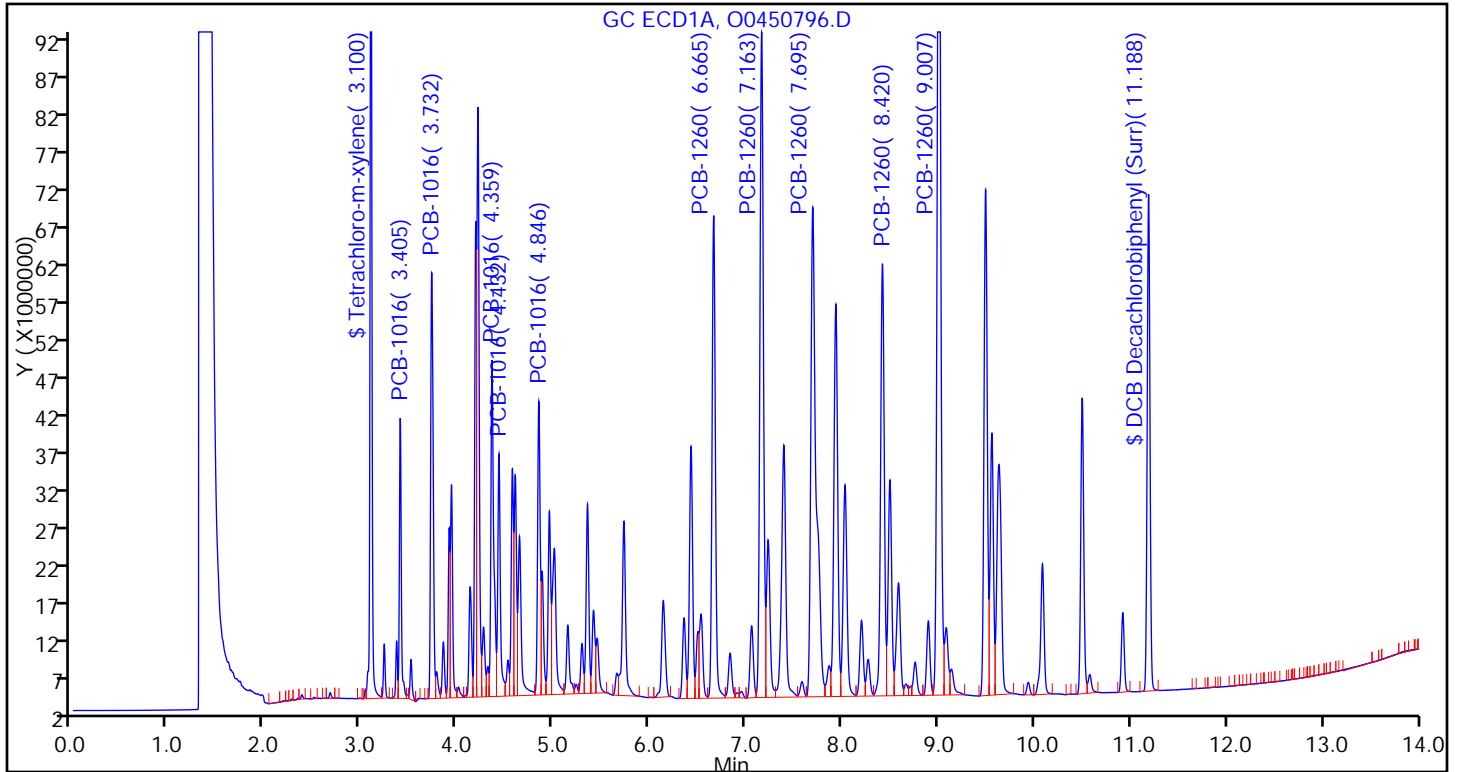
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

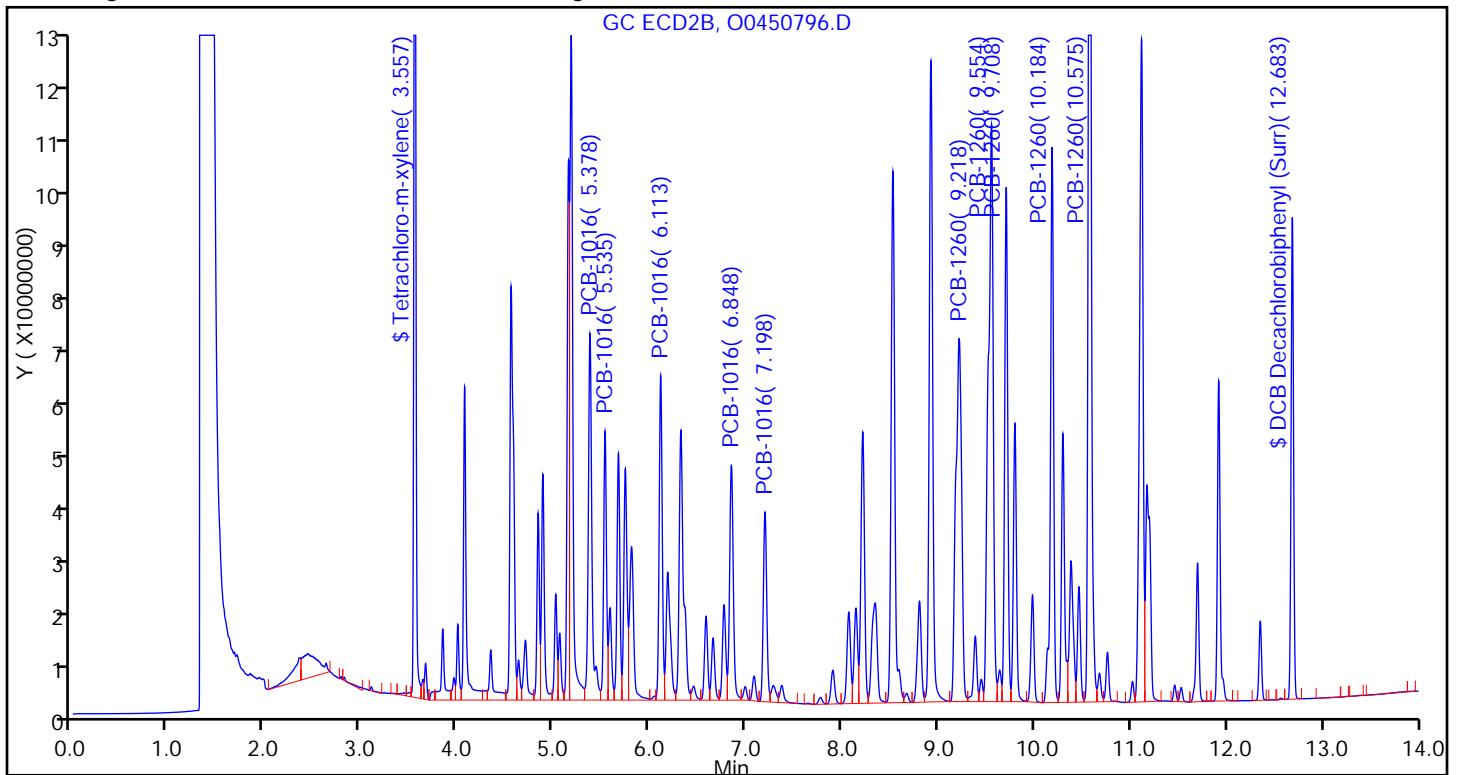
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450797.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 6  
 Inject. Date: 16-Apr-2015 16:27:22 ALS Bottle#: 20 Worklist Smp#: 20  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-020  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub1  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:19:19 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

\$ 1 Tetrachloro-m-xylene

|   |       |       |        |            |        |        |
|---|-------|-------|--------|------------|--------|--------|
| 1 | 3.099 | 3.100 | -0.001 | 213798612H | 0.1000 | 0.0960 |
| 2 | 3.556 | 3.557 | -0.001 | 354379488H | 0.1000 | 0.0936 |

RPD = 2.52

4 PCB-1016

|   |       |       |        |           |      |      |
|---|-------|-------|--------|-----------|------|------|
| 1 | 3.404 | 3.406 | -0.002 | 65787157H | 2.00 | 1.87 |
| 1 | 3.732 | 3.733 | -0.001 | 97074401H | 2.00 | 1.82 |
| 1 | 4.359 | 4.361 | -0.002 | 77106216H | 2.00 | 1.92 |
| 1 | 4.430 | 4.433 | -0.003 | 55725008H | 2.00 | 1.98 |
| 1 | 4.845 | 4.848 | -0.003 | 66953248H | 2.00 | 1.88 |

Average of Peak Amounts = 1.89

|   |       |       |        |            |      |      |
|---|-------|-------|--------|------------|------|------|
| 2 | 5.376 | 5.379 | -0.003 | 112674274H | 2.00 | 1.86 |
| 2 | 5.533 | 5.536 | -0.003 | 83215768H  | 2.00 | 1.94 |
| 2 | 6.112 | 6.114 | -0.002 | 97980889H  | 2.00 | 1.81 |
| 2 | 6.847 | 6.850 | -0.003 | 71734390H  | 2.00 | 1.80 |
| 2 | 7.197 | 7.200 | -0.003 | 57172972H  | 2.00 | 1.77 |

Average of Peak Amounts = 1.84

RPD = 2.99

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450797.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 8 PCB-1260

|   |       |       |        |            |      |      |  |
|---|-------|-------|--------|------------|------|------|--|
| 1 | 6.663 | 6.666 | -0.003 | 104773208H | 2.00 | 1.79 |  |
| 1 | 7.162 | 7.165 | -0.003 | 142726143H | 2.00 | 1.79 |  |
| 1 | 7.694 | 7.697 | -0.003 | 106391171H | 2.00 | 1.85 |  |
| 1 | 8.418 | 8.422 | -0.004 | 92720116H  | 2.00 | 1.80 |  |
| 1 | 9.006 | 9.010 | -0.004 | 204630730H | 2.00 | 1.80 |  |

Average of Peak Amounts = 1.80

|   |        |        |        |            |      |      |  |
|---|--------|--------|--------|------------|------|------|--|
| 2 | 9.217  | 9.221  | -0.004 | 107391598H | 2.00 | 1.77 |  |
| 2 | 9.553  | 9.555  | -0.002 | 167662939H | 2.00 | 1.73 |  |
| 2 | 9.705  | 9.709  | -0.004 | 148106190H | 2.00 | 1.72 |  |
| 2 | 10.183 | 10.185 | -0.002 | 159311552H | 2.00 | 1.71 |  |
| 2 | 10.574 | 10.577 | -0.003 | 339220436H | 2.00 | 1.77 |  |

Average of Peak Amounts = 1.74

RPD = 3.65

## \$ 11 DCB Decachlorobiphenyl (Surr)

|   |        |        |        |            |        |        |  |
|---|--------|--------|--------|------------|--------|--------|--|
| 1 | 11.187 | 11.190 | -0.003 | 102798744H | 0.1000 | 0.0840 |  |
| 2 | 12.682 | 12.683 | -0.001 | 134511471H | 0.1000 | 0.0854 |  |

RPD = 1.62

## Reagents:

GCAR1660CALL6\_00008

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450797.D

Injection Date: 16-Apr-2015 16:27:22

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 20

Worklist Smp#: 20

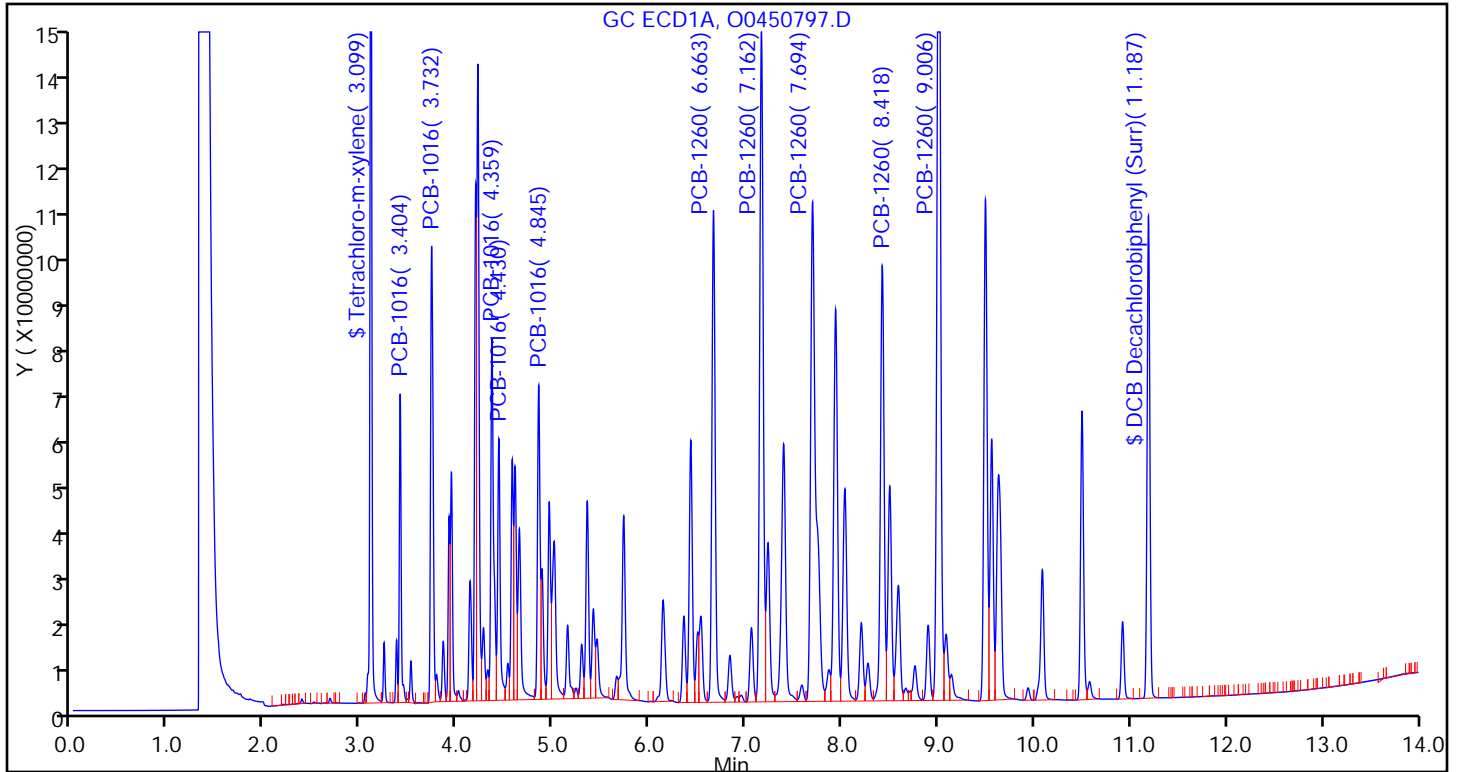
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

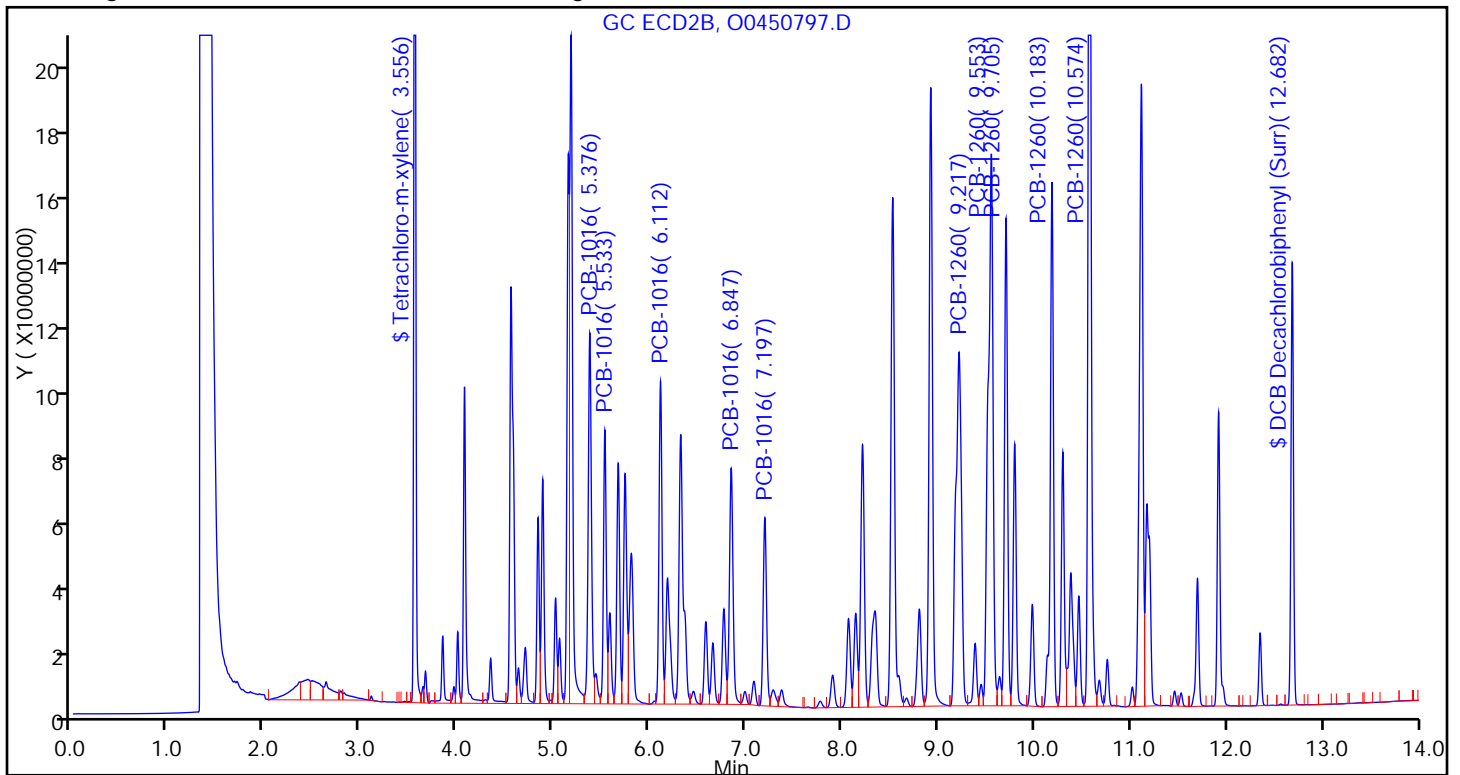
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3





TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 7  
 Inject. Date: 16-Apr-2015 16:47:04 ALS Bottle#: 21 Worklist Smp#: 21  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-021  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub1  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:19:22 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

\$ 1 Tetrachloro-m-xylene

|   |       |       |       |            |        |        |
|---|-------|-------|-------|------------|--------|--------|
| 1 | 3.102 | 3.100 | 0.002 | 433985752H | 0.2000 | 0.1948 |
| 2 | 3.557 | 3.557 | 0.000 | 726707805H | 0.2000 | 0.1919 |

RPD = 1.50

4 PCB-1016

|   |       |       |        |            |      |      |
|---|-------|-------|--------|------------|------|------|
| 1 | 3.406 | 3.406 | 0.000  | 136189287H | 4.00 | 3.86 |
| 1 | 3.733 | 3.733 | 0.000  | 201901565H | 4.00 | 3.78 |
| 1 | 4.359 | 4.361 | -0.002 | 166831798H | 4.00 | 4.16 |
| 1 | 4.432 | 4.433 | -0.001 | 120468074H | 4.00 | 4.28 |
| 1 | 4.846 | 4.848 | -0.002 | 142467031H | 4.00 | 4.00 |

Average of Peak Amounts = 4.02

|   |       |       |        |            |      |      |
|---|-------|-------|--------|------------|------|------|
| 2 | 5.377 | 5.379 | -0.002 | 238747125H | 4.00 | 3.95 |
| 2 | 5.534 | 5.536 | -0.002 | 179066898H | 4.00 | 4.18 |
| 2 | 6.111 | 6.114 | -0.003 | 206161799H | 4.00 | 3.81 |
| 2 | 6.847 | 6.850 | -0.003 | 150577220H | 4.00 | 3.78 |
| 2 | 7.197 | 7.200 | -0.003 | 119844448H | 4.00 | 3.70 |

Average of Peak Amounts = 3.88

RPD = 3.32

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 8 PCB-1260

|   |       |       |        |            |      |      |  |
|---|-------|-------|--------|------------|------|------|--|
| 1 | 6.663 | 6.666 | -0.003 | 221274459H | 4.00 | 3.77 |  |
| 1 | 7.161 | 7.165 | -0.004 | 302969084H | 4.00 | 3.79 |  |
| 1 | 7.694 | 7.697 | -0.003 | 229844075H | 4.00 | 3.99 |  |
| 1 | 8.418 | 8.422 | -0.004 | 197555375H | 4.00 | 3.83 |  |
| 1 | 9.006 | 9.010 | -0.004 | 440824747H | 4.00 | 3.88 |  |

Average of Peak Amounts = 3.85

|   |        |        |        |            |      |      |  |
|---|--------|--------|--------|------------|------|------|--|
| 2 | 9.216  | 9.221  | -0.005 | 227344952H | 4.00 | 3.74 |  |
| 2 | 9.553  | 9.555  | -0.002 | 361229952H | 4.00 | 3.72 |  |
| 2 | 9.705  | 9.709  | -0.004 | 310760397H | 4.00 | 3.61 |  |
| 2 | 10.183 | 10.185 | -0.002 | 340375436H | 4.00 | 3.65 |  |
| 2 | 10.574 | 10.577 | -0.003 | 761547149H | 4.00 | 3.97 |  |

Average of Peak Amounts = 3.74

RPD = 2.97

## \$ 11 DCB Decachlorobiphenyl (Surr)

|   |        |        |        |            |        |        |  |
|---|--------|--------|--------|------------|--------|--------|--|
| 1 | 11.188 | 11.190 | -0.002 | 224372400H | 0.2000 | 0.1834 |  |
| 2 | 12.684 | 12.683 | 0.001  | 295001422H | 0.2000 | 0.1873 |  |

RPD = 2.10

## Reagents:

GCAR1660CALL7\_00009

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Injection Date: 16-Apr-2015 16:47:04

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 21

Worklist Smp#: 21

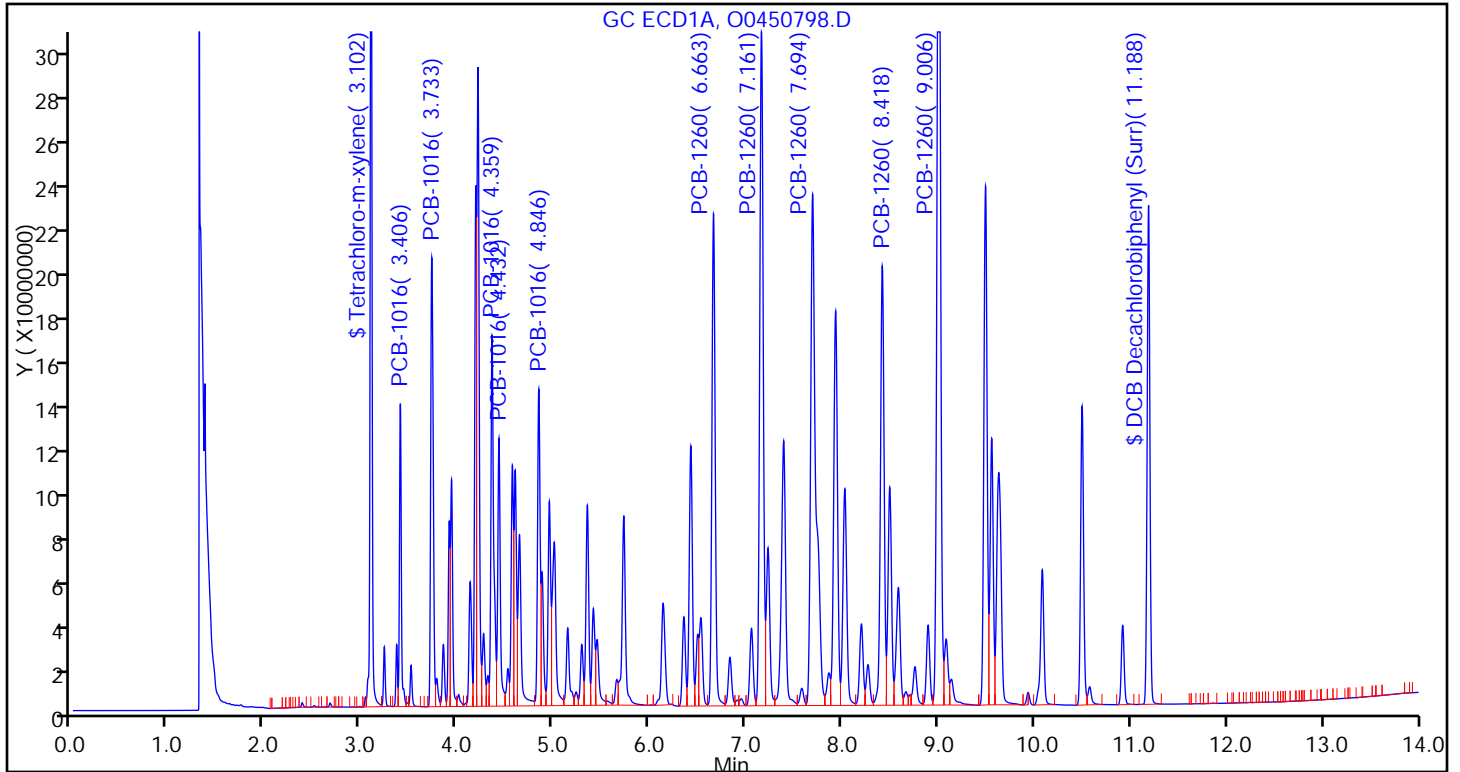
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

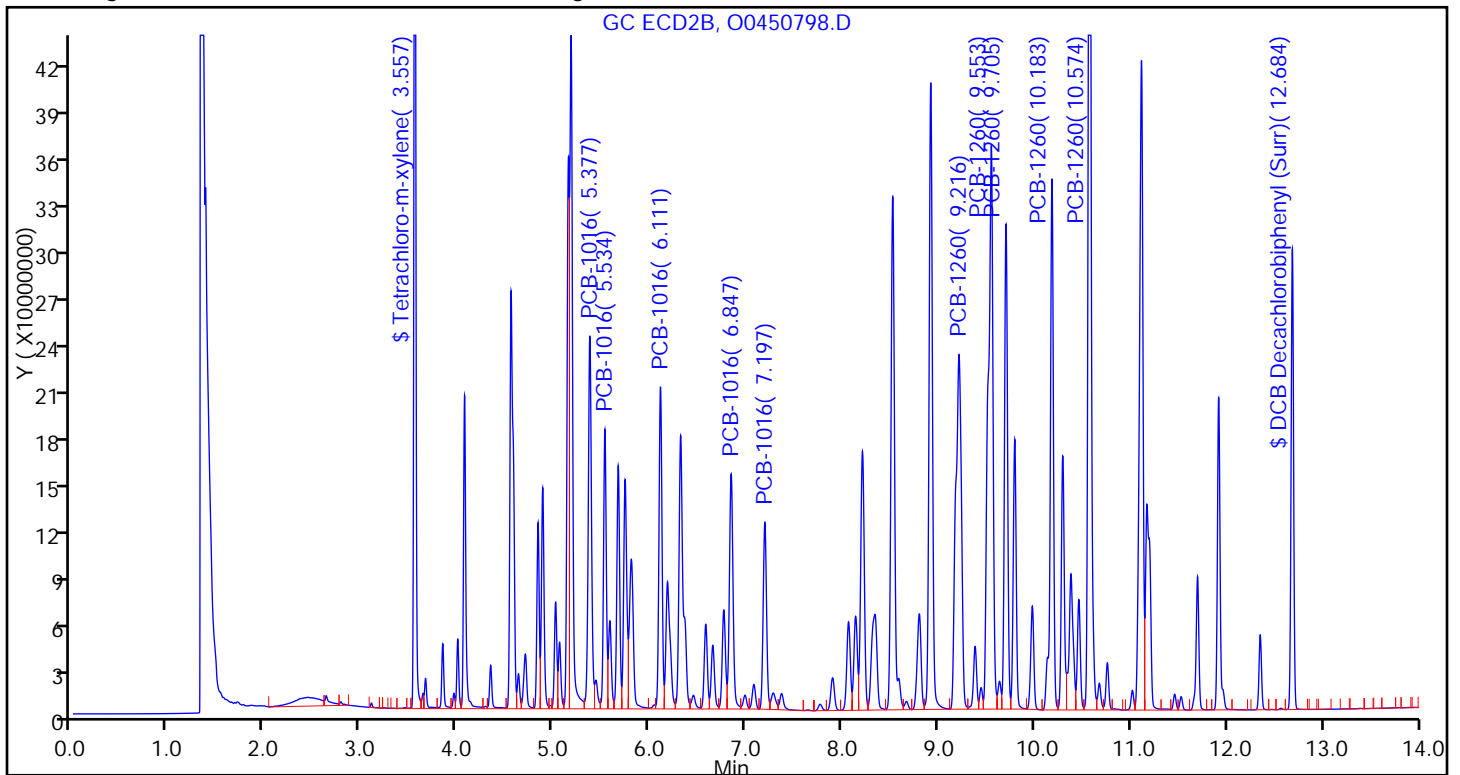
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP2 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 14:48 Calibration End Date: 04/16/2015 16:47 Calibration ID: 23397

Calibration Files:

| LEVEL:  | LAB SAMPLE ID:     | LAB FILE ID: |
|---------|--------------------|--------------|
| Level 1 | IC 180-138696/15   | 00450792.D   |
| Level 2 | IC 180-138696/16   | 00450793.D   |
| Level 3 | IC 180-138696/17   | 00450794.D   |
| Level 4 | ICRT 180-138696/18 | 00450795.D   |
| Level 5 | IC 180-138696/19   | 00450796.D   |
| Level 6 | IC 180-138696/20   | 00450797.D   |
| Level 7 | IC 180-138696/21   | 00450798.D   |

| ANALYTE                       | LVL 1  | LVL 2  | LVL 3  | LVL 4  | LVL 5  | LVL 6  | LVL 7  |  |  |  | RT WINDOW       | AVG RT |
|-------------------------------|--------|--------|--------|--------|--------|--------|--------|--|--|--|-----------------|--------|
| PCB-1016 Peak 1               | 5.379  | 5.377  | 5.379  | 5.379  | 5.378  | 5.376  | 5.377  |  |  |  | 5.329 - 5.429   | 5.378  |
| PCB-1016 Peak 2               | 5.534  | 5.534  | 5.536  | 5.536  | 5.535  | 5.533  | 5.534  |  |  |  | 5.486 - 5.586   | 5.535  |
| PCB-1016 Peak 3               | 6.113  | 6.114  | 6.114  | 6.114  | 6.113  | 6.112  | 6.111  |  |  |  | 6.064 - 6.164   | 6.113  |
| PCB-1016 Peak 4               | 6.851  | 6.848  | 6.848  | 6.850  | 6.848  | 6.847  | 6.847  |  |  |  | 6.800 - 6.900   | 6.848  |
| PCB-1016 Peak 5               | 7.197  | 7.198  | 7.199  | 7.200  | 7.198  | 7.197  | 7.197  |  |  |  | 7.150 - 7.250   | 7.198  |
| PCB-1260 Peak 1               | 9.219  | 9.217  | 9.221  | 9.221  | 9.218  | 9.217  | 9.216  |  |  |  | 9.171 - 9.271   | 9.218  |
| PCB-1260 Peak 2               | 9.554  | 9.555  | 9.556  | 9.555  | 9.554  | 9.553  | 9.553  |  |  |  | 9.505 - 9.605   | 9.554  |
| PCB-1260 Peak 3               | 9.707  | 9.707  | 9.707  | 9.709  | 9.708  | 9.705  | 9.705  |  |  |  | 9.659 - 9.759   | 9.707  |
| PCB-1260 Peak 4               | 10.184 | 10.186 | 10.185 | 10.185 | 10.184 | 10.183 | 10.183 |  |  |  | 10.135 - 10.235 | 10.184 |
| PCB-1260 Peak 5               | 10.575 | 10.575 | 10.576 | 10.577 | 10.575 | 10.574 | 10.574 |  |  |  | 10.527 - 10.627 | 10.575 |
| Tetrachloro-m-xylene (Surr)   | 3.556  | 3.556  | 3.557  | 3.557  | 3.557  | 3.556  | 3.557  |  |  |  | 3.507 - 3.607   | 3.557  |
| DCB Decachlorobiphenyl (Surr) | 12.683 | 12.684 | 12.683 | 12.683 | 12.683 | 12.682 | 12.684 |  |  |  | 12.613 - 12.753 | 12.683 |

FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD CURVE EVALUATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP2 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 14:48 Calibration End Date: 04/16/2015 16:47 Calibration ID: 23397

Calibration Files:

|         |                    |              |
|---------|--------------------|--------------|
| LEVEL:  | LAB SAMPLE ID:     | LAB FILE ID: |
| Level 1 | IC 180-138696/15   | 00450792.D   |
| Level 2 | IC 180-138696/16   | 00450793.D   |
| Level 3 | IC 180-138696/17   | 00450794.D   |
| Level 4 | ICRT 180-138696/18 | 00450795.D   |
| Level 5 | IC 180-138696/19   | 00450796.D   |
| Level 6 | IC 180-138696/20   | 00450797.D   |
| Level 7 | IC 180-138696/21   | 00450798.D   |

| ANALYTE                       | CF                       |                          |                          |            | CURVE TYPE | COEFFICIENT |            |    | # | MIN CF | %RSD | # | MAX %RSD | R^2 OR COD | # | MIN R^2 OR COD |
|-------------------------------|--------------------------|--------------------------|--------------------------|------------|------------|-------------|------------|----|---|--------|------|---|----------|------------|---|----------------|
|                               | LVL 1<br>LVL 5           | LVL 2<br>LVL 6           | LVL 3<br>LVL 7           | LVL 4      |            | B           | M1         | M2 |   |        |      |   |          |            |   |                |
| PCB-1016 Peak 1               | 59780800<br>65130325     | 60170960<br>56337137     | 60871330<br>59686781     | 60945216   | Ave        |             | 60417507.0 |    |   |        | 4.3  |   | 20.0     |            |   |                |
| PCB-1016 Peak 2               | 39907400<br>47765560     | 40682480<br>41607884     | 42649510<br>44766725     | 42523412   | Ave        |             | 42843281.5 |    |   |        | 6.2  |   | 20.0     |            |   |                |
| PCB-1016 Peak 3               | 55326500<br>57663925     | 53902880<br>48990445     | 56235980<br>51540450     | 55233164   | Ave        |             | 54127620.5 |    |   |        | 5.5  |   | 20.0     |            |   |                |
| PCB-1016 Peak 4               | 42746800<br>41696881     | 40696200<br>35867195     | 40183745<br>37644305     | 40191838   | Ave        |             | 39860994.9 |    |   |        | 5.9  |   | 20.0     |            |   |                |
| PCB-1016 Peak 5               | 34467200<br>33681117     | 33928840<br>28586486     | 33356740<br>29961112     | 32530720   | Ave        |             | 32358887.9 |    |   |        | 6.9  |   | 20.0     |            |   |                |
| PCB-1260 Peak 1               | 61888700<br>64483952     | 61745920<br>53695799     | 64186620<br>56836238     | 62217910   | Ave        |             | 60722162.7 |    |   |        | 6.6  |   | 20.0     |            |   |                |
| PCB-1260 Peak 2               | 103065100<br>102587624   | 99880760<br>83831470     | 100215280<br>90307488    | 99676368   | Ave        |             | 97080584.2 |    |   |        | 7.4  |   | 20.0     |            |   |                |
| PCB-1260 Peak 3               | 93581000<br>91388186     | 89889580<br>74053095     | 89627245<br>77690099     | 86418534   | Ave        |             | 86092534.2 |    |   |        | 8.6  |   | 20.0     |            |   |                |
| PCB-1260 Peak 4               | 99665500<br>98664107     | 96743660<br>79655776     | 97973385<br>85093859     | 95199954   | Ave        |             | 93285177.3 |    |   |        | 8.3  |   | 20.0     |            |   |                |
| PCB-1260 Peak 5               | 190123100<br>207745968   | 192152100<br>169610218   | 195242470<br>190386787   | 196096792  | Ave        |             | 191622491  |    |   |        | 6.0  |   | 20.0     |            |   |                |
| Tetrachloro-m-xylene (Surr)   | 3701382000<br>4047160640 | 3759119600<br>3543794880 | 3958799200<br>3633539025 | 3865415600 | Ave        |             | 3787030135 |    |   |        | 4.8  |   | 20.0     |            |   |                |
| DCB Decachlorobiphenyl (Surr) | 1574452000<br>1711742020 | 1665203200<br>1345114710 | 1637231600<br>1475007110 | 1618835520 | Ave        |             | 1575369451 |    |   |        | 8.0  |   | 20.0     |            |   |                |

Note: The m1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI  
GC SEMI VOA INITIAL CALIBRATION DATA  
EXTERNAL STANDARD RESPONSE AND CONCENTRATION

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1 Analy Batch No.: 138696

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 GC Column: RTX-CLP2 ID: 0.53 (mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/16/2015 14:48 Calibration End Date: 04/16/2015 16:47 Calibration ID: 23397

Calibration Files:

|         |                    |              |
|---------|--------------------|--------------|
| LEVEL:  | LAB SAMPLE ID:     | LAB FILE ID: |
| Level 1 | IC 180-138696/15   | 00450792.D   |
| Level 2 | IC 180-138696/16   | 00450793.D   |
| Level 3 | IC 180-138696/17   | 00450794.D   |
| Level 4 | ICRT 180-138696/18 | 00450795.D   |
| Level 5 | IC 180-138696/19   | 00450796.D   |
| Level 6 | IC 180-138696/20   | 00450797.D   |
| Level 7 | IC 180-138696/21   | 00450798.D   |

| ANALYTE                       | CURVE TYPE | RESPONSE             |                      |          |          |           | CONCENTRATION (NG) |                  |        |        |        |
|-------------------------------|------------|----------------------|----------------------|----------|----------|-----------|--------------------|------------------|--------|--------|--------|
|                               |            | LVL 1<br>LVL 6       | LVL 2<br>LVL 7       | LVL 3    | LVL 4    | LVL 5     | LVL 1<br>LVL 6     | LVL 2<br>LVL 7   | LVL 3  | LVL 4  | LVL 5  |
| PCB-1016 Peak 1               | Ave        | 597808<br>112674274  | 3008548<br>238747125 | 12174266 | 30472608 | 65130325  | 0.0100<br>2.00     | 0.0500<br>4.00   | 0.200  | 0.500  | 1.00   |
| PCB-1016 Peak 2               | Ave        | 399074<br>83215768   | 2034124<br>179066898 | 8529902  | 21261706 | 47765560  | 0.0100<br>2.00     | 0.0500<br>4.00   | 0.200  | 0.500  | 1.00   |
| PCB-1016 Peak 3               | Ave        | 553265<br>97980889   | 2695144<br>206161799 | 11247196 | 27616582 | 57663925  | 0.0100<br>2.00     | 0.0500<br>4.00   | 0.200  | 0.500  | 1.00   |
| PCB-1016 Peak 4               | Ave        | 427468<br>71734390   | 2034810<br>150577220 | 8036749  | 20095919 | 41696881  | 0.0100<br>2.00     | 0.0500<br>4.00   | 0.200  | 0.500  | 1.00   |
| PCB-1016 Peak 5               | Ave        | 344672<br>57172972   | 1696442<br>119844448 | 6671348  | 16265360 | 33681117  | 0.0100<br>2.00     | 0.0500<br>4.00   | 0.200  | 0.500  | 1.00   |
| PCB-1260 Peak 1               | Ave        | 618887<br>107391598  | 3087296<br>227344952 | 12837324 | 31108955 | 64483952  | 0.0100<br>2.00     | 0.0500<br>4.00   | 0.200  | 0.500  | 1.00   |
| PCB-1260 Peak 2               | Ave        | 1030651<br>167662939 | 4994038<br>361229952 | 20043056 | 49838184 | 102587624 | 0.0100<br>2.00     | 0.0500<br>4.00   | 0.200  | 0.500  | 1.00   |
| PCB-1260 Peak 3               | Ave        | 935810<br>148106190  | 4494479<br>310760397 | 17925449 | 43209267 | 91388186  | 0.0100<br>2.00     | 0.0500<br>4.00   | 0.200  | 0.500  | 1.00   |
| PCB-1260 Peak 4               | Ave        | 996655<br>159311552  | 4837183<br>340375436 | 19594677 | 47599977 | 98664107  | 0.0100<br>2.00     | 0.0500<br>4.00   | 0.200  | 0.500  | 1.00   |
| PCB-1260 Peak 5               | Ave        | 1901231<br>339220436 | 9607605<br>761547149 | 39048494 | 98048396 | 207745968 | 0.0100<br>2.00     | 0.0500<br>4.00   | 0.200  | 0.500  | 1.00   |
| Tetrachloro-m-xylene (Surr)   | Ave        | 1850691<br>354379488 | 9397799<br>726707805 | 39587992 | 96635390 | 202358032 | 0.000500<br>0.100  | 0.00250<br>0.200 | 0.0100 | 0.0250 | 0.0500 |
| DCB Decachlorobiphenyl (Surr) | Ave        | 787226<br>134511471  | 4163008<br>295001422 | 16372316 | 40470888 | 85587101  | 0.000500<br>0.100  | 0.00250<br>0.200 | 0.0100 | 0.0250 | 0.0500 |

Curve Type Legend:

Ave = Average by Height

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450792.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 1  
 Inject. Date: 16-Apr-2015 14:48:40 ALS Bottle#: 15 Worklist Smp#: 15  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-015  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub1  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:19:05 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

\$ 1 Tetrachloro-m-xylene

|   |       |       |        |          |          |          |
|---|-------|-------|--------|----------|----------|----------|
| 1 | 3.099 | 3.100 | -0.001 | 1067149H | 0.000500 | 0.000479 |
| 2 | 3.556 | 3.557 | -0.001 | 1850691H | 0.000500 | 0.000489 |

RPD = 2.00

4 PCB-1016

|   |       |       |        |         |        |          |
|---|-------|-------|--------|---------|--------|----------|
| 1 | 3.405 | 3.406 | -0.001 | 357933H | 0.0100 | 0.0102   |
| 1 | 3.731 | 3.733 | -0.002 | 547710H | 0.0100 | 0.0103   |
| 1 | 4.359 | 4.361 | -0.002 | 363010H | 0.0100 | 0.009042 |
| 1 | 4.432 | 4.433 | -0.001 | 237720H | 0.0100 | 0.008445 |
| 1 | 4.844 | 4.848 | -0.004 | 356328H | 0.0100 | 0.0100   |

Average of Peak Amounts = 0.009579

|   |       |       |        |         |        |          |
|---|-------|-------|--------|---------|--------|----------|
| 2 | 5.379 | 5.379 | 0.000  | 597808H | 0.0100 | 0.009895 |
| 2 | 5.534 | 5.536 | -0.002 | 399074H | 0.0100 | 0.009315 |
| 2 | 6.113 | 6.114 | -0.001 | 553265H | 0.0100 | 0.0102   |
| 2 | 6.851 | 6.850 | 0.001  | 427468H | 0.0100 | 0.0107   |
| 2 | 7.197 | 7.200 | -0.003 | 344672H | 0.0100 | 0.0107   |

Average of Peak Amounts = 0.0102

RPD = 5.90

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450792.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 8 PCB-1260

|   |       |       |        |          |        |          |  |
|---|-------|-------|--------|----------|--------|----------|--|
| 1 | 6.664 | 6.666 | -0.002 | 585135H  | 0.0100 | 0.0100   |  |
| 1 | 7.163 | 7.165 | -0.002 | 778121H  | 0.0100 | 0.009741 |  |
| 1 | 7.693 | 7.697 | -0.004 | 533781H  | 0.0100 | 0.009259 |  |
| 1 | 8.419 | 8.422 | -0.003 | 489910H  | 0.0100 | 0.009503 |  |
| 1 | 9.009 | 9.010 | -0.001 | 1032987H | 0.0100 | 0.009088 |  |

Average of Peak Amounts = 0.009513

|   |        |        |        |          |        |        |  |
|---|--------|--------|--------|----------|--------|--------|--|
| 2 | 9.219  | 9.221  | -0.002 | 618887H  | 0.0100 | 0.0102 |  |
| 2 | 9.554  | 9.555  | -0.001 | 1030651H | 0.0100 | 0.0106 |  |
| 2 | 9.707  | 9.709  | -0.002 | 935810H  | 0.0100 | 0.0109 |  |
| 2 | 10.184 | 10.185 | -0.001 | 996655H  | 0.0100 | 0.0107 |  |
| 2 | 10.575 | 10.577 | -0.002 | 1901231H | 0.0100 | 0.0099 |  |

Average of Peak Amounts = 0.0105

RPD = 9.45

## \$ 11 DCB Decachlorobiphenyl (Surr)

|   |        |        |        |         |          |          |  |
|---|--------|--------|--------|---------|----------|----------|--|
| 1 | 11.189 | 11.190 | -0.001 | 635896H | 0.000500 | 0.000520 |  |
| 2 | 12.683 | 12.683 | 0.000  | 787226H | 0.000500 | 0.000500 |  |

RPD = 3.92

## Reagents:

GCAR1660CALL1\_00015

Amount Added: 1.00

Units: mL



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450792.D

Injection Date: 16-Apr-2015 14:48:40

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 15

Worklist Smp#: 15

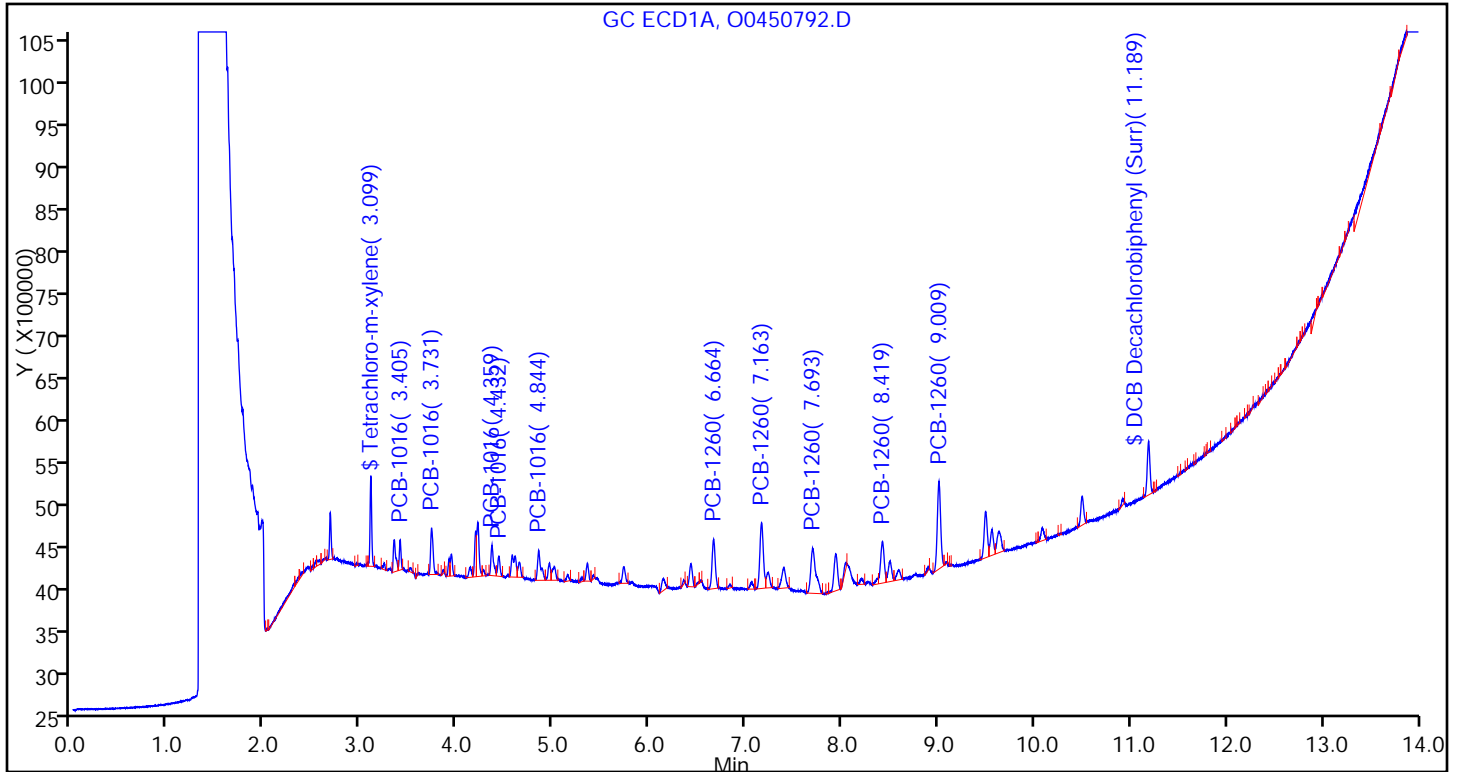
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

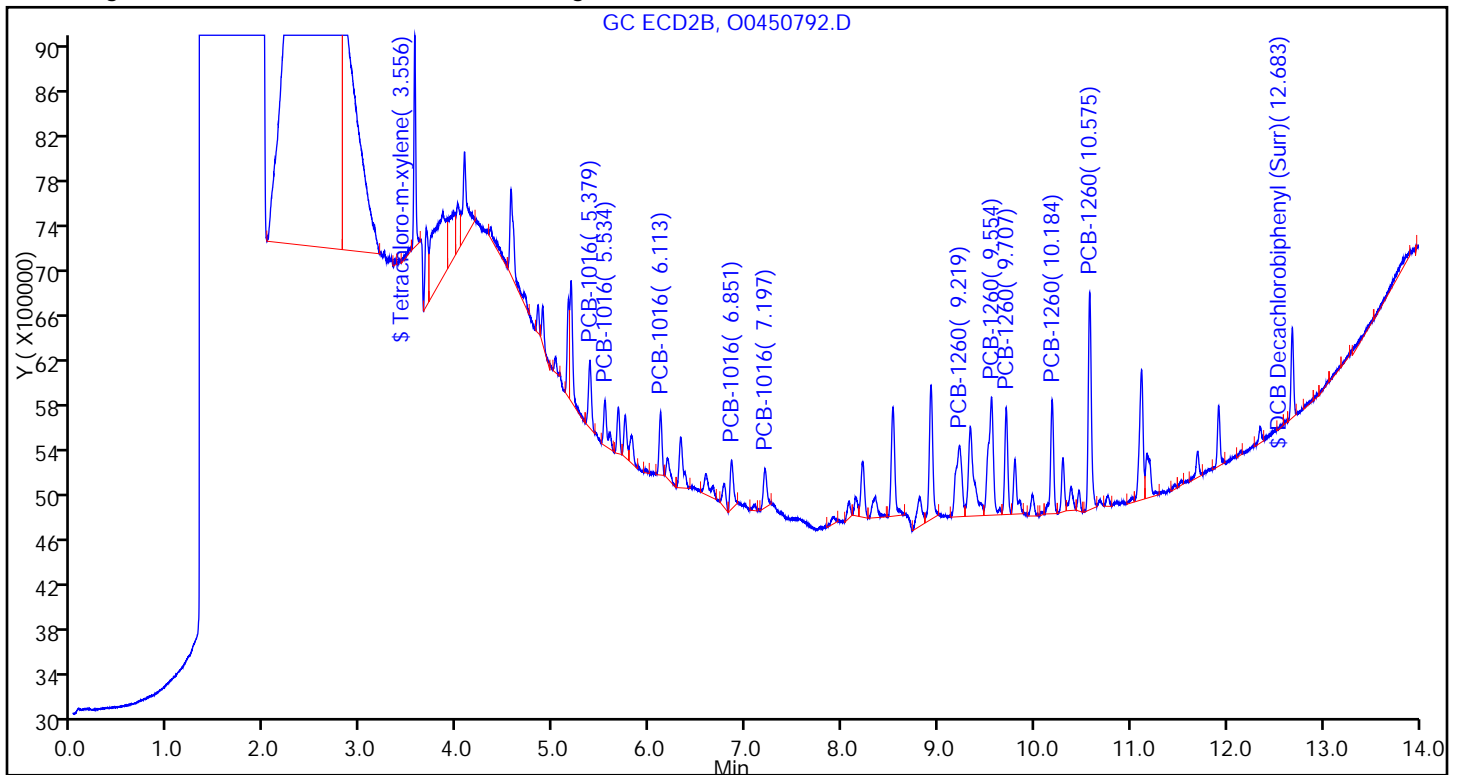
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450793.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 2  
 Inject. Date: 16-Apr-2015 15:08:23 ALS Bottle#: 16 Worklist Smp#: 16  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-016  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub1  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:19:08 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

\$ 1 Tetrachloro-m-xylene

|   |       |       |        |          |          |          |
|---|-------|-------|--------|----------|----------|----------|
| 1 | 3.099 | 3.100 | -0.001 | 5267479H | 0.002500 | 0.002364 |
| 2 | 3.556 | 3.557 | -0.001 | 9397799H | 0.002500 | 0.002482 |

RPD = 4.84

4 PCB-1016

|   |       |       |        |          |        |        |
|---|-------|-------|--------|----------|--------|--------|
| 1 | 3.404 | 3.406 | -0.002 | 1794534H | 0.0500 | 0.0509 |
| 1 | 3.732 | 3.733 | -0.001 | 2717418H | 0.0500 | 0.0509 |
| 1 | 4.360 | 4.361 | -0.001 | 1888103H | 0.0500 | 0.0470 |
| 1 | 4.431 | 4.433 | -0.002 | 1264386H | 0.0500 | 0.0449 |
| 1 | 4.845 | 4.848 | -0.003 | 1635331H | 0.0500 | 0.0459 |

Average of Peak Amounts = 0.0479

|   |       |       |        |          |        |        |
|---|-------|-------|--------|----------|--------|--------|
| 2 | 5.377 | 5.379 | -0.002 | 3008548H | 0.0500 | 0.0498 |
| 2 | 5.534 | 5.536 | -0.002 | 2034124H | 0.0500 | 0.0475 |
| 2 | 6.114 | 6.114 | 0.000  | 2695144H | 0.0500 | 0.0498 |
| 2 | 6.848 | 6.850 | -0.002 | 2034810H | 0.0500 | 0.0510 |
| 2 | 7.198 | 7.200 | -0.002 | 1696442H | 0.0500 | 0.0524 |

Average of Peak Amounts = 0.0501

RPD = 4.46

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450793.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 8 PCB-1260

|   |       |       |        |          |        |        |  |
|---|-------|-------|--------|----------|--------|--------|--|
| 1 | 6.664 | 6.666 | -0.002 | 2946336H | 0.0500 | 0.0502 |  |
| 1 | 7.164 | 7.165 | -0.001 | 4008212H | 0.0500 | 0.0502 |  |
| 1 | 7.694 | 7.697 | -0.003 | 2753695H | 0.0500 | 0.0478 |  |
| 1 | 8.421 | 8.422 | -0.001 | 2541531H | 0.0500 | 0.0493 |  |
| 1 | 9.007 | 9.010 | -0.003 | 5524978H | 0.0500 | 0.0486 |  |

Average of Peak Amounts = 0.0492

|   |        |        |        |          |        |        |  |
|---|--------|--------|--------|----------|--------|--------|--|
| 2 | 9.217  | 9.221  | -0.004 | 3087296H | 0.0500 | 0.0508 |  |
| 2 | 9.555  | 9.555  | 0.000  | 4994038H | 0.0500 | 0.0514 |  |
| 2 | 9.707  | 9.709  | -0.002 | 4494479H | 0.0500 | 0.0522 |  |
| 2 | 10.186 | 10.185 | 0.001  | 4837183H | 0.0500 | 0.0519 |  |
| 2 | 10.575 | 10.577 | -0.002 | 9607605H | 0.0500 | 0.0501 |  |

Average of Peak Amounts = 0.0513

RPD = 4.14

## \$ 11 DCB Decachlorobiphenyl (Surr)

|   |        |        |        |          |          |          |  |
|---|--------|--------|--------|----------|----------|----------|--|
| 1 | 11.188 | 11.190 | -0.002 | 3218271H | 0.002500 | 0.002630 |  |
| 2 | 12.684 | 12.683 | 0.001  | 4163008H | 0.002500 | 0.002643 |  |

RPD = 0.47

## Reagents:

GCAR1660CALL2\_00010

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450793.D

Injection Date: 16-Apr-2015 15:08:23

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 16

Worklist Smp#: 16

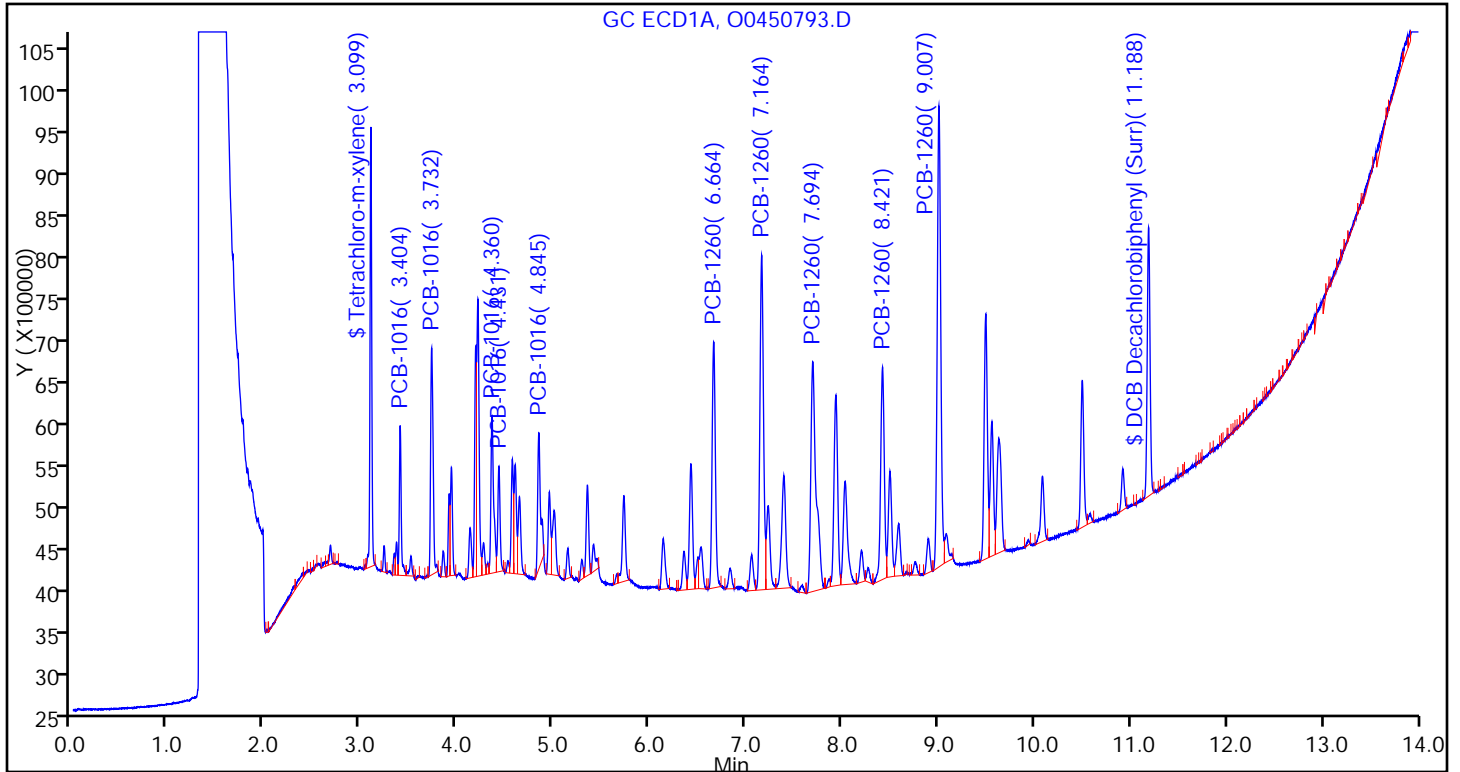
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

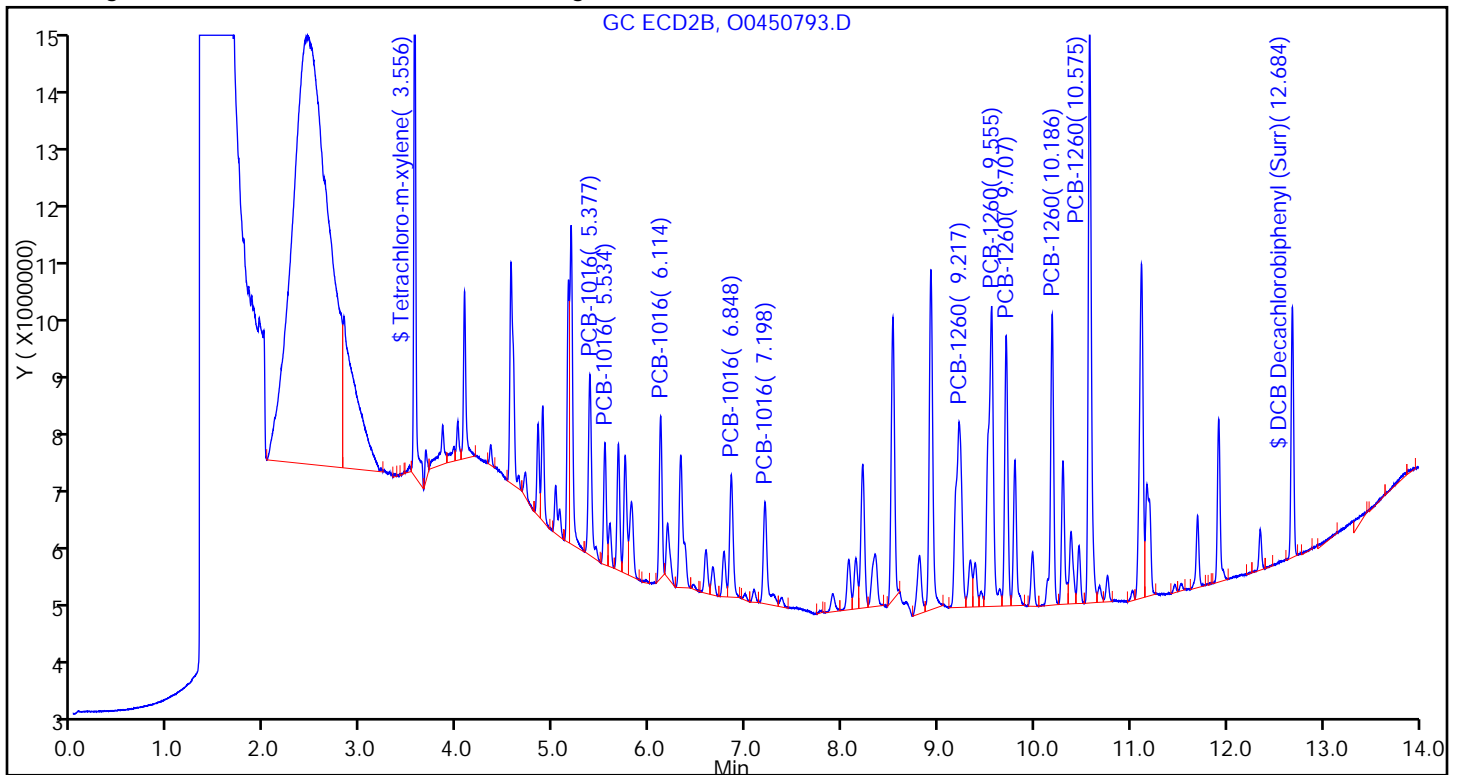
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450794.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 3  
 Inject. Date: 16-Apr-2015 15:28:07 ALS Bottle#: 17 Worklist Smp#: 17  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-017  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub1  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:19:11 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

\$ 1 Tetrachloro-m-xylene

|   |       |       |       |           |        |        |  |
|---|-------|-------|-------|-----------|--------|--------|--|
| 1 | 3.101 | 3.100 | 0.001 | 23153256H | 0.0100 | 0.0104 |  |
| 2 | 3.557 | 3.557 | 0.000 | 39587992H | 0.0100 | 0.0105 |  |

RPD = 0.58

4 PCB-1016

|   |       |       |       |           |        |        |  |
|---|-------|-------|-------|-----------|--------|--------|--|
| 1 | 3.406 | 3.406 | 0.000 | 7239125H  | 0.2000 | 0.2053 |  |
| 1 | 3.733 | 3.733 | 0.000 | 11125260H | 0.2000 | 0.2083 |  |
| 1 | 4.361 | 4.361 | 0.000 | 8182847H  | 0.2000 | 0.2038 |  |
| 1 | 4.433 | 4.433 | 0.000 | 5701871H  | 0.2000 | 0.2026 |  |
| 1 | 4.848 | 4.848 | 0.000 | 7229788H  | 0.2000 | 0.2029 |  |

Average of Peak Amounts = 0.2046

|   |       |       |        |           |        |        |  |
|---|-------|-------|--------|-----------|--------|--------|--|
| 2 | 5.379 | 5.379 | 0.000  | 12174266H | 0.2000 | 0.2015 |  |
| 2 | 5.536 | 5.536 | 0.000  | 8529902H  | 0.2000 | 0.1991 |  |
| 2 | 6.114 | 6.114 | 0.000  | 11247196H | 0.2000 | 0.2078 |  |
| 2 | 6.848 | 6.850 | -0.002 | 8036749H  | 0.2000 | 0.2016 |  |
| 2 | 7.199 | 7.200 | -0.001 | 6671348H  | 0.2000 | 0.2062 |  |

Average of Peak Amounts = 0.2032

RPD = 0.66

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450794.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 8 PCB-1260

|   |       |       |        |           |        |        |  |
|---|-------|-------|--------|-----------|--------|--------|--|
| 1 | 6.666 | 6.666 | 0.000  | 12111051H | 0.2000 | 0.2064 |  |
| 1 | 7.165 | 7.165 | 0.000  | 16569667H | 0.2000 | 0.2074 |  |
| 1 | 7.696 | 7.697 | -0.001 | 11902618H | 0.2000 | 0.2065 |  |
| 1 | 8.422 | 8.422 | 0.000  | 10748401H | 0.2000 | 0.2085 |  |
| 1 | 9.009 | 9.010 | -0.001 | 23999286H | 0.2000 | 0.2111 |  |

Average of Peak Amounts = 0.2080

|   |        |        |        |           |        |        |  |
|---|--------|--------|--------|-----------|--------|--------|--|
| 2 | 9.221  | 9.221  | 0.000  | 12837324H | 0.2000 | 0.2114 |  |
| 2 | 9.556  | 9.555  | 0.001  | 20043056H | 0.2000 | 0.2065 |  |
| 2 | 9.707  | 9.709  | -0.002 | 17925449H | 0.2000 | 0.2082 |  |
| 2 | 10.185 | 10.185 | 0.000  | 19594677H | 0.2000 | 0.2101 |  |
| 2 | 10.576 | 10.577 | -0.001 | 39048494H | 0.2000 | 0.2038 |  |

Average of Peak Amounts = 0.2080

RPD = 0.00

## \$ 11 DCB Decachlorobiphenyl (Surr)

|   |        |        |        |           |        |        |  |
|---|--------|--------|--------|-----------|--------|--------|--|
| 1 | 11.189 | 11.190 | -0.001 | 12946766H | 0.0100 | 0.0106 |  |
| 2 | 12.683 | 12.683 | 0.000  | 16372316H | 0.0100 | 0.0104 |  |

RPD = 1.79

## Reagents:

GCAR1660CALL3\_00009

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450794.D

Injection Date: 16-Apr-2015 15:28:07

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 17

Worklist Smp#: 17

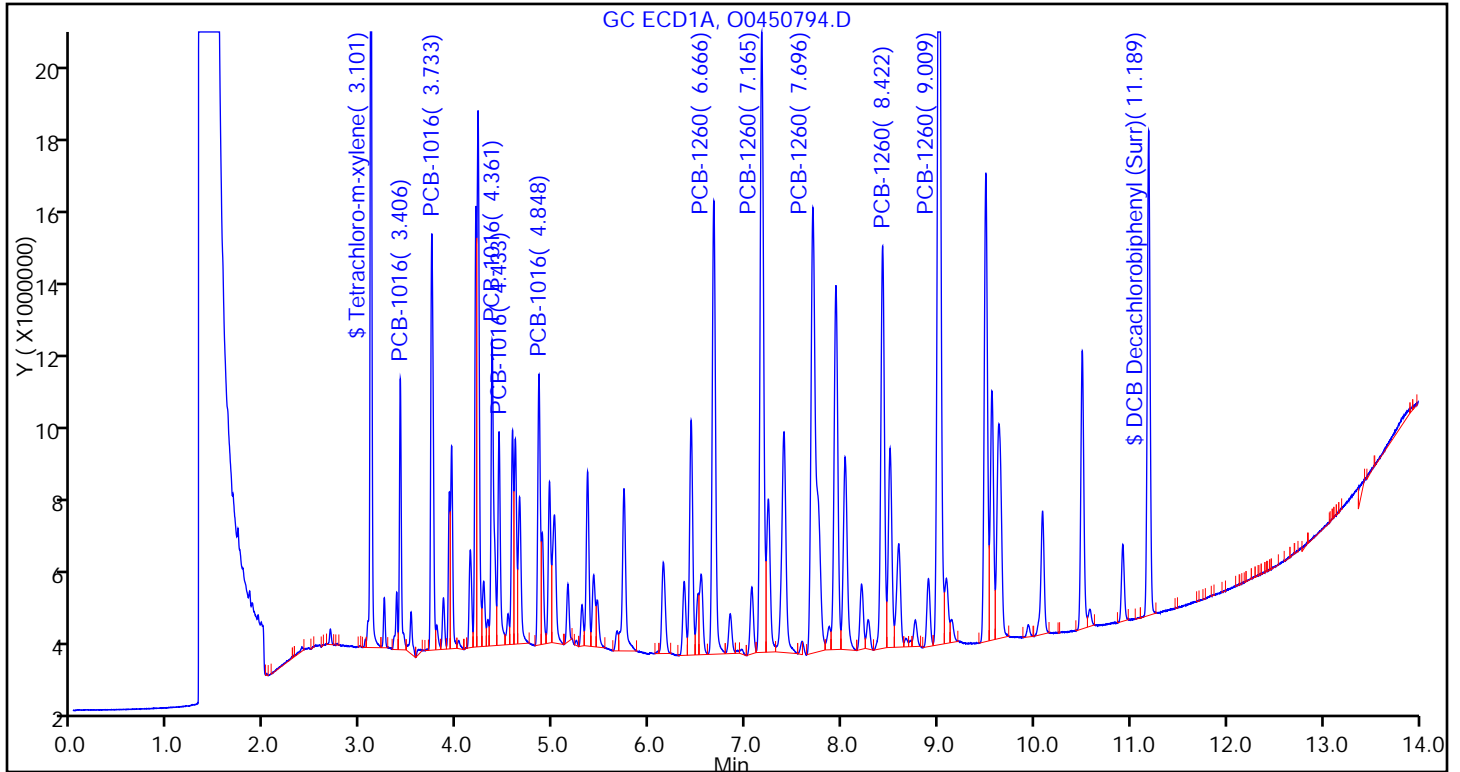
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

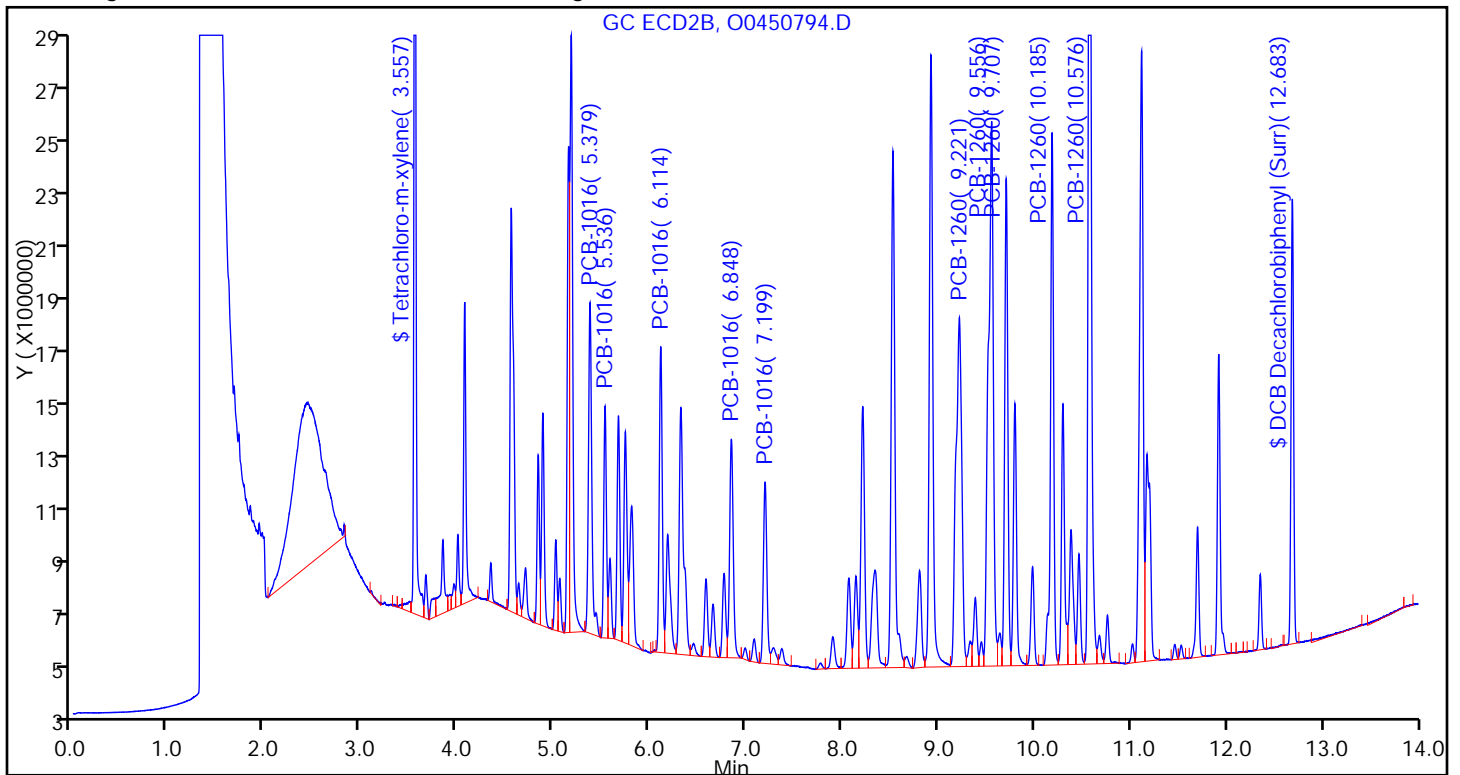
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450795.D  
 Lims ID: ICRT  
 Client ID:  
 Sample Type: ICRT Calib Level: 4  
 Inject. Date: 16-Apr-2015 15:47:57 ALS Bottle#: 18 Worklist Smp#: 18  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-018  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub1  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:19:14 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D  
 Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B  
 Process Host: XAWRK020

First Level Reviewer: guptaa

Date: 17-Apr-2015 08:03:40

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## \$ 1 Tetrachloro-m-xylene

|   |       |       |       |           |        |        |
|---|-------|-------|-------|-----------|--------|--------|
| 1 | 3.100 | 3.100 | 0.000 | 58175922H | 0.0250 | 0.0261 |
| 2 | 3.557 | 3.557 | 0.000 | 96635390H | 0.0250 | 0.0255 |

RPD = 2.31

## 4 PCB-1016

|   |       |       |       |           |        |        |
|---|-------|-------|-------|-----------|--------|--------|
| 1 | 3.406 | 3.406 | 0.000 | 17514614H | 0.5000 | 0.4967 |
| 1 | 3.733 | 3.733 | 0.000 | 26973140H | 0.5000 | 0.5050 |
| 1 | 4.361 | 4.361 | 0.000 | 20698527H | 0.5000 | 0.5156 |
| 1 | 4.433 | 4.433 | 0.000 | 14747178H | 0.5000 | 0.5239 |
| 1 | 4.848 | 4.848 | 0.000 | 18522814H | 0.5000 | 0.5199 |

Average of Peak Amounts = 0.5122

|   |       |       |       |           |        |        |
|---|-------|-------|-------|-----------|--------|--------|
| 2 | 5.379 | 5.379 | 0.000 | 30472608H | 0.5000 | 0.5044 |
| 2 | 5.536 | 5.536 | 0.000 | 21261706H | 0.5000 | 0.4963 |
| 2 | 6.114 | 6.114 | 0.000 | 27616582H | 0.5000 | 0.5102 |
| 2 | 6.850 | 6.850 | 0.000 | 20095919H | 0.5000 | 0.5041 |
| 2 | 7.200 | 7.200 | 0.000 | 16265360H | 0.5000 | 0.5027 |

Average of Peak Amounts = 0.5035

RPD = 1.71



Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450795.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 8 PCB-1260

|   |       |       |       |           |        |        |  |
|---|-------|-------|-------|-----------|--------|--------|--|
| 1 | 6.666 | 6.666 | 0.000 | 30659997H | 0.5000 | 0.5226 |  |
| 1 | 7.165 | 7.165 | 0.000 | 41698926H | 0.5000 | 0.5220 |  |
| 1 | 7.697 | 7.697 | 0.000 | 30167831H | 0.5000 | 0.5233 |  |
| 1 | 8.422 | 8.422 | 0.000 | 27265875H | 0.5000 | 0.5289 |  |
| 1 | 9.010 | 9.010 | 0.000 | 60556693H | 0.5000 | 0.5328 |  |

Average of Peak Amounts = 0.5259

|   |        |        |       |           |        |        |  |
|---|--------|--------|-------|-----------|--------|--------|--|
| 2 | 9.221  | 9.221  | 0.000 | 31108955H | 0.5000 | 0.5123 |  |
| 2 | 9.555  | 9.555  | 0.000 | 49838184H | 0.5000 | 0.5134 |  |
| 2 | 9.709  | 9.709  | 0.000 | 43209267H | 0.5000 | 0.5019 |  |
| 2 | 10.185 | 10.185 | 0.000 | 47599977H | 0.5000 | 0.5103 |  |
| 2 | 10.577 | 10.577 | 0.000 | 98048396H | 0.5000 | 0.5117 |  |

Average of Peak Amounts = 0.5099

RPD = 3.09

## \$ 11 DCB Decachlorobiphenyl (Surr)

|   |        |        |       |           |        |        |  |
|---|--------|--------|-------|-----------|--------|--------|--|
| 1 | 11.190 | 11.190 | 0.000 | 31267268H | 0.0250 | 0.0256 |  |
| 2 | 12.683 | 12.683 | 0.000 | 40470888H | 0.0250 | 0.0257 |  |

RPD = 0.53

## Reagents:

GCAR1660CALL4\_00009

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450795.D

Injection Date: 16-Apr-2015 15:47:57

Instrument ID: CHGC8

Lims ID: ICRT

Client ID:

Operator ID: 402360

ALS Bottle#: 18

Worklist Smp#: 18

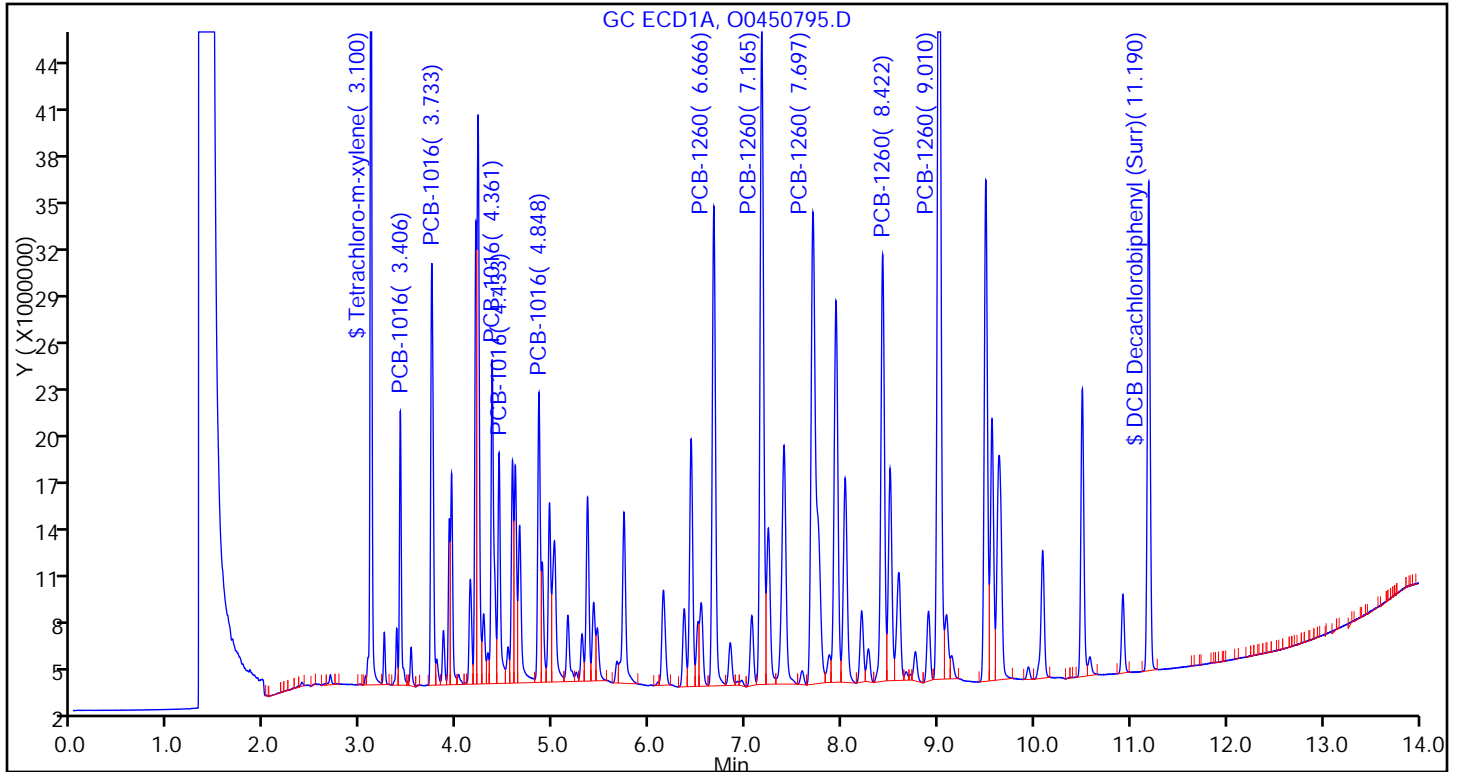
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

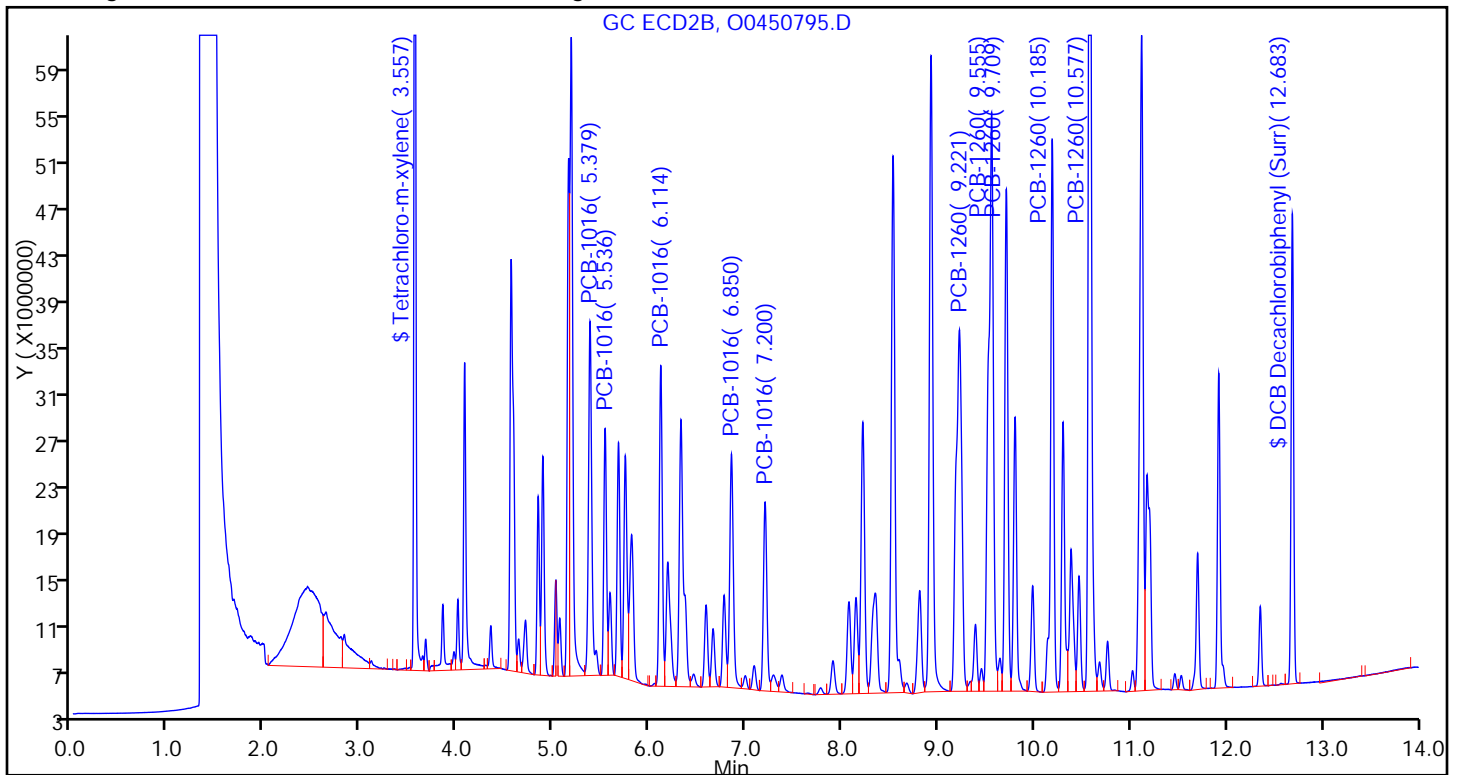
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450796.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 5  
 Inject. Date: 16-Apr-2015 16:07:39 ALS Bottle#: 19 Worklist Smp#: 19  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-019  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub1  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:19:17 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D  
 Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B  
 Process Host: XAWRK020

First Level Reviewer: guptaa

Date: 17-Apr-2015 07:40:06

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## \$ 1 Tetrachloro-m-xylene

|   |       |       |       |            |        |        |
|---|-------|-------|-------|------------|--------|--------|
| 1 | 3.100 | 3.100 | 0.000 | 120162558H | 0.0500 | 0.0539 |
| 2 | 3.557 | 3.557 | 0.000 | 202358032H | 0.0500 | 0.0534 |

RPD = 0.94

## 4 PCB-1016

|   |       |       |        |           |      |      |
|---|-------|-------|--------|-----------|------|------|
| 1 | 3.405 | 3.406 | -0.001 | 36990431H | 1.00 | 1.05 |
| 1 | 3.732 | 3.733 | -0.001 | 56198390H | 1.00 | 1.05 |
| 1 | 4.359 | 4.361 | -0.002 | 44393552H | 1.00 | 1.11 |
| 1 | 4.432 | 4.433 | -0.001 | 32002151H | 1.00 | 1.14 |
| 1 | 4.846 | 4.848 | -0.002 | 38768677H | 1.00 | 1.09 |

Average of Peak Amounts = 1.09

|   |       |       |        |           |      |      |
|---|-------|-------|--------|-----------|------|------|
| 2 | 5.378 | 5.379 | -0.001 | 65130325H | 1.00 | 1.08 |
| 2 | 5.535 | 5.536 | -0.001 | 47765560H | 1.00 | 1.11 |
| 2 | 6.113 | 6.114 | -0.001 | 57663925H | 1.00 | 1.07 |
| 2 | 6.848 | 6.850 | -0.002 | 41696881H | 1.00 | 1.05 |
| 2 | 7.198 | 7.200 | -0.002 | 33681117H | 1.00 | 1.04 |

Average of Peak Amounts = 1.07

RPD = 1.61

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450796.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 8 PCB-1260

|   |       |       |        |            |      |      |  |
|---|-------|-------|--------|------------|------|------|--|
| 1 | 6.665 | 6.666 | -0.001 | 63675705H  | 1.00 | 1.09 |  |
| 1 | 7.163 | 7.165 | -0.002 | 87829147H  | 1.00 | 1.10 |  |
| 1 | 7.695 | 7.697 | -0.002 | 64595163H  | 1.00 | 1.12 |  |
| 1 | 8.420 | 8.422 | -0.002 | 57033427H  | 1.00 | 1.11 |  |
| 1 | 9.007 | 9.010 | -0.003 | 128190489H | 1.00 | 1.13 |  |

Average of Peak Amounts = 1.11

|   |        |        |        |            |      |      |  |
|---|--------|--------|--------|------------|------|------|--|
| 2 | 9.218  | 9.221  | -0.003 | 64483952H  | 1.00 | 1.06 |  |
| 2 | 9.554  | 9.555  | -0.001 | 102587624H | 1.00 | 1.06 |  |
| 2 | 9.708  | 9.709  | -0.001 | 91388186H  | 1.00 | 1.06 |  |
| 2 | 10.184 | 10.185 | -0.001 | 98664107H  | 1.00 | 1.06 |  |
| 2 | 10.575 | 10.577 | -0.002 | 207745968H | 1.00 | 1.08 |  |

Average of Peak Amounts = 1.06

RPD = 4.00

## \$ 11 DCB Decachlorobiphenyl (Surr)

|   |        |        |        |           |        |        |  |
|---|--------|--------|--------|-----------|--------|--------|--|
| 1 | 11.188 | 11.190 | -0.002 | 65555386H | 0.0500 | 0.0536 |  |
| 2 | 12.683 | 12.683 | 0.000  | 85587101H | 0.0500 | 0.0543 |  |

RPD = 1.40

## Reagents:

GCAR1660CALL5\_00010

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450796.D

Injection Date: 16-Apr-2015 16:07:39

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 19

Worklist Smp#: 19

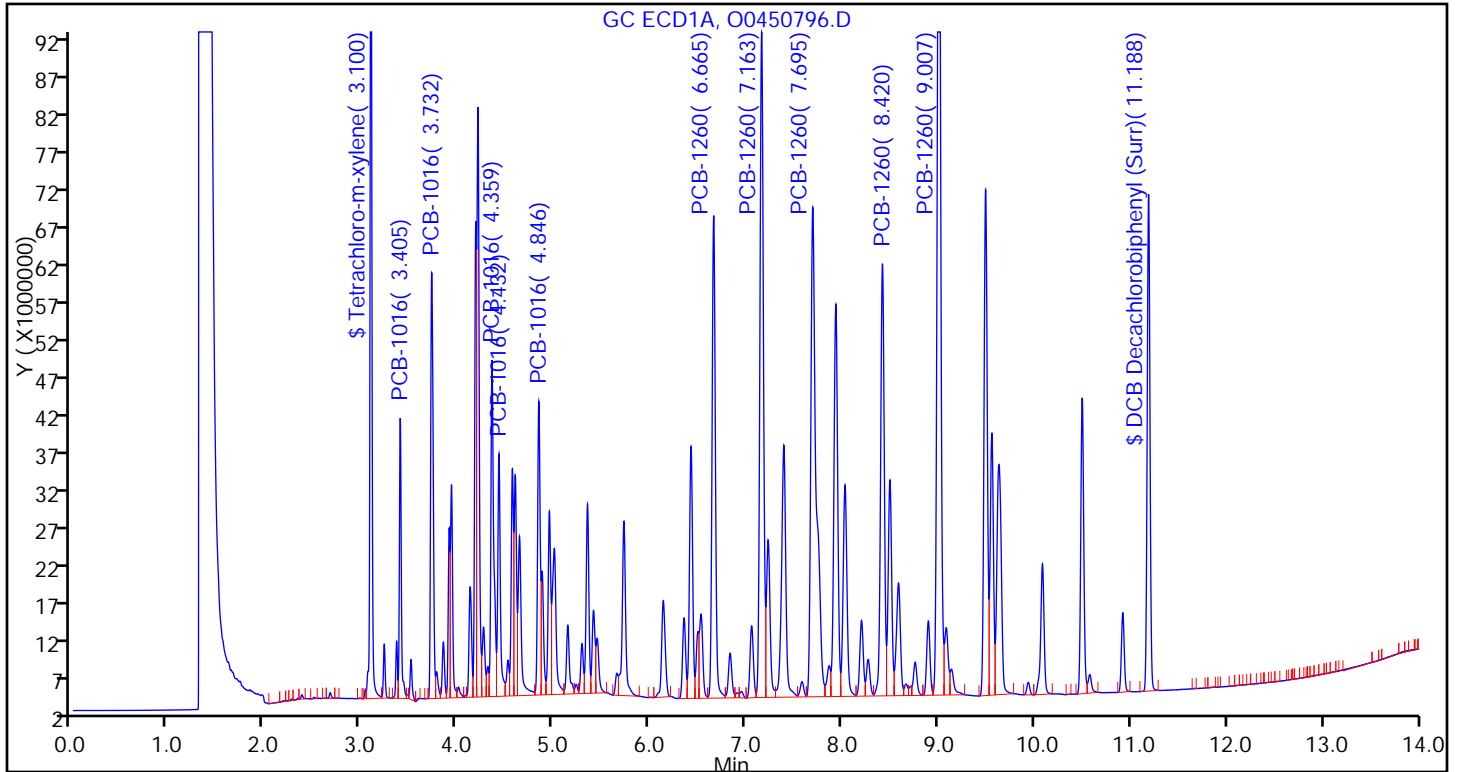
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

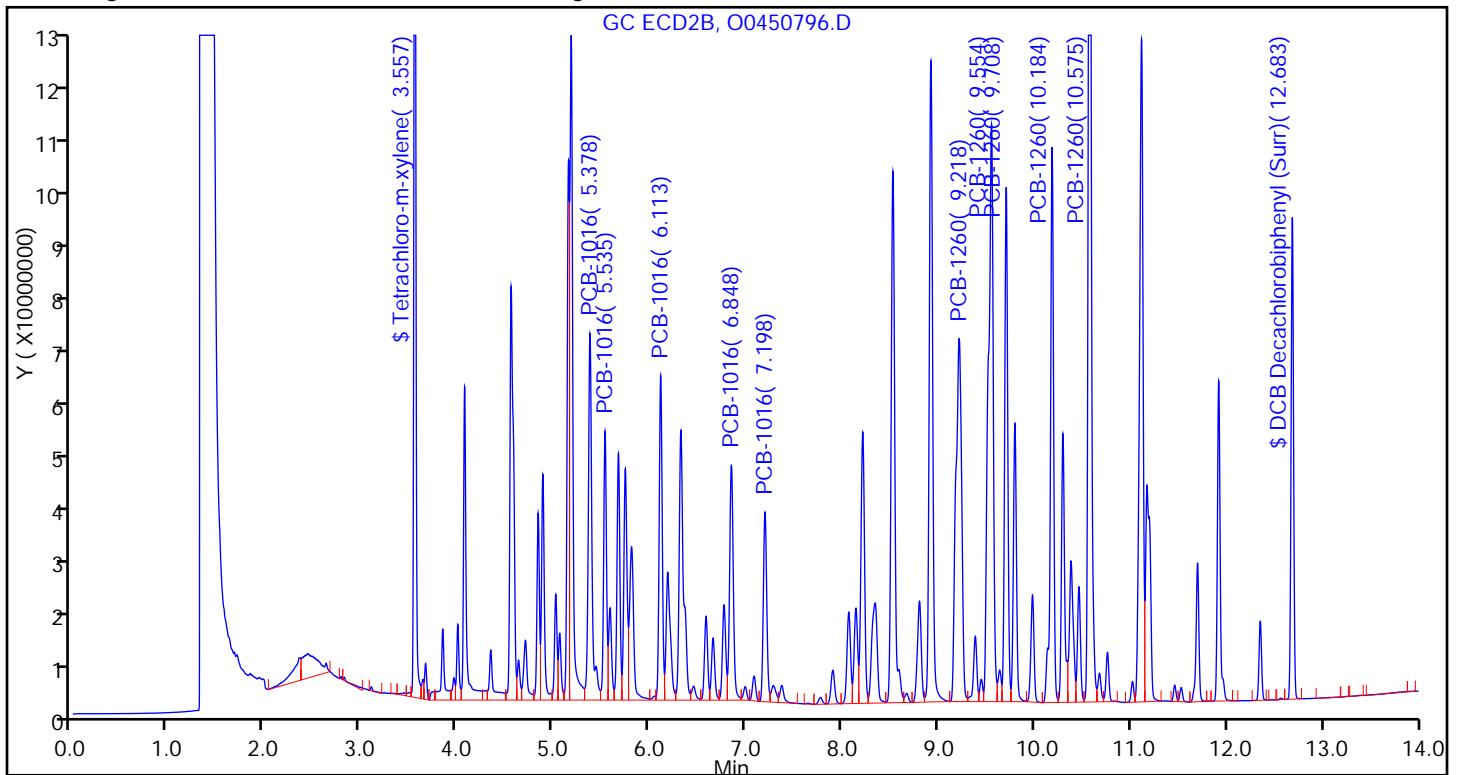
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450797.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 6  
 Inject. Date: 16-Apr-2015 16:27:22 ALS Bottle#: 20 Worklist Smp#: 20  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-020  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub1  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:19:19 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

\$ 1 Tetrachloro-m-xylene

|   |       |       |        |            |        |        |
|---|-------|-------|--------|------------|--------|--------|
| 1 | 3.099 | 3.100 | -0.001 | 213798612H | 0.1000 | 0.0960 |
| 2 | 3.556 | 3.557 | -0.001 | 354379488H | 0.1000 | 0.0936 |

RPD = 2.52

4 PCB-1016

|   |       |       |        |           |      |      |
|---|-------|-------|--------|-----------|------|------|
| 1 | 3.404 | 3.406 | -0.002 | 65787157H | 2.00 | 1.87 |
| 1 | 3.732 | 3.733 | -0.001 | 97074401H | 2.00 | 1.82 |
| 1 | 4.359 | 4.361 | -0.002 | 77106216H | 2.00 | 1.92 |
| 1 | 4.430 | 4.433 | -0.003 | 55725008H | 2.00 | 1.98 |
| 1 | 4.845 | 4.848 | -0.003 | 66953248H | 2.00 | 1.88 |

Average of Peak Amounts = 1.89

|   |       |       |        |            |      |      |
|---|-------|-------|--------|------------|------|------|
| 2 | 5.376 | 5.379 | -0.003 | 112674274H | 2.00 | 1.86 |
| 2 | 5.533 | 5.536 | -0.003 | 83215768H  | 2.00 | 1.94 |
| 2 | 6.112 | 6.114 | -0.002 | 97980889H  | 2.00 | 1.81 |
| 2 | 6.847 | 6.850 | -0.003 | 71734390H  | 2.00 | 1.80 |
| 2 | 7.197 | 7.200 | -0.003 | 57172972H  | 2.00 | 1.77 |

Average of Peak Amounts = 1.84

RPD = 2.99

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450797.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 8 PCB-1260

|   |       |       |        |            |      |      |  |
|---|-------|-------|--------|------------|------|------|--|
| 1 | 6.663 | 6.666 | -0.003 | 104773208H | 2.00 | 1.79 |  |
| 1 | 7.162 | 7.165 | -0.003 | 142726143H | 2.00 | 1.79 |  |
| 1 | 7.694 | 7.697 | -0.003 | 106391171H | 2.00 | 1.85 |  |
| 1 | 8.418 | 8.422 | -0.004 | 92720116H  | 2.00 | 1.80 |  |
| 1 | 9.006 | 9.010 | -0.004 | 204630730H | 2.00 | 1.80 |  |

Average of Peak Amounts = 1.80

|   |        |        |        |            |      |      |  |
|---|--------|--------|--------|------------|------|------|--|
| 2 | 9.217  | 9.221  | -0.004 | 107391598H | 2.00 | 1.77 |  |
| 2 | 9.553  | 9.555  | -0.002 | 167662939H | 2.00 | 1.73 |  |
| 2 | 9.705  | 9.709  | -0.004 | 148106190H | 2.00 | 1.72 |  |
| 2 | 10.183 | 10.185 | -0.002 | 159311552H | 2.00 | 1.71 |  |
| 2 | 10.574 | 10.577 | -0.003 | 339220436H | 2.00 | 1.77 |  |

Average of Peak Amounts = 1.74

RPD = 3.65

## \$ 11 DCB Decachlorobiphenyl (Surr)

|   |        |        |        |            |        |        |  |
|---|--------|--------|--------|------------|--------|--------|--|
| 1 | 11.187 | 11.190 | -0.003 | 102798744H | 0.1000 | 0.0840 |  |
| 2 | 12.682 | 12.683 | -0.001 | 134511471H | 0.1000 | 0.0854 |  |

RPD = 1.62

## Reagents:

GCAR1660CALL6\_00008

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450797.D

Injection Date: 16-Apr-2015 16:27:22

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 20

Worklist Smp#: 20

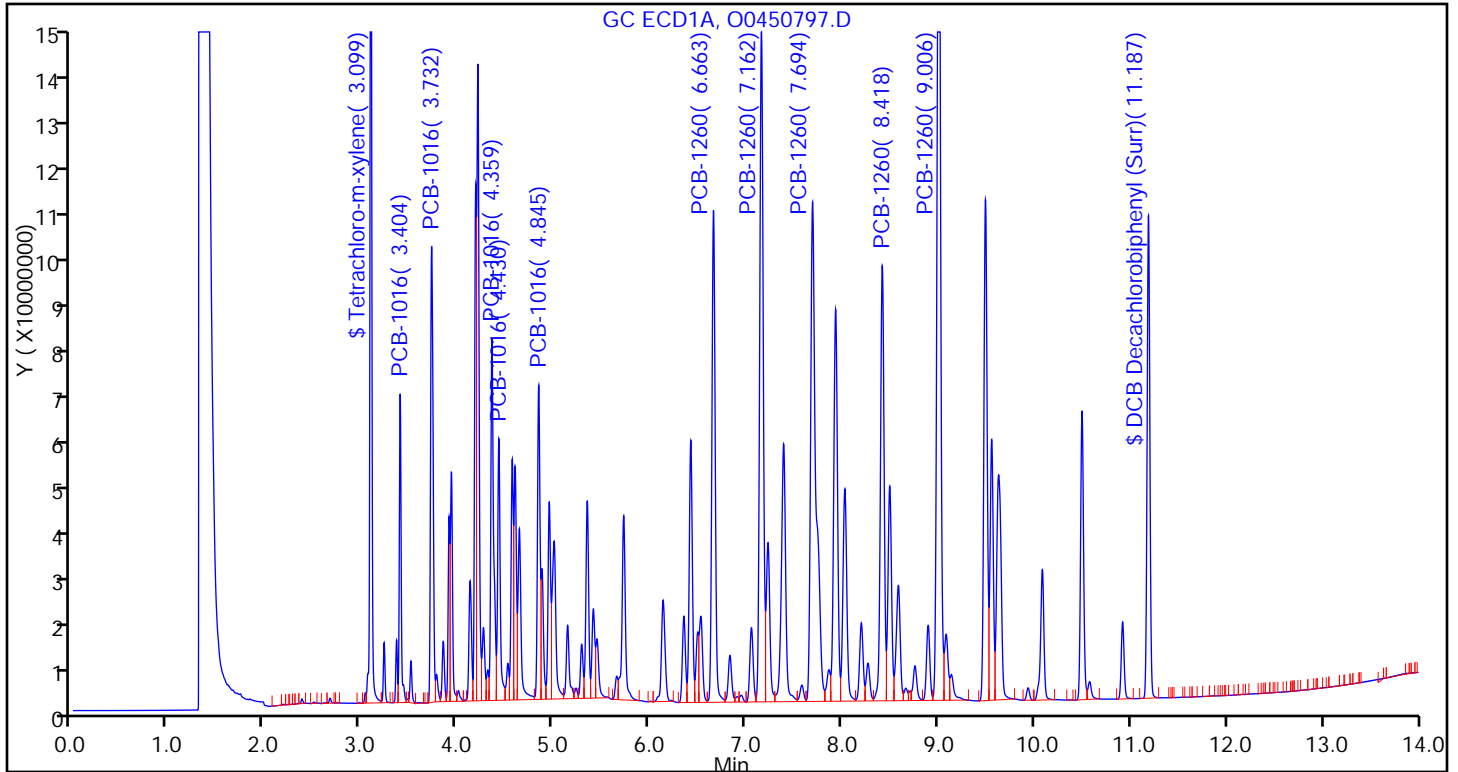
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

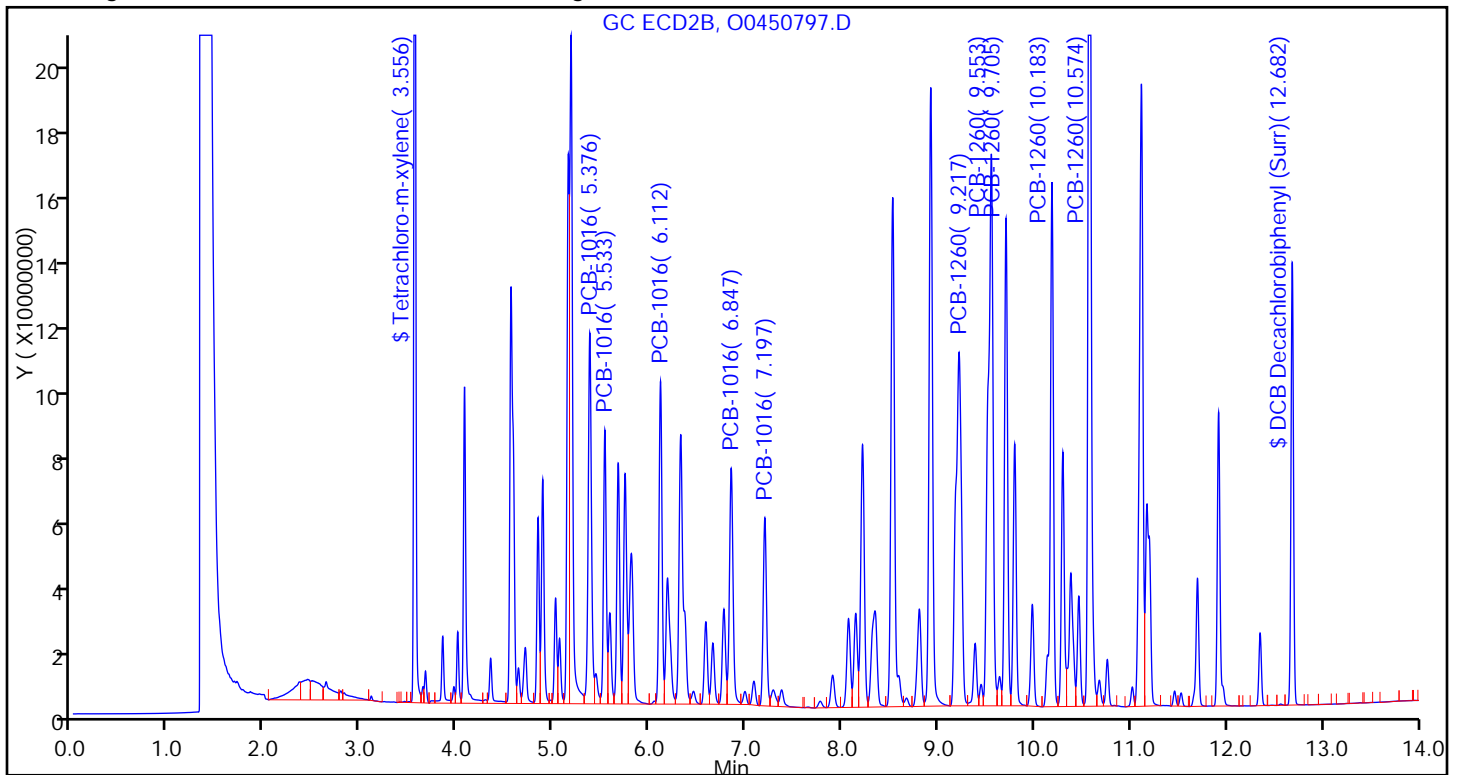
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3





TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D  
 Lims ID: IC  
 Client ID:  
 Sample Type: IC Calib Level: 7  
 Inject. Date: 16-Apr-2015 16:47:04 ALS Bottle#: 21 Worklist Smp#: 21  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006499-021  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub1  
 Method: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 17-Apr-2015 15:19:22 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK020

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

\$ 1 Tetrachloro-m-xylene

|   |       |       |       |            |        |        |
|---|-------|-------|-------|------------|--------|--------|
| 1 | 3.102 | 3.100 | 0.002 | 433985752H | 0.2000 | 0.1948 |
| 2 | 3.557 | 3.557 | 0.000 | 726707805H | 0.2000 | 0.1919 |

RPD = 1.50

4 PCB-1016

|   |       |       |        |            |      |      |
|---|-------|-------|--------|------------|------|------|
| 1 | 3.406 | 3.406 | 0.000  | 136189287H | 4.00 | 3.86 |
| 1 | 3.733 | 3.733 | 0.000  | 201901565H | 4.00 | 3.78 |
| 1 | 4.359 | 4.361 | -0.002 | 166831798H | 4.00 | 4.16 |
| 1 | 4.432 | 4.433 | -0.001 | 120468074H | 4.00 | 4.28 |
| 1 | 4.846 | 4.848 | -0.002 | 142467031H | 4.00 | 4.00 |

Average of Peak Amounts = 4.02

|   |       |       |        |            |      |      |
|---|-------|-------|--------|------------|------|------|
| 2 | 5.377 | 5.379 | -0.002 | 238747125H | 4.00 | 3.95 |
| 2 | 5.534 | 5.536 | -0.002 | 179066898H | 4.00 | 4.18 |
| 2 | 6.111 | 6.114 | -0.003 | 206161799H | 4.00 | 3.81 |
| 2 | 6.847 | 6.850 | -0.003 | 150577220H | 4.00 | 3.78 |
| 2 | 7.197 | 7.200 | -0.003 | 119844448H | 4.00 | 3.70 |

Average of Peak Amounts = 3.88

RPD = 3.32

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 8 PCB-1260

|   |       |       |        |            |      |      |  |
|---|-------|-------|--------|------------|------|------|--|
| 1 | 6.663 | 6.666 | -0.003 | 221274459H | 4.00 | 3.77 |  |
| 1 | 7.161 | 7.165 | -0.004 | 302969084H | 4.00 | 3.79 |  |
| 1 | 7.694 | 7.697 | -0.003 | 229844075H | 4.00 | 3.99 |  |
| 1 | 8.418 | 8.422 | -0.004 | 197555375H | 4.00 | 3.83 |  |
| 1 | 9.006 | 9.010 | -0.004 | 440824747H | 4.00 | 3.88 |  |

Average of Peak Amounts = 3.85

|   |        |        |        |            |      |      |  |
|---|--------|--------|--------|------------|------|------|--|
| 2 | 9.216  | 9.221  | -0.005 | 227344952H | 4.00 | 3.74 |  |
| 2 | 9.553  | 9.555  | -0.002 | 361229952H | 4.00 | 3.72 |  |
| 2 | 9.705  | 9.709  | -0.004 | 310760397H | 4.00 | 3.61 |  |
| 2 | 10.183 | 10.185 | -0.002 | 340375436H | 4.00 | 3.65 |  |
| 2 | 10.574 | 10.577 | -0.003 | 761547149H | 4.00 | 3.97 |  |

Average of Peak Amounts = 3.74

RPD = 2.97

## \$ 11 DCB Decachlorobiphenyl (Surr)

|   |        |        |        |            |        |        |  |
|---|--------|--------|--------|------------|--------|--------|--|
| 1 | 11.188 | 11.190 | -0.002 | 224372400H | 0.2000 | 0.1834 |  |
| 2 | 12.684 | 12.683 | 0.001  | 295001422H | 0.2000 | 0.1873 |  |

RPD = 2.10

## Reagents:

GCAR1660CALL7\_00009

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Injection Date: 16-Apr-2015 16:47:04

Instrument ID: CHGC8

Lims ID: IC

Client ID:

Operator ID: 402360

ALS Bottle#: 21

Worklist Smp#: 21

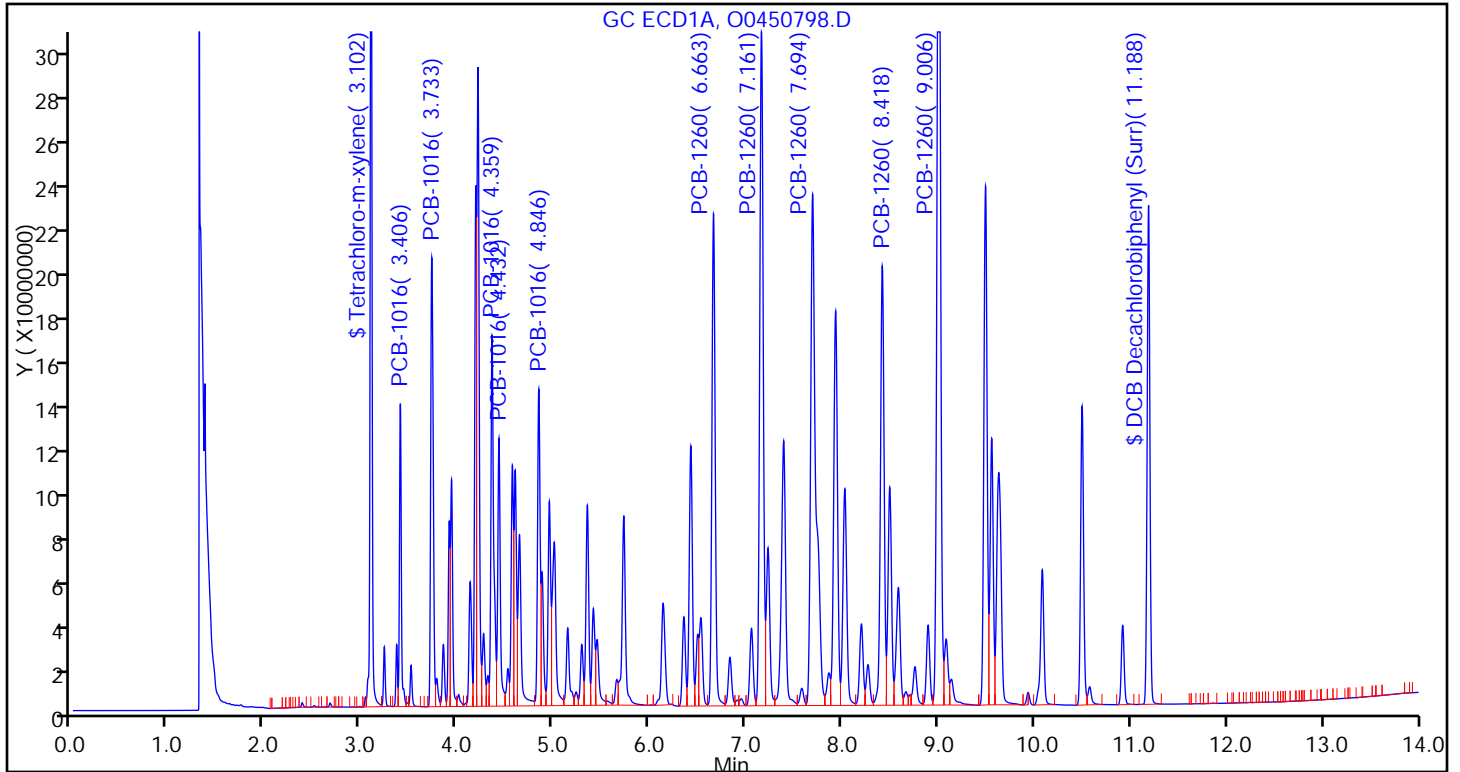
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

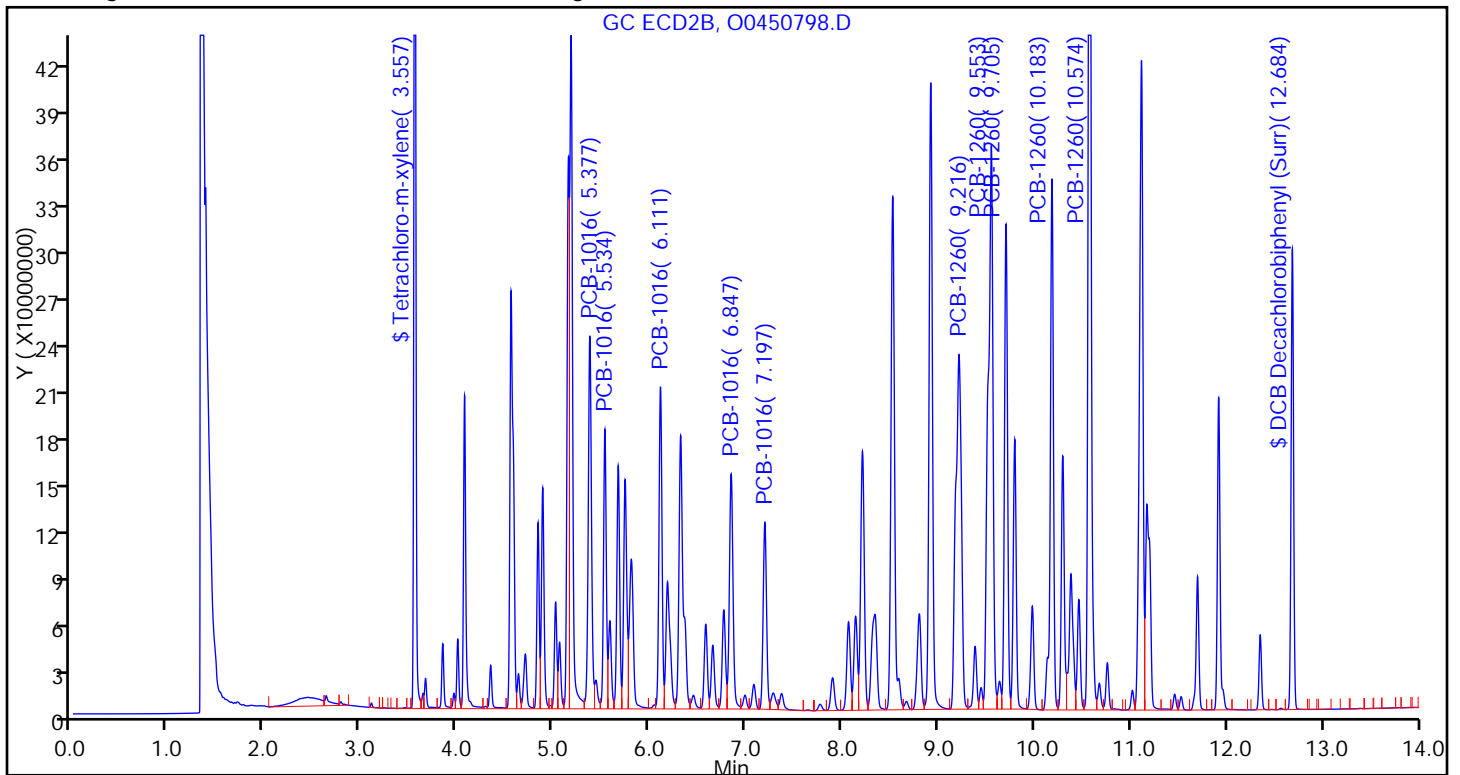
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII  
GC SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVRT 180-140301/2 Calibration Date: 05/01/2015 18:01  
 Instrument ID: CHGC8 Calib Start Date: 04/16/2015 14:48  
 GC Column: RTX-CLP1 ID: 0.53 (mm) Calib End Date: 04/16/2015 16:47  
 Lab File ID: O0501025.D Conc. Units: ng/uL

| ANALYTE                          | CURVE<br>TYPE | AVE CF     | CF         | MIN CF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D    | MAX<br>%D |
|----------------------------------|---------------|------------|------------|--------|----------------|-----------------|-------|-----------|
| PCB-1016 Peak 1                  | Ave           | 35262881   | 32083231   |        | 0.910          | 1.00            | -9.0  | 20.0      |
| PCB-1016 Peak 2                  | Ave           | 53414703   | 48919322   |        | 0.916          | 1.00            | -8.4  | 20.0      |
| PCB-1016 Peak 3                  | Ave           | 40146994   | 37598518   |        | 0.937          | 1.00            | -6.3  | 20.0      |
| PCB-1016 Peak 4                  | Ave           | 28149301   | 27678347   |        | 0.983          | 1.00            | -1.7  | 20.0      |
| PCB-1016 Peak 5                  | Ave           | 35628007   | 34043625   |        | 0.956          | 1.00            | -4.4  | 20.0      |
| PCB-1260 Peak 1                  | Ave           | 58670913   | 55641540   |        | 0.948          | 1.00            | -5.2  | 20.0      |
| PCB-1260 Peak 2                  | Ave           | 79879574   | 74295054   |        | 0.930          | 1.00            | -7.0  | 20.0      |
| PCB-1260 Peak 3                  | Ave           | 57650360   | 54532609   |        | 0.946          | 1.00            | -5.4  | 20.0      |
| PCB-1260 Peak 4                  | Ave           | 51553958   | 48824186   |        | 0.947          | 1.00            | -5.3  | 20.0      |
| PCB-1260 Peak 5                  | Ave           | 113660017  | 105519888  |        | 0.928          | 1.00            | -7.2  | 20.0      |
| Tetrachloro-m-xylene (Surr)      | Ave           | 2227831160 | 2175874700 |        | 0.0488         | 0.0500          | -2.3  | 20.0      |
| DCB Decachlorobiphenyl<br>(Surr) | Ave           | 1223632126 | 1062028460 |        | 0.0434         | 0.0500          | -13.2 | 20.0      |

FORM VII  
GC SEMI VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVRT 180-140301/2 Calibration Date: 05/01/2015 18:01  
 Instrument ID: CHGC8 Calib Start Date: 04/16/2015 14:48  
 GC Column: RTX-CLP1 ID: 0.53 (mm) Calib End Date: 04/16/2015 16:47  
 Lab File ID: O0501025.D

| Analyte                       | RT    | RT WINDOW |       |
|-------------------------------|-------|-----------|-------|
|                               |       | FROM      | TO    |
| PCB-1016 Peak 1               | 3.41  | 3.36      | 3.46  |
| PCB-1016 Peak 2               | 3.74  | 3.69      | 3.79  |
| PCB-1016 Peak 3               | 4.36  | 4.31      | 4.41  |
| PCB-1016 Peak 4               | 4.44  | 4.39      | 4.49  |
| PCB-1016 Peak 5               | 4.85  | 4.80      | 4.90  |
| PCB-1260 Peak 1               | 6.67  | 6.62      | 6.72  |
| PCB-1260 Peak 2               | 7.17  | 7.12      | 7.22  |
| PCB-1260 Peak 3               | 7.70  | 7.65      | 7.75  |
| PCB-1260 Peak 4               | 8.43  | 8.38      | 8.48  |
| PCB-1260 Peak 5               | 9.01  | 8.96      | 9.06  |
| Tetrachloro-m-xylene (Surr)   | 3.10  | 3.05      | 3.15  |
| DCB Decachlorobiphenyl (Surr) | 11.19 | 11.12     | 11.26 |

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501025.D  
 Lims ID: CCVRT  
 Client ID:  
 Sample Type: CCVRT  
 Inject. Date: 01-May-2015 18:01:02 ALS Bottle#: 26 Worklist Smp#: 2  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006723-002  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub1  
 Method: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 04-May-2015 13:11:58 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK001

First Level Reviewer: guptaa Date: 04-May-2015 07:32:32

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

\$ 1 Tetrachloro-m-xylene

|   |       |       |       |            |        |        |
|---|-------|-------|-------|------------|--------|--------|
| 1 | 3.102 | 3.102 | 0.000 | 108793735H | 0.0500 | 0.0488 |
| 2 | 3.571 | 3.571 | 0.000 | 194768255H | 0.0500 | 0.0514 |

RPD = 5.18

4 PCB-1016

|   |       |       |       |           |      |        |
|---|-------|-------|-------|-----------|------|--------|
| 1 | 3.407 | 3.407 | 0.000 | 32083231H | 1.00 | 0.9098 |
| 1 | 3.736 | 3.736 | 0.000 | 48919322H | 1.00 | 0.9158 |
| 1 | 4.364 | 4.364 | 0.000 | 37598518H | 1.00 | 0.9365 |
| 1 | 4.436 | 4.436 | 0.000 | 27678347H | 1.00 | 0.9833 |
| 1 | 4.850 | 4.850 | 0.000 | 34043625H | 1.00 | 0.9555 |

Average of Peak Amounts = 0.9402

|   |       |       |       |           |      |        |
|---|-------|-------|-------|-----------|------|--------|
| 2 | 5.402 | 5.402 | 0.000 | 58423510H | 1.00 | 0.9670 |
| 2 | 5.560 | 5.560 | 0.000 | 42468653H | 1.00 | 0.99   |
| 2 | 6.141 | 6.141 | 0.000 | 54423264H | 1.00 | 1.01   |
| 2 | 6.878 | 6.878 | 0.000 | 39488308H | 1.00 | 0.99   |
| 2 | 7.231 | 7.231 | 0.000 | 31719619H | 1.00 | 0.9802 |

Average of Peak Amounts = 0.9869

RPD = 4.85

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501025.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 8 PCB-1260

|   |       |       |       |            |      |        |  |
|---|-------|-------|-------|------------|------|--------|--|
| 1 | 6.670 | 6.670 | 0.000 | 55641540H  | 1.00 | 0.9484 |  |
| 1 | 7.169 | 7.169 | 0.000 | 74295054H  | 1.00 | 0.9301 |  |
| 1 | 7.702 | 7.702 | 0.000 | 54532609H  | 1.00 | 0.9459 |  |
| 1 | 8.426 | 8.426 | 0.000 | 48824186H  | 1.00 | 0.9471 |  |
| 1 | 9.012 | 9.012 | 0.000 | 105519888H | 1.00 | 0.9284 |  |

Average of Peak Amounts = 0.9400

|   |        |        |       |            |      |        |  |
|---|--------|--------|-------|------------|------|--------|--|
| 2 | 9.251  | 9.251  | 0.000 | 64230983H  | 1.00 | 1.06   |  |
| 2 | 9.586  | 9.586  | 0.000 | 96545338H  | 1.00 | 0.99   |  |
| 2 | 9.739  | 9.739  | 0.000 | 85019016H  | 1.00 | 0.9875 |  |
| 2 | 10.216 | 10.216 | 0.000 | 90622651H  | 1.00 | 0.9715 |  |
| 2 | 10.606 | 10.606 | 0.000 | 183238834H | 1.00 | 0.9562 |  |

Average of Peak Amounts = 0.99

RPD = 5.54

## \$ 11 DCB Decachlorobiphenyl (Surr)

|   |        |        |       |           |        |        |  |
|---|--------|--------|-------|-----------|--------|--------|--|
| 1 | 11.189 | 11.189 | 0.000 | 53101423H | 0.0500 | 0.0434 |  |
| 2 | 12.713 | 12.713 | 0.000 | 72035084H | 0.0500 | 0.0457 |  |

RPD = 5.23

## Reagents:

GCAR1660CALL5\_00010

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501025.D

Injection Date: 01-May-2015 18:01:02

Instrument ID: CHGC8

Lims ID: CCVRT

Client ID:

Operator ID: 402360

ALS Bottle#: 26

Worklist Smp#: 2

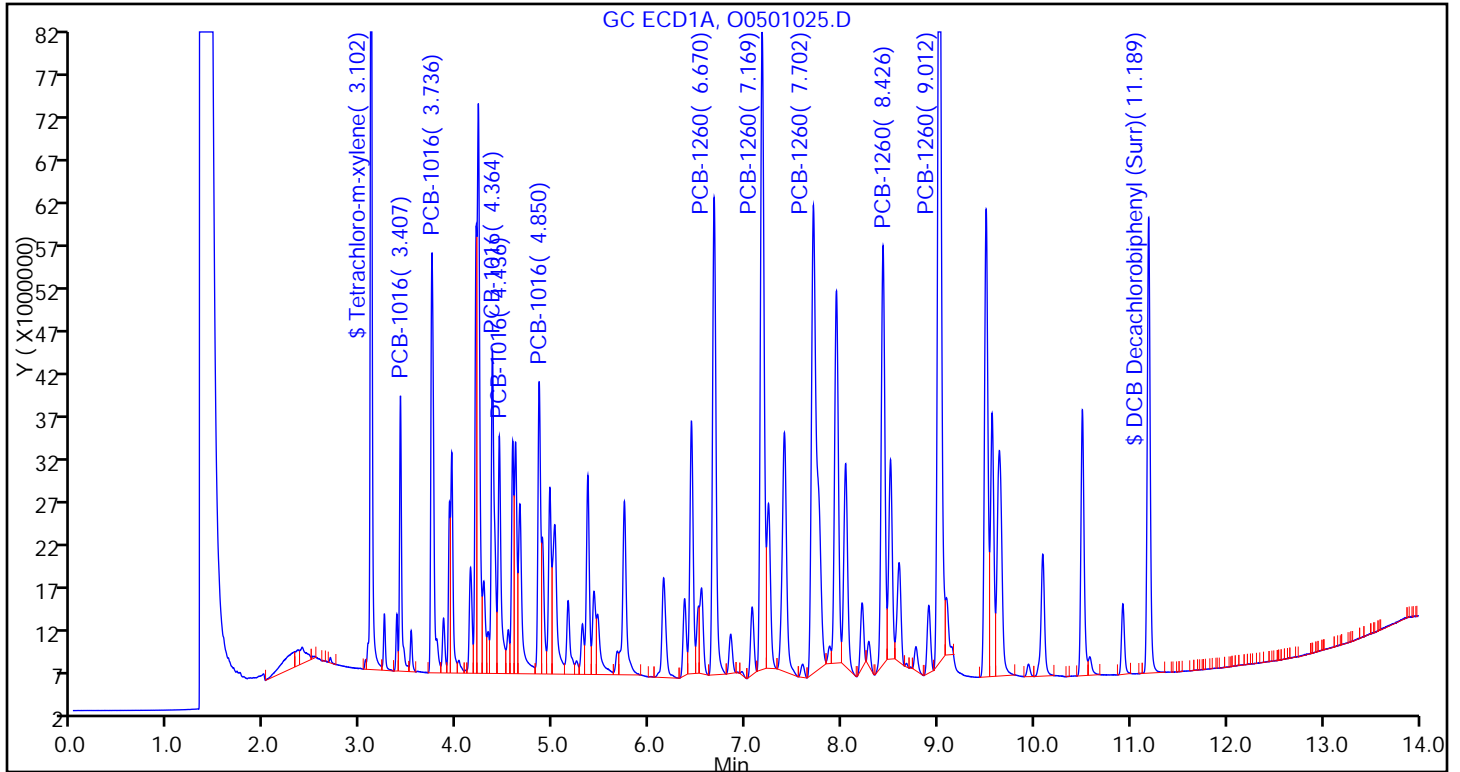
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

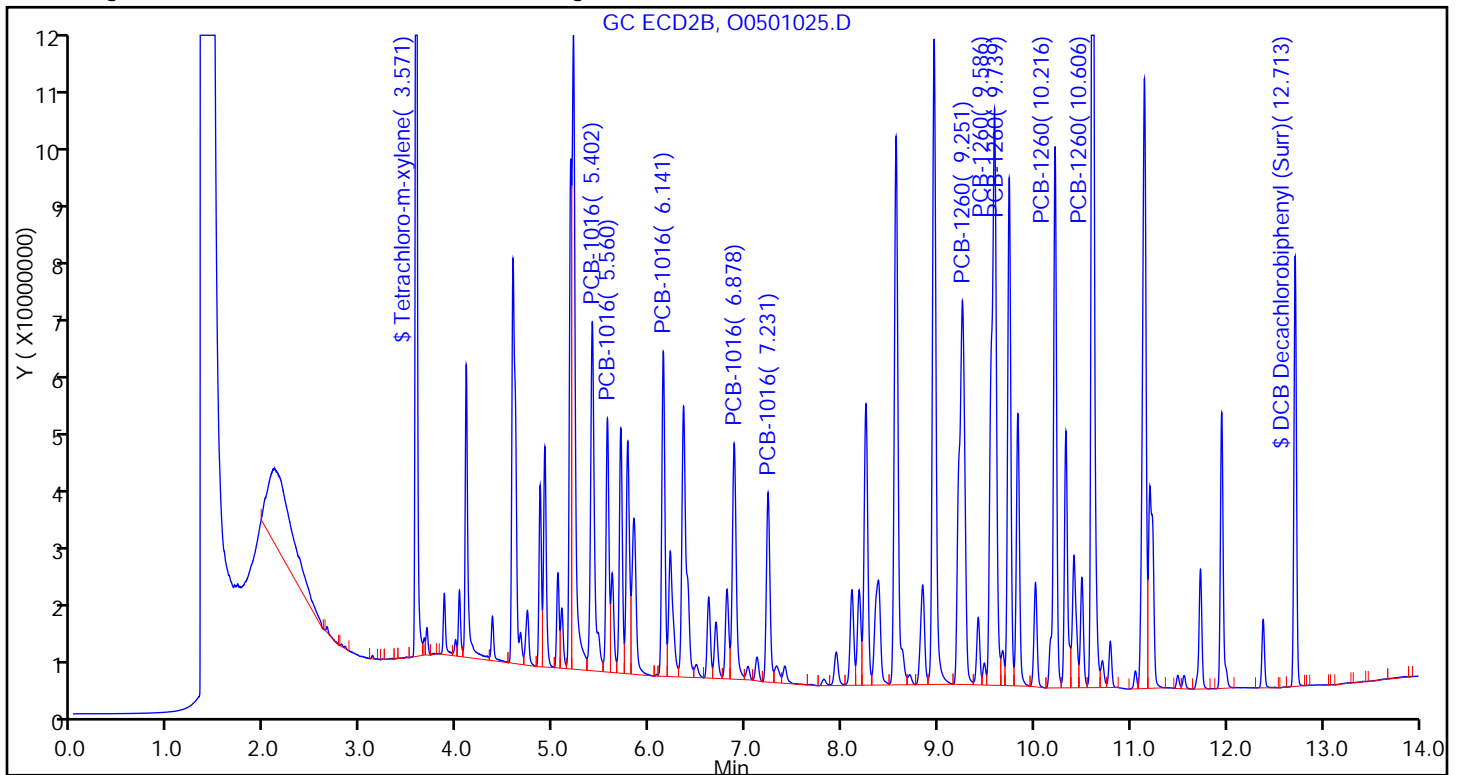
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3





FORM VII  
GC SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVRT 180-140301/2 Calibration Date: 05/01/2015 18:01  
 Instrument ID: CHGC8 Calib Start Date: 04/16/2015 14:48  
 GC Column: RTX-CLP2 ID: 0.53 (mm) Calib End Date: 04/16/2015 16:47  
 Lab File ID: O0501025.D Conc. Units: ng/uL

| ANALYTE                          | CURVE<br>TYPE | AVE CF     | CF         | MIN CF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D   | MAX<br>%D |
|----------------------------------|---------------|------------|------------|--------|----------------|-----------------|------|-----------|
| PCB-1016 Peak 1                  | Ave           | 60417507   | 58423510   |        | 0.967          | 1.00            | -3.3 | 20.0      |
| PCB-1016 Peak 2                  | Ave           | 42843282   | 42468653   |        | 0.991          | 1.00            | -0.9 | 20.0      |
| PCB-1016 Peak 3                  | Ave           | 54127620   | 54423264   |        | 1.01           | 1.00            | 0.5  | 20.0      |
| PCB-1016 Peak 4                  | Ave           | 39860995   | 39488308   |        | 0.991          | 1.00            | -0.9 | 20.0      |
| PCB-1016 Peak 5                  | Ave           | 32358888   | 31719619   |        | 0.980          | 1.00            | -2.0 | 20.0      |
| PCB-1260 Peak 1                  | Ave           | 60722163   | 64230983   |        | 1.06           | 1.00            | 5.8  | 20.0      |
| PCB-1260 Peak 2                  | Ave           | 97080584   | 96545338   |        | 0.994          | 1.00            | -0.6 | 20.0      |
| PCB-1260 Peak 3                  | Ave           | 86092534   | 85019016   |        | 0.988          | 1.00            | -1.2 | 20.0      |
| PCB-1260 Peak 4                  | Ave           | 93285177   | 90622651   |        | 0.971          | 1.00            | -2.9 | 20.0      |
| PCB-1260 Peak 5                  | Ave           | 191622491  | 183238834  |        | 0.956          | 1.00            | -4.4 | 20.0      |
| Tetrachloro-m-xylene (Surr)      | Ave           | 3787030135 | 3895365100 |        | 0.0514         | 0.0500          | 2.9  | 20.0      |
| DCB Decachlorobiphenyl<br>(Surr) | Ave           | 1575369451 | 1440701680 |        | 0.0457         | 0.0500          | -8.5 | 20.0      |

FORM VII  
GC SEMI VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCVRT 180-140301/2 Calibration Date: 05/01/2015 18:01  
 Instrument ID: CHGC8 Calib Start Date: 04/16/2015 14:48  
 GC Column: RTX-CLP2 ID: 0.53 (mm) Calib End Date: 04/16/2015 16:47  
 Lab File ID: O0501025.D

| Analyte                       | RT    | RT WINDOW |       |
|-------------------------------|-------|-----------|-------|
|                               |       | FROM      | TO    |
| PCB-1016 Peak 1               | 5.40  | 5.35      | 5.45  |
| PCB-1016 Peak 2               | 5.56  | 5.51      | 5.61  |
| PCB-1016 Peak 3               | 6.14  | 6.09      | 6.19  |
| PCB-1016 Peak 4               | 6.88  | 6.83      | 6.93  |
| PCB-1016 Peak 5               | 7.23  | 7.18      | 7.28  |
| PCB-1260 Peak 1               | 9.25  | 9.20      | 9.30  |
| PCB-1260 Peak 2               | 9.59  | 9.54      | 9.64  |
| PCB-1260 Peak 3               | 9.74  | 9.69      | 9.79  |
| PCB-1260 Peak 4               | 10.22 | 10.17     | 10.27 |
| PCB-1260 Peak 5               | 10.61 | 10.56     | 10.66 |
| Tetrachloro-m-xylene (Surr)   | 3.57  | 3.52      | 3.62  |
| DCB Decachlorobiphenyl (Surr) | 12.71 | 12.64     | 12.78 |

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501025.D  
 Lims ID: CCVRT  
 Client ID:  
 Sample Type: CCVRT  
 Inject. Date: 01-May-2015 18:01:02 ALS Bottle#: 26 Worklist Smp#: 2  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006723-002  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub1  
 Method: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 04-May-2015 13:11:58 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B

Process Host: XAWRK001

First Level Reviewer: guptaa Date: 04-May-2015 07:32:32

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

\$ 1 Tetrachloro-m-xylene

|   |       |       |       |            |        |        |
|---|-------|-------|-------|------------|--------|--------|
| 1 | 3.102 | 3.102 | 0.000 | 108793735H | 0.0500 | 0.0488 |
| 2 | 3.571 | 3.571 | 0.000 | 194768255H | 0.0500 | 0.0514 |

RPD = 5.18

4 PCB-1016

|   |       |       |       |           |      |        |
|---|-------|-------|-------|-----------|------|--------|
| 1 | 3.407 | 3.407 | 0.000 | 32083231H | 1.00 | 0.9098 |
| 1 | 3.736 | 3.736 | 0.000 | 48919322H | 1.00 | 0.9158 |
| 1 | 4.364 | 4.364 | 0.000 | 37598518H | 1.00 | 0.9365 |
| 1 | 4.436 | 4.436 | 0.000 | 27678347H | 1.00 | 0.9833 |
| 1 | 4.850 | 4.850 | 0.000 | 34043625H | 1.00 | 0.9555 |

Average of Peak Amounts = 0.9402

|   |       |       |       |           |      |        |
|---|-------|-------|-------|-----------|------|--------|
| 2 | 5.402 | 5.402 | 0.000 | 58423510H | 1.00 | 0.9670 |
| 2 | 5.560 | 5.560 | 0.000 | 42468653H | 1.00 | 0.99   |
| 2 | 6.141 | 6.141 | 0.000 | 54423264H | 1.00 | 1.01   |
| 2 | 6.878 | 6.878 | 0.000 | 39488308H | 1.00 | 0.99   |
| 2 | 7.231 | 7.231 | 0.000 | 31719619H | 1.00 | 0.9802 |

Average of Peak Amounts = 0.9869

RPD = 4.85

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501025.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 8 PCB-1260

|   |       |       |       |            |      |        |  |
|---|-------|-------|-------|------------|------|--------|--|
| 1 | 6.670 | 6.670 | 0.000 | 55641540H  | 1.00 | 0.9484 |  |
| 1 | 7.169 | 7.169 | 0.000 | 74295054H  | 1.00 | 0.9301 |  |
| 1 | 7.702 | 7.702 | 0.000 | 54532609H  | 1.00 | 0.9459 |  |
| 1 | 8.426 | 8.426 | 0.000 | 48824186H  | 1.00 | 0.9471 |  |
| 1 | 9.012 | 9.012 | 0.000 | 105519888H | 1.00 | 0.9284 |  |

Average of Peak Amounts = 0.9400

|   |        |        |       |            |      |        |  |
|---|--------|--------|-------|------------|------|--------|--|
| 2 | 9.251  | 9.251  | 0.000 | 64230983H  | 1.00 | 1.06   |  |
| 2 | 9.586  | 9.586  | 0.000 | 96545338H  | 1.00 | 0.99   |  |
| 2 | 9.739  | 9.739  | 0.000 | 85019016H  | 1.00 | 0.9875 |  |
| 2 | 10.216 | 10.216 | 0.000 | 90622651H  | 1.00 | 0.9715 |  |
| 2 | 10.606 | 10.606 | 0.000 | 183238834H | 1.00 | 0.9562 |  |

Average of Peak Amounts = 0.99

RPD = 5.54

## \$ 11 DCB Decachlorobiphenyl (Surr)

|   |        |        |       |           |        |        |  |
|---|--------|--------|-------|-----------|--------|--------|--|
| 1 | 11.189 | 11.189 | 0.000 | 53101423H | 0.0500 | 0.0434 |  |
| 2 | 12.713 | 12.713 | 0.000 | 72035084H | 0.0500 | 0.0457 |  |

RPD = 5.23

## Reagents:

GCAR1660CALL5\_00010

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501025.D

Injection Date: 01-May-2015 18:01:02

Instrument ID: CHGC8

Lims ID: CCVRT

Client ID:

Operator ID: 402360

ALS Bottle#: 26

Worklist Smp#: 2

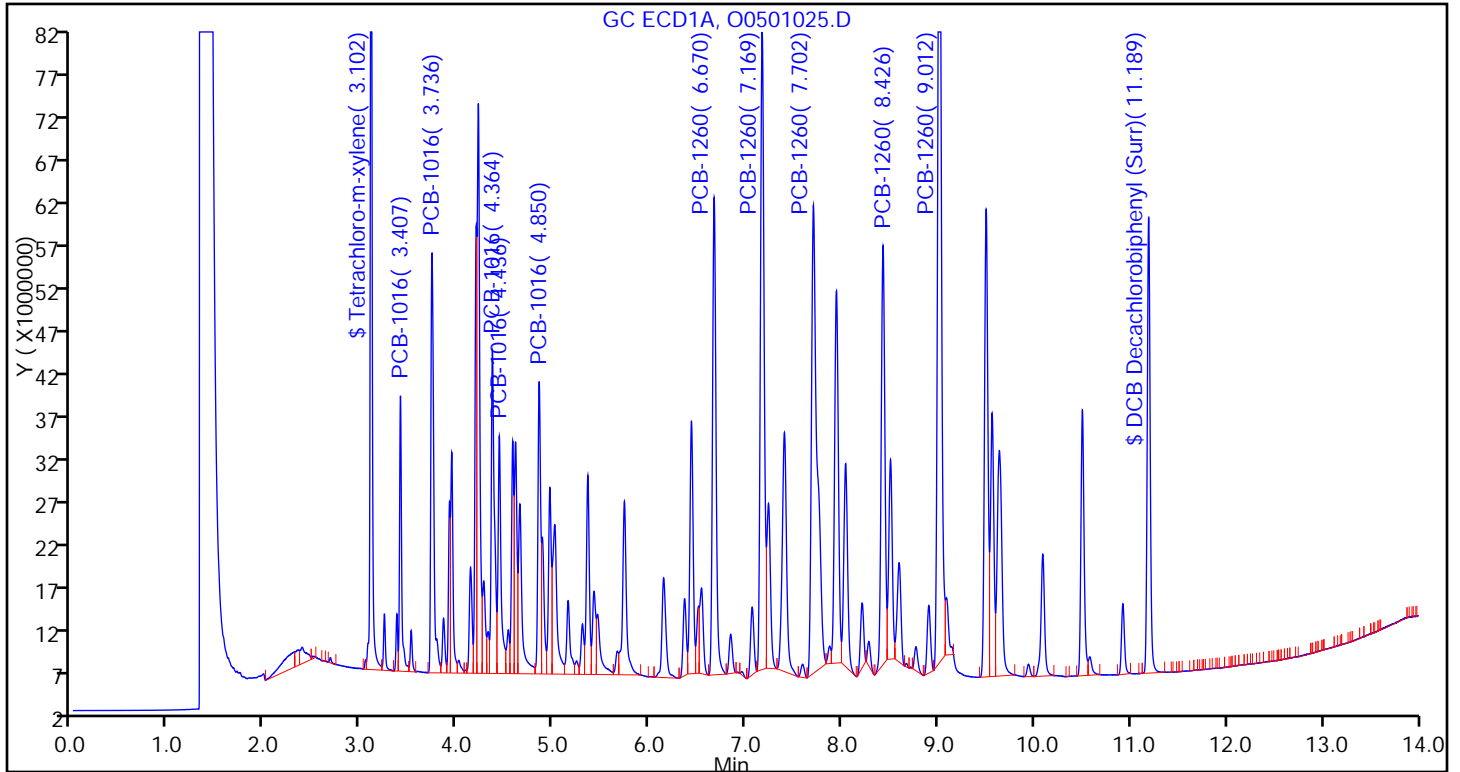
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

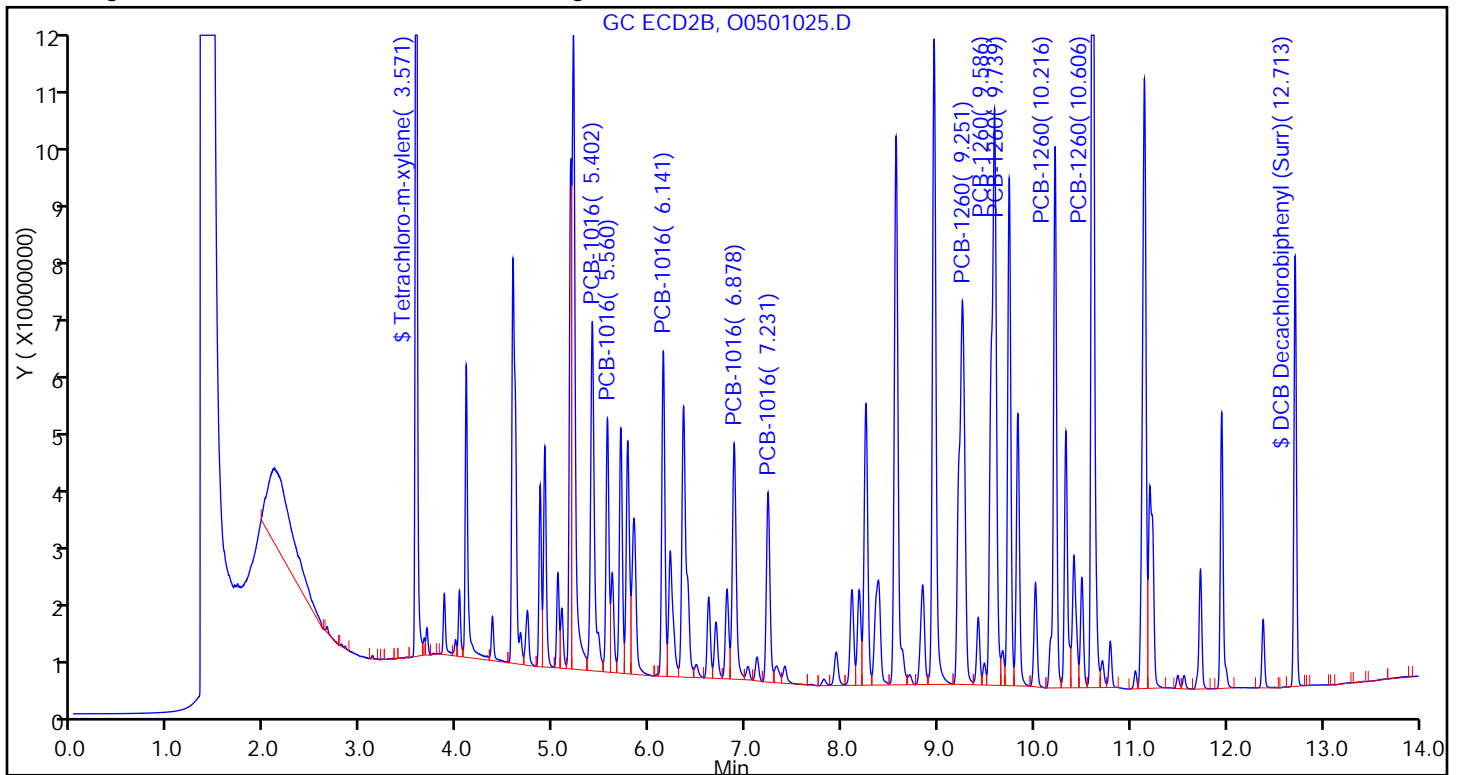
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM VII  
GC SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 180-140301/23 Calibration Date: 05/02/2015 00:56  
 Instrument ID: CHGC8 Calib Start Date: 04/16/2015 14:48  
 GC Column: RTX-CLP1 ID: 0.53 (mm) Calib End Date: 04/16/2015 16:47  
 Lab File ID: O0501046.D Conc. Units: ng/uL

| ANALYTE                          | CURVE<br>TYPE | AVE CF     | CF         | MIN CF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D     | MAX<br>%D |
|----------------------------------|---------------|------------|------------|--------|----------------|-----------------|--------|-----------|
| PCB-1016 Peak 1                  | Ave           | 35262881   | 32468753   |        | 0.921          | 1.00            | -7.9   | 20.0      |
| PCB-1016 Peak 2                  | Ave           | 53414703   | 49267144   |        | 0.922          | 1.00            | -7.8   | 20.0      |
| PCB-1016 Peak 3                  | Ave           | 40146994   | 36407656   |        | 0.907          | 1.00            | -9.3   | 20.0      |
| PCB-1016 Peak 4                  | Ave           | 28149301   | 25899765   |        | 0.920          | 1.00            | -8.0   | 20.0      |
| PCB-1016 Peak 5                  | Ave           | 35628007   | 31582732   |        | 0.886          | 1.00            | -11.4  | 20.0      |
| PCB-1260 Peak 1                  | Ave           | 58670913   | 51646552   |        | 0.880          | 1.00            | -12.0  | 20.0      |
| PCB-1260 Peak 2                  | Ave           | 79879574   | 69772067   |        | 0.873          | 1.00            | -12.7  | 20.0      |
| PCB-1260 Peak 3                  | Ave           | 57650360   | 51405448   |        | 0.892          | 1.00            | -10.8  | 20.0      |
| PCB-1260 Peak 4                  | Ave           | 51553958   | 45705137   |        | 0.887          | 1.00            | -11.3  | 20.0      |
| PCB-1260 Peak 5                  | Ave           | 113660017  | 100163689  |        | 0.881          | 1.00            | -11.9  | 20.0      |
| Tetrachloro-m-xylene (Surr)      | Ave           | 2227831160 | 2203784000 |        | 0.0495         | 0.0500          | -1.1   | 20.0      |
| DCB Decachlorobiphenyl<br>(Surr) | Ave           | 1223632126 | 934421800  |        | 0.0382         | 0.0500          | -23.6* | 20.0      |

FORM VII  
GC SEMI VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 180-140301/23 Calibration Date: 05/02/2015 00:56  
Instrument ID: CHGC8 Calib Start Date: 04/16/2015 14:48  
GC Column: RTX-CLP1 ID: 0.53 (mm) Calib End Date: 04/16/2015 16:47  
Lab File ID: O0501046.D

| Analyte                       | RT    | RT WINDOW |       |
|-------------------------------|-------|-----------|-------|
|                               |       | FROM      | TO    |
| PCB-1016 Peak 1               | 3.40  | 3.35      | 3.45  |
| PCB-1016 Peak 2               | 3.73  | 3.68      | 3.78  |
| PCB-1016 Peak 3               | 4.36  | 4.31      | 4.41  |
| PCB-1016 Peak 4               | 4.43  | 4.38      | 4.48  |
| PCB-1016 Peak 5               | 4.85  | 4.80      | 4.90  |
| PCB-1260 Peak 1               | 6.67  | 6.62      | 6.72  |
| PCB-1260 Peak 2               | 7.16  | 7.11      | 7.21  |
| PCB-1260 Peak 3               | 7.70  | 7.65      | 7.75  |
| PCB-1260 Peak 4               | 8.42  | 8.37      | 8.47  |
| PCB-1260 Peak 5               | 9.01  | 8.96      | 9.06  |
| Tetrachloro-m-xylene (Surr)   | 3.10  | 3.05      | 3.15  |
| DCB Decachlorobiphenyl (Surr) | 11.19 | 11.12     | 11.26 |

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501046.D  
 Lims ID: ccv  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 02-May-2015 00:56:14 ALS Bottle#: 47 Worklist Smp#: 23  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006723-023  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub1  
 Method: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 04-May-2015 13:11:04 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D  
 Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B  
 Process Host: XAWRK001

First Level Reviewer: guptaa

Date: 04-May-2015 07:26:58

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## \$ 1 Tetrachloro-m-xylene

|   |       |       |       |            |        |        |  |
|---|-------|-------|-------|------------|--------|--------|--|
| 1 | 3.099 | 3.099 | 0.000 | 110189200H | 0.0500 | 0.0495 |  |
| 2 | 3.568 | 3.568 | 0.000 | 199558049H | 0.0500 | 0.0527 |  |

RPD = 6.33

## 4 PCB-1016

M

|   |       |       |       |           |      |        |   |
|---|-------|-------|-------|-----------|------|--------|---|
| 1 | 3.404 | 3.404 | 0.000 | 32468753H | 1.00 | 0.9208 |   |
| 1 | 3.732 | 3.732 | 0.000 | 49267144H | 1.00 | 0.9224 | M |
| 1 | 4.359 | 4.359 | 0.000 | 36407656H | 1.00 | 0.9069 | M |
| 1 | 4.431 | 4.431 | 0.000 | 25899765H | 1.00 | 0.9201 | M |
| 1 | 4.845 | 4.845 | 0.000 | 31582732H | 1.00 | 0.8865 | M |

Average of Peak Amounts = 0.9113

|   |       |       |       |           |      |        |  |
|---|-------|-------|-------|-----------|------|--------|--|
| 2 | 5.397 | 5.397 | 0.000 | 57253201H | 1.00 | 0.9476 |  |
| 2 | 5.555 | 5.555 | 0.000 | 41104537H | 1.00 | 0.9594 |  |
| 2 | 6.136 | 6.136 | 0.000 | 51049719H | 1.00 | 0.9431 |  |
| 2 | 6.873 | 6.873 | 0.000 | 37009144H | 1.00 | 0.9285 |  |
| 2 | 7.227 | 7.227 | 0.000 | 30005448H | 1.00 | 0.9273 |  |

Average of Peak Amounts = 0.9412

RPD = 3.23



Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501046.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 8 PCB-1260

|   |       |       |       |            |      |        |  |
|---|-------|-------|-------|------------|------|--------|--|
| 1 | 6.665 | 6.665 | 0.000 | 51646552H  | 1.00 | 0.8803 |  |
| 1 | 7.164 | 7.164 | 0.000 | 69772067H  | 1.00 | 0.8735 |  |
| 1 | 7.697 | 7.697 | 0.000 | 51405448H  | 1.00 | 0.8917 |  |
| 1 | 8.421 | 8.421 | 0.000 | 45705137H  | 1.00 | 0.8865 |  |
| 1 | 9.009 | 9.009 | 0.000 | 100163689H | 1.00 | 0.8813 |  |

Average of Peak Amounts = 0.8826

|   |        |        |       |            |      |        |  |
|---|--------|--------|-------|------------|------|--------|--|
| 2 | 9.247  | 9.247  | 0.000 | 53012064H  | 1.00 | 0.8730 |  |
| 2 | 9.582  | 9.582  | 0.000 | 79432608H  | 1.00 | 0.8182 |  |
| 2 | 9.735  | 9.735  | 0.000 | 68674928H  | 1.00 | 0.7977 |  |
| 2 | 10.212 | 10.212 | 0.000 | 75922658H  | 1.00 | 0.8139 |  |
| 2 | 10.603 | 10.603 | 0.000 | 148856538H | 1.00 | 0.7768 |  |

Average of Peak Amounts = 0.8159

RPD = 7.86

## \$ 11 DCB Decachlorobiphenyl (Surr)

|   |        |        |       |           |        |        |  |
|---|--------|--------|-------|-----------|--------|--------|--|
| 1 | 11.186 | 11.186 | 0.000 | 46721090H | 0.0500 | 0.0382 |  |
| 2 | 12.709 | 12.709 | 0.000 | 61085578H | 0.0500 | 0.0388 |  |

RPD = 1.54

## QC Flag Legend

Review Flags

M - Manually Integrated

## Reagents:

GCAR1660CALL5\_00010

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501046.D

Injection Date: 02-May-2015 00:56:14

Instrument ID: CHGC8

Lims ID: ccv

Client ID:

Operator ID: 402360

ALS Bottle#: 47

Worklist Smp#: 23

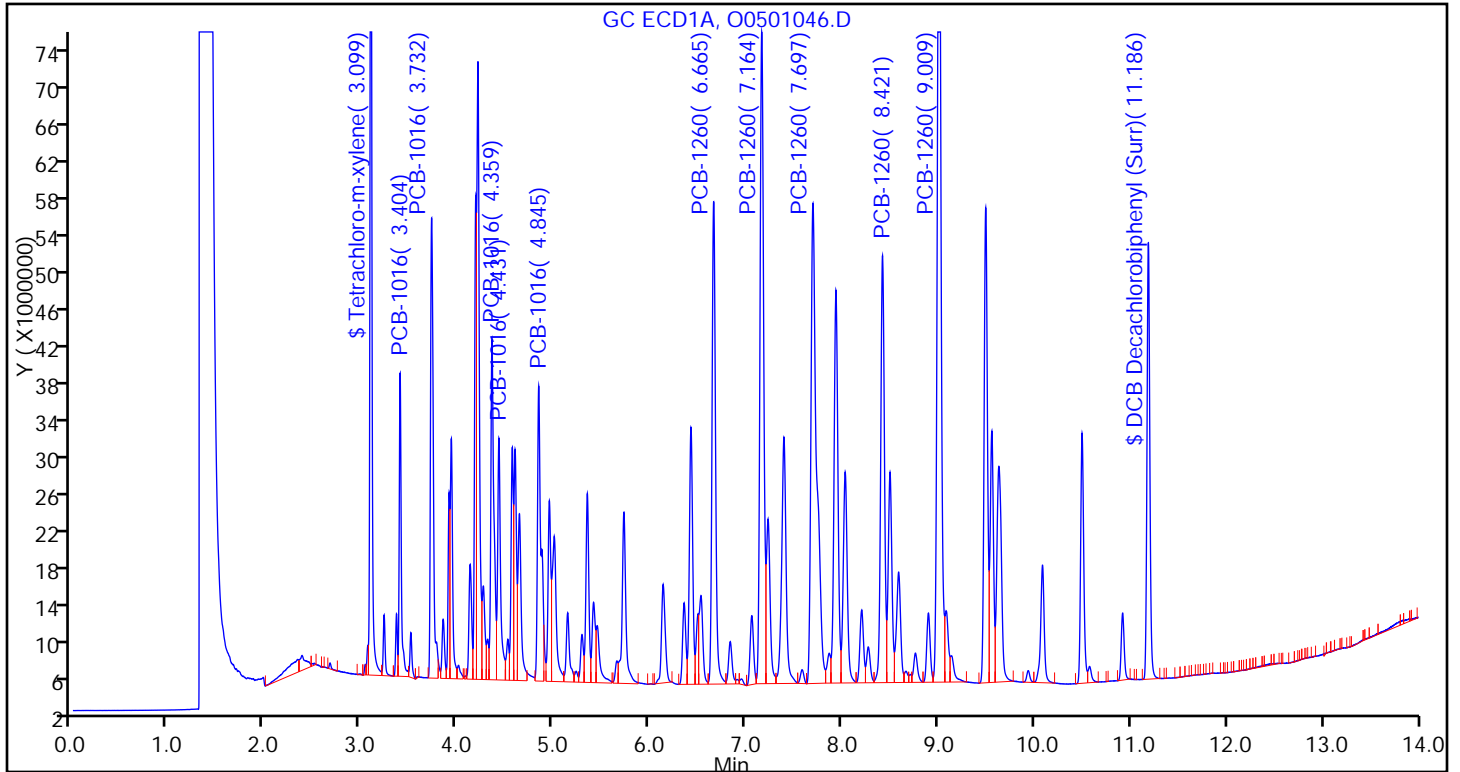
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

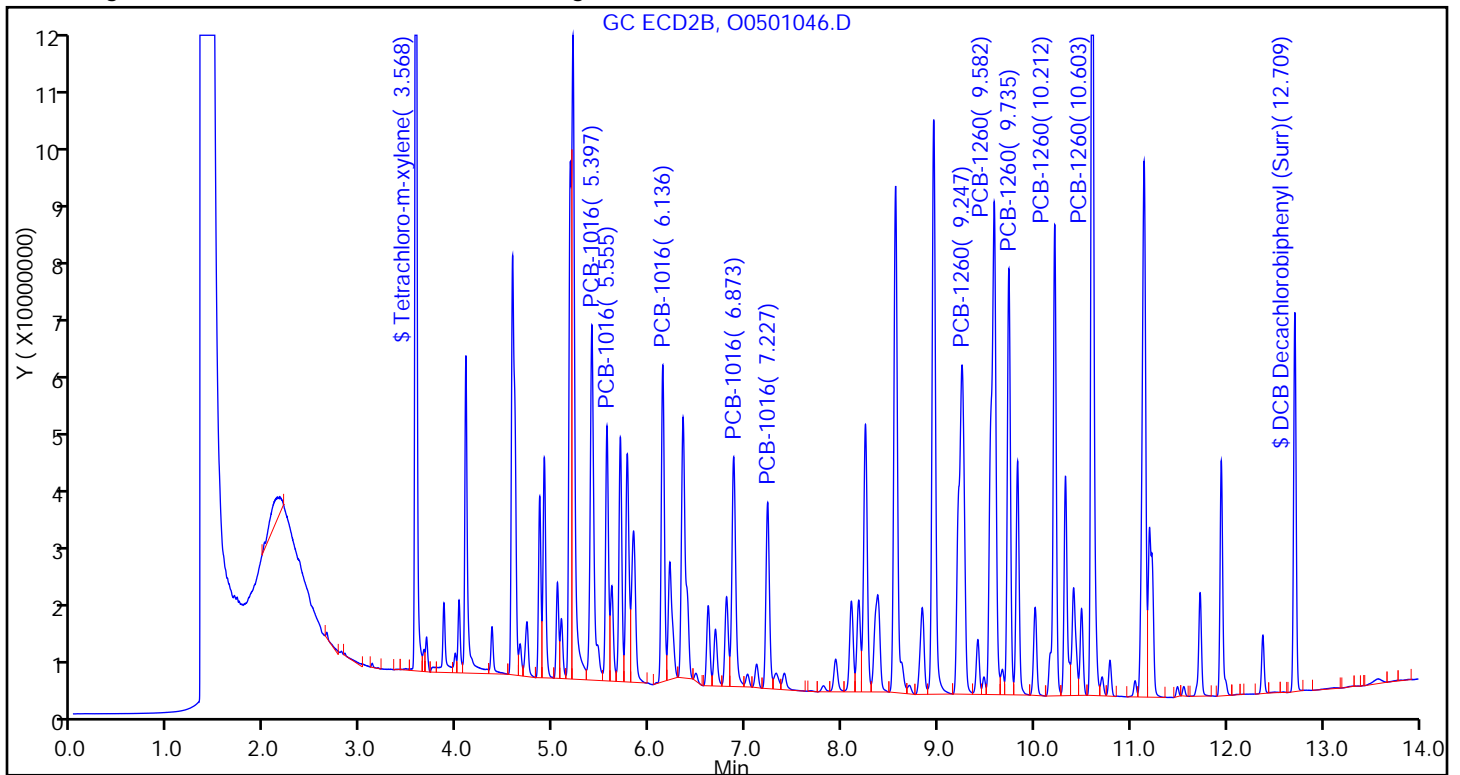
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501046.D

Injection Date: 02-May-2015 00:56:14

Instrument ID: CHGC8

Lims ID: ccv

Client ID:

Operator ID: 402360

ALS Bottle#:

47

Worklist Smp#:

23

Injection Vol: 1.0 ul

Dil. Factor:

1.0000

Method: PCB\_CHGC8DUAL

Limit Group:

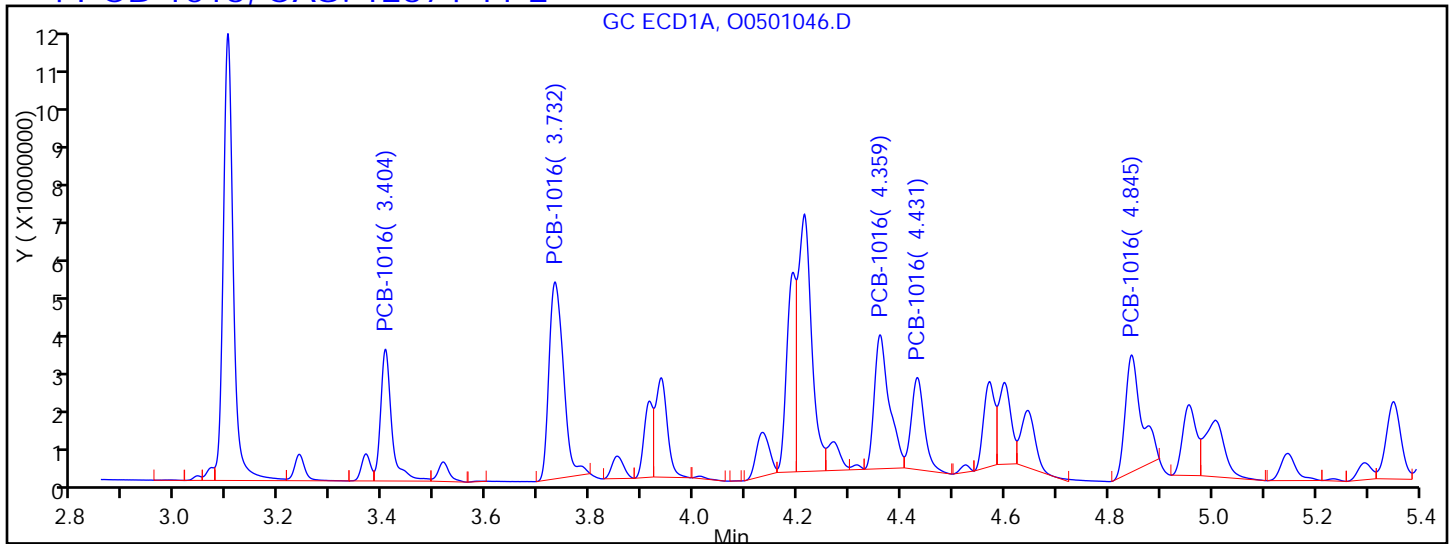
GCS 8082A ICAL

Column:

Detector

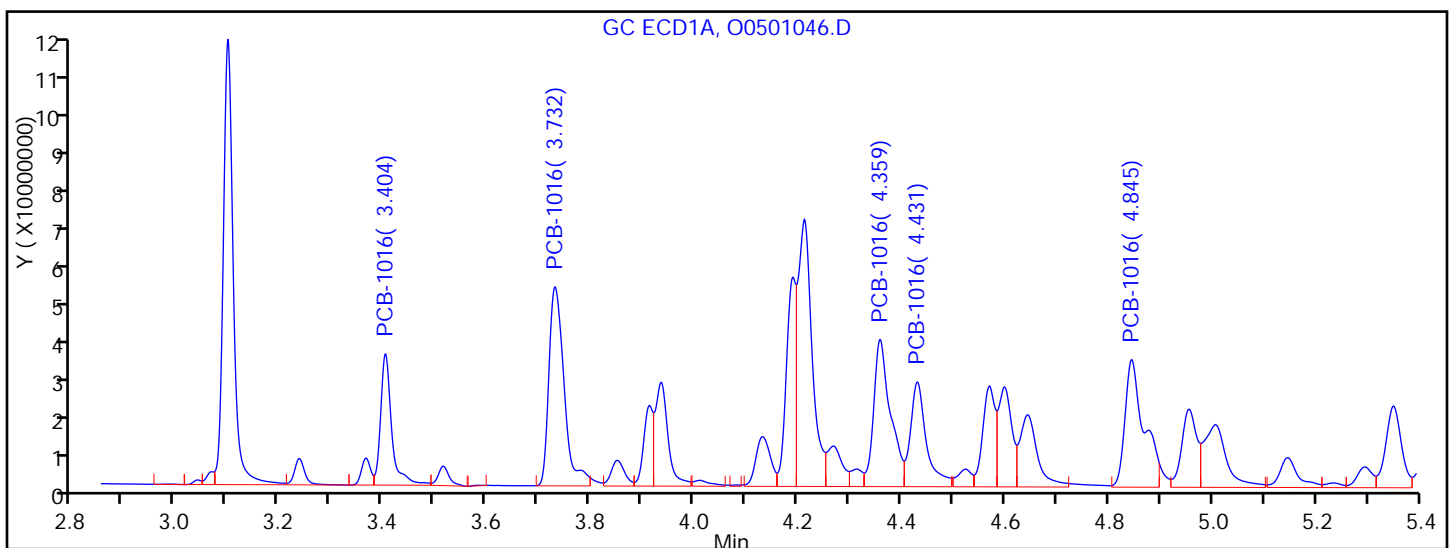
GC ECD1A

## 4 PCB-1016, CAS: 12674-11-2



## Processing Integration Results

|            |                     |   |
|------------|---------------------|---|
| RT = 3.404 | Response = 32468753 |   |
| RT = 3.732 | Response = 48540898 | M |
| RT = 4.359 | Response = 33017812 | M |
| RT = 4.431 | Response = 22692198 | M |
| RT = 4.845 | Response = 28853935 | M |



## Manual Integration Results

|            |                     |   |
|------------|---------------------|---|
| RT = 3.404 | Response = 32468753 |   |
| RT = 3.732 | Response = 49267144 | M |
| RT = 4.359 | Response = 36407656 | M |
| RT = 4.431 | Response = 25899765 | M |
| RT = 4.845 | Response = 31582732 | M |

Reviewer: guptaa, 04-May-2015 12:24:54

Audit Action: Assigned New Baseline

Audit Reason: Instrument noise

FORM VII  
GC SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: CCV 180-140301/23 Calibration Date: 05/02/2015 00:56  
 Instrument ID: CHGC8 Calib Start Date: 04/16/2015 14:48  
 GC Column: RTX-CLP2 ID: 0.53 (mm) Calib End Date: 04/16/2015 16:47  
 Lab File ID: O0501046.D Conc. Units: ng/uL

| ANALYTE                          | CURVE<br>TYPE | AVE CF     | CF         | MIN CF | CALC<br>AMOUNT | SPIKE<br>AMOUNT | %D     | MAX<br>%D |
|----------------------------------|---------------|------------|------------|--------|----------------|-----------------|--------|-----------|
| PCB-1016 Peak 1                  | Ave           | 60417507   | 57253201   |        | 0.948          | 1.00            | -5.2   | 20.0      |
| PCB-1016 Peak 2                  | Ave           | 42843282   | 41104537   |        | 0.959          | 1.00            | -4.1   | 20.0      |
| PCB-1016 Peak 3                  | Ave           | 54127620   | 51049719   |        | 0.943          | 1.00            | -5.7   | 20.0      |
| PCB-1016 Peak 4                  | Ave           | 39860995   | 37009144   |        | 0.928          | 1.00            | -7.2   | 20.0      |
| PCB-1016 Peak 5                  | Ave           | 32358888   | 30005448   |        | 0.927          | 1.00            | -7.3   | 20.0      |
| PCB-1260 Peak 1                  | Ave           | 60722163   | 53012064   |        | 0.873          | 1.00            | -12.7  | 20.0      |
| PCB-1260 Peak 2                  | Ave           | 97080584   | 79432608   |        | 0.818          | 1.00            | -18.2  | 20.0      |
| PCB-1260 Peak 3                  | Ave           | 86092534   | 68674928   |        | 0.798          | 1.00            | -20.2* | 20.0      |
| PCB-1260 Peak 4                  | Ave           | 93285177   | 75922658   |        | 0.814          | 1.00            | -18.6  | 20.0      |
| PCB-1260 Peak 5                  | Ave           | 191622491  | 148856538  |        | 0.777          | 1.00            | -22.3* | 20.0      |
| Tetrachloro-m-xylene (Surr)      | Ave           | 3787030135 | 3991160980 |        | 0.0527         | 0.0500          | 5.4    | 20.0      |
| DCB Decachlorobiphenyl<br>(Surr) | Ave           | 1575369451 | 1221711560 |        | 0.0388         | 0.0500          | -22.4* | 20.0      |

FORM VII  
GC SEMI VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: CCV 180-140301/23 Calibration Date: 05/02/2015 00:56  
Instrument ID: CHGC8 Calib Start Date: 04/16/2015 14:48  
GC Column: RTX-CLP2 ID: 0.53 (mm) Calib End Date: 04/16/2015 16:47  
Lab File ID: O0501046.D

| Analyte                       | RT    | RT WINDOW |       |
|-------------------------------|-------|-----------|-------|
|                               |       | FROM      | TO    |
| PCB-1016 Peak 1               | 5.40  | 5.35      | 5.45  |
| PCB-1016 Peak 2               | 5.56  | 5.51      | 5.61  |
| PCB-1016 Peak 3               | 6.14  | 6.09      | 6.19  |
| PCB-1016 Peak 4               | 6.87  | 6.82      | 6.92  |
| PCB-1016 Peak 5               | 7.23  | 7.18      | 7.28  |
| PCB-1260 Peak 1               | 9.25  | 9.20      | 9.30  |
| PCB-1260 Peak 2               | 9.58  | 9.53      | 9.63  |
| PCB-1260 Peak 3               | 9.74  | 9.69      | 9.79  |
| PCB-1260 Peak 4               | 10.21 | 10.16     | 10.26 |
| PCB-1260 Peak 5               | 10.60 | 10.55     | 10.65 |
| Tetrachloro-m-xylene (Surr)   | 3.57  | 3.52      | 3.62  |
| DCB Decachlorobiphenyl (Surr) | 12.71 | 12.64     | 12.78 |

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501046.D  
 Lims ID: ccv  
 Client ID:  
 Sample Type: CCV  
 Inject. Date: 02-May-2015 00:56:14 ALS Bottle#: 47 Worklist Smp#: 23  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006723-023  
 Operator ID: 402360 Instrument ID: CHGC8  
 Sublist: chrom-PCB\_CHGC8DUAL\*sub1  
 Method: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 04-May-2015 13:11:04 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D  
 Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B  
 Process Host: XAWRK001

First Level Reviewer: guptaa

Date: 04-May-2015 07:26:58

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## \$ 1 Tetrachloro-m-xylene

|   |       |       |       |            |        |        |  |
|---|-------|-------|-------|------------|--------|--------|--|
| 1 | 3.099 | 3.099 | 0.000 | 110189200H | 0.0500 | 0.0495 |  |
| 2 | 3.568 | 3.568 | 0.000 | 199558049H | 0.0500 | 0.0527 |  |

RPD = 6.33

## 4 PCB-1016

M

|   |       |       |       |           |      |        |   |
|---|-------|-------|-------|-----------|------|--------|---|
| 1 | 3.404 | 3.404 | 0.000 | 32468753H | 1.00 | 0.9208 |   |
| 1 | 3.732 | 3.732 | 0.000 | 49267144H | 1.00 | 0.9224 | M |
| 1 | 4.359 | 4.359 | 0.000 | 36407656H | 1.00 | 0.9069 | M |
| 1 | 4.431 | 4.431 | 0.000 | 25899765H | 1.00 | 0.9201 | M |
| 1 | 4.845 | 4.845 | 0.000 | 31582732H | 1.00 | 0.8865 | M |

Average of Peak Amounts =

0.9113

|   |       |       |       |           |      |        |  |
|---|-------|-------|-------|-----------|------|--------|--|
| 2 | 5.397 | 5.397 | 0.000 | 57253201H | 1.00 | 0.9476 |  |
| 2 | 5.555 | 5.555 | 0.000 | 41104537H | 1.00 | 0.9594 |  |
| 2 | 6.136 | 6.136 | 0.000 | 51049719H | 1.00 | 0.9431 |  |
| 2 | 6.873 | 6.873 | 0.000 | 37009144H | 1.00 | 0.9285 |  |
| 2 | 7.227 | 7.227 | 0.000 | 30005448H | 1.00 | 0.9273 |  |

Average of Peak Amounts =

0.9412

RPD = 3.23

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501046.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 8 PCB-1260

|   |       |       |       |            |      |        |  |
|---|-------|-------|-------|------------|------|--------|--|
| 1 | 6.665 | 6.665 | 0.000 | 51646552H  | 1.00 | 0.8803 |  |
| 1 | 7.164 | 7.164 | 0.000 | 69772067H  | 1.00 | 0.8735 |  |
| 1 | 7.697 | 7.697 | 0.000 | 51405448H  | 1.00 | 0.8917 |  |
| 1 | 8.421 | 8.421 | 0.000 | 45705137H  | 1.00 | 0.8865 |  |
| 1 | 9.009 | 9.009 | 0.000 | 100163689H | 1.00 | 0.8813 |  |

Average of Peak Amounts = 0.8826

|   |        |        |       |            |      |        |  |
|---|--------|--------|-------|------------|------|--------|--|
| 2 | 9.247  | 9.247  | 0.000 | 53012064H  | 1.00 | 0.8730 |  |
| 2 | 9.582  | 9.582  | 0.000 | 79432608H  | 1.00 | 0.8182 |  |
| 2 | 9.735  | 9.735  | 0.000 | 68674928H  | 1.00 | 0.7977 |  |
| 2 | 10.212 | 10.212 | 0.000 | 75922658H  | 1.00 | 0.8139 |  |
| 2 | 10.603 | 10.603 | 0.000 | 148856538H | 1.00 | 0.7768 |  |

Average of Peak Amounts = 0.8159

RPD = 7.86

## \$ 11 DCB Decachlorobiphenyl (Surr)

|   |        |        |       |           |        |        |  |
|---|--------|--------|-------|-----------|--------|--------|--|
| 1 | 11.186 | 11.186 | 0.000 | 46721090H | 0.0500 | 0.0382 |  |
| 2 | 12.709 | 12.709 | 0.000 | 61085578H | 0.0500 | 0.0388 |  |

RPD = 1.54

## QC Flag Legend

Review Flags

M - Manually Integrated

## Reagents:

GCAR1660CALL5\_00010

Amount Added: 1.00

Units: mL

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501046.D

Injection Date: 02-May-2015 00:56:14

Instrument ID: CHGC8

Lims ID: ccv

Client ID:

Operator ID: 402360

ALS Bottle#: 47

Worklist Smp#: 23

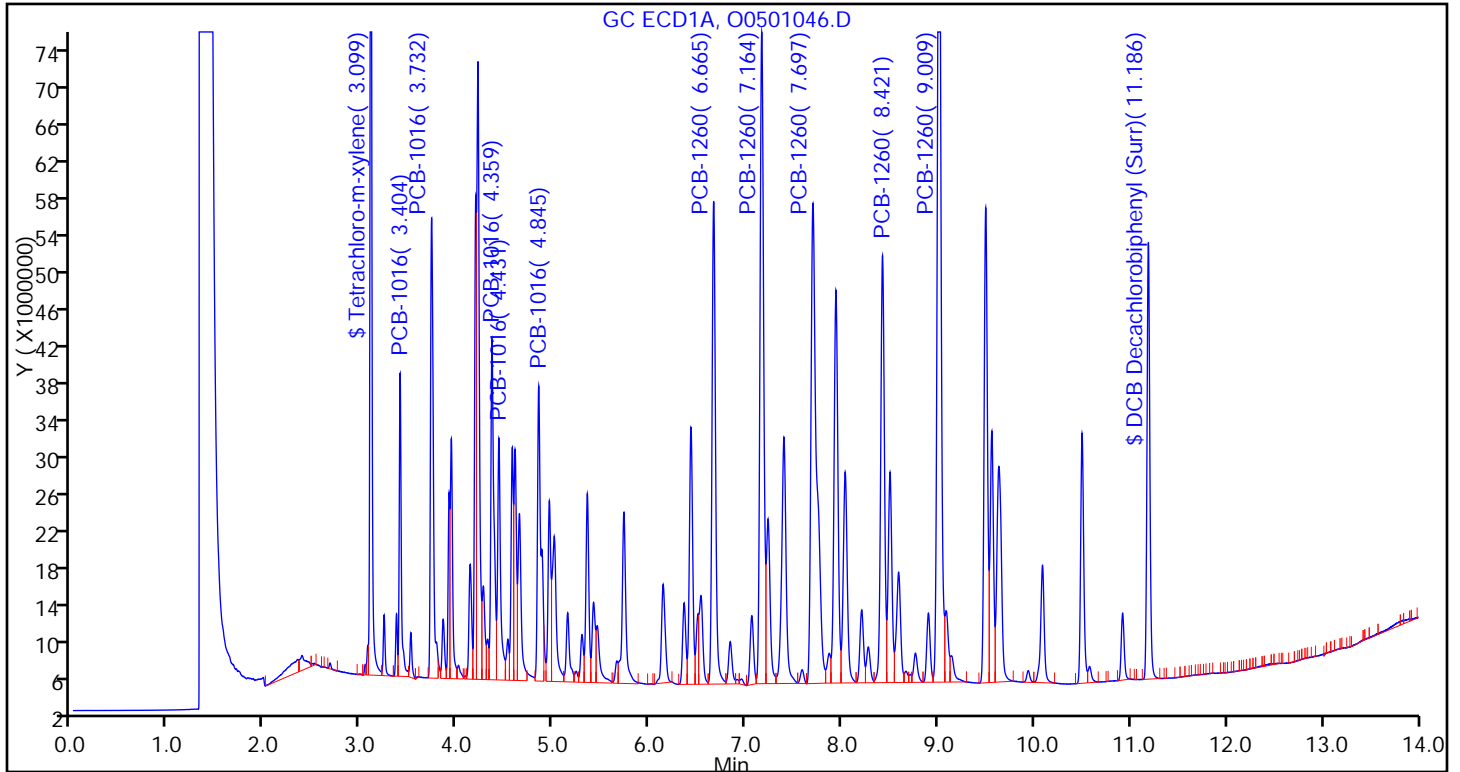
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

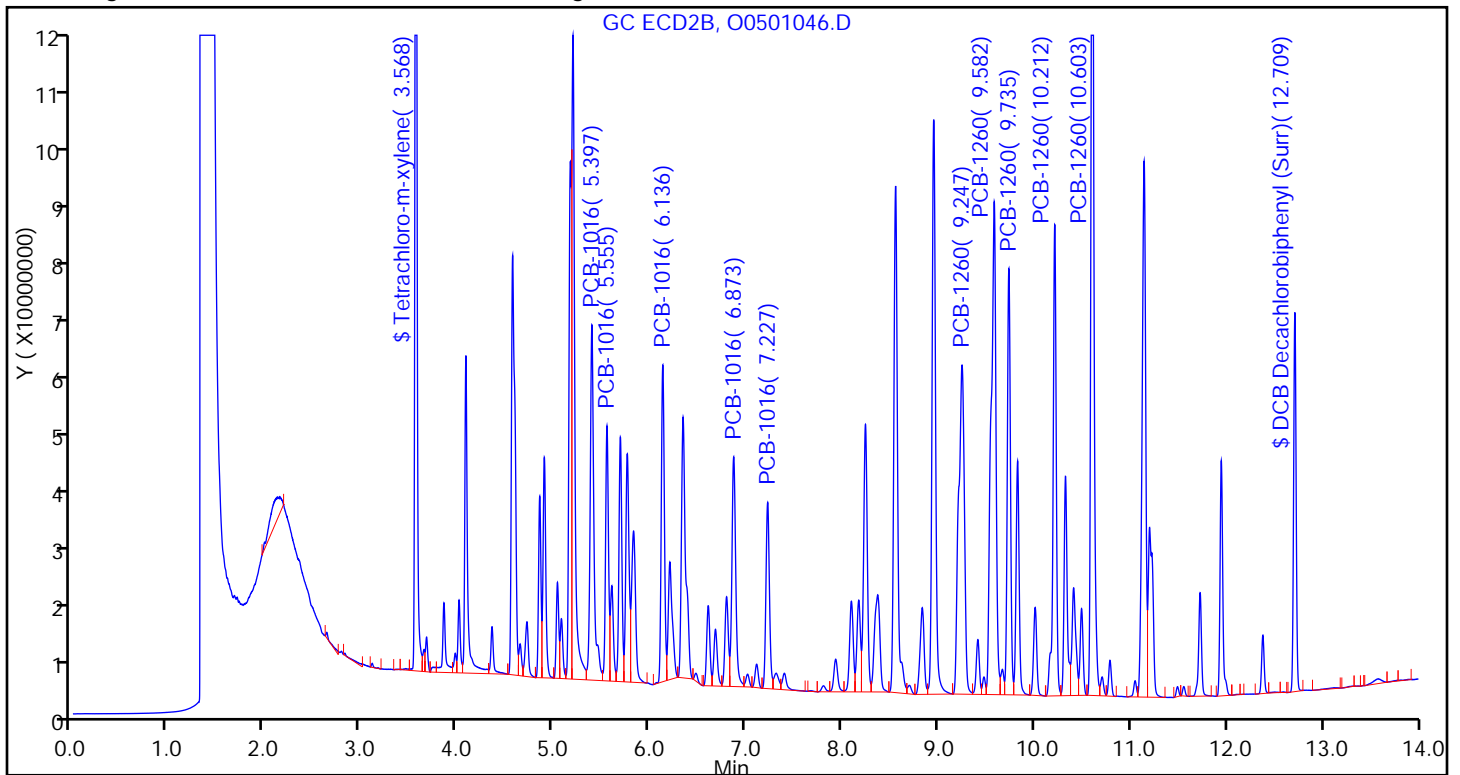
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3





FORM I  
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

|   |  |
|---|--|
| Lab Name: <u>TestAmerica Pittsburgh</u> | Job No.: <u>180-43411-1</u>                    |
| SDG No.: _____                          |  |
| Client Sample ID: _____                 | Lab Sample ID: <u>MB 180-140214/1-C</u>        |
| Matrix: <u>Sediment</u>                 | Lab File ID: <u>O0501026.D</u>                 |
| Analysis Method: <u>8082A</u>           | Date Collected: _____                          |
| Extraction Method: <u>3541</u>          | Date Extracted: <u>05/01/2015 03:16</u>        |
| Sample wt/vol: <u>30.0(g)</u>           | Date Analyzed: <u>05/01/2015 18:20</u>         |
| Con. Extract Vol.: <u>1.0(mL)</u>       | Dilution Factor: <u>1</u>                      |
| Injection Volume: <u>1(uL)</u>          | GC Column: <u>RTX-CLP1</u> ID: <u>0.53(mm)</u> |
| % Moisture: _____                       | GPC Cleanup: (Y/N) <u>N</u>                    |
| Analysis Batch No.: <u>140301</u>       | Units: <u>ug/Kg</u>                            |

| CAS NO.    | COMPOUND NAME | RESULT | Q | RL   | MDL   |
|------------|---------------|--------|---|------|-------|
| 12674-11-2 | PCB-1016      | ND     |   | 0.42 | 0.085 |
| 11104-28-2 | PCB-1221      | ND     |   | 0.42 | 0.10  |
| 11141-16-5 | PCB-1232      | ND     |   | 0.42 | 0.14  |
| 53469-21-9 | PCB-1242      | ND     |   | 0.42 | 0.11  |
| 12672-29-6 | PCB-1248      | ND     |   | 0.42 | 0.10  |
| 11097-69-1 | PCB-1254      | ND     |   | 0.42 | 0.099 |
| 11096-82-5 | PCB-1260      | ND     |   | 0.42 | 0.091 |

| CAS NO.   | SURROGATE                     | %REC | Q | LIMITS |
|-----------|-------------------------------|------|---|--------|
| 2051-24-3 | DCB Decachlorobiphenyl (Surr) | 68   |   | 20-150 |
| 877-09-8  | Tetrachloro-m-xylene (Surr)   | 75   |   | 30-150 |

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501026.D  
 Lims ID: MB 180-140214/1-C  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 01-May-2015 18:20:47 ALS Bottle#: 27 Worklist Smp#: 3  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006723-003  
 Operator ID: 402360 Instrument ID: CHGC8  
 Method: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 04-May-2015 13:11:04 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D

Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B  
 Process Host: XAWRK001

First Level Reviewer: guptaa Date: 04-May-2015 08:12:39

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

\$ 1 Tetrachloro-m-xylene

|   |       |       |       |           |        |        |  |
|---|-------|-------|-------|-----------|--------|--------|--|
| 1 | 3.102 | 3.102 | 0.000 | 33214528H | 0.0200 | 0.0149 |  |
| 2 | 3.571 | 3.571 | 0.000 | 59710038H | 0.0200 | 0.0158 |  |

RPD = 5.59

2 PCB-1221

|   |       |  |  |  |  |    |  |
|---|-------|--|--|--|--|----|--|
| 1 | 3.236 |  |  |  |  | ND |  |
| 1 | 3.365 |  |  |  |  |    |  |
| 1 | 3.401 |  |  |  |  |    |  |
| 2 | 3.859 |  |  |  |  |    |  |
| 2 | 4.015 |  |  |  |  |    |  |
| 2 | 4.086 |  |  |  |  |    |  |

5 PCB-1232

|   |       |  |  |  |  |    |  |
|---|-------|--|--|--|--|----|--|
| 1 | 3.237 |  |  |  |  | ND |  |
| 1 | 3.914 |  |  |  |  |    |  |
| 1 | 4.600 |  |  |  |  |    |  |
| 1 | 5.353 |  |  |  |  |    |  |
| 1 | 6.143 |  |  |  |  |    |  |
| 2 | 3.860 |  |  |  |  |    |  |
| 2 | 4.016 |  |  |  |  |    |  |
| 2 | 4.905 |  |  |  |  |    |  |
| 2 | 5.555 |  |  |  |  |    |  |
| 2 | 6.346 |  |  |  |  |    |  |

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501026.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 4 PCB-1016

|   |       |  |  |  |  |    |  |
|---|-------|--|--|--|--|----|--|
| 1 | 3.407 |  |  |  |  | ND |  |
| 1 | 3.736 |  |  |  |  |    |  |
| 1 | 4.364 |  |  |  |  |    |  |
| 1 | 4.436 |  |  |  |  |    |  |
| 1 | 4.850 |  |  |  |  |    |  |
| 2 | 5.402 |  |  |  |  |    |  |
| 2 | 5.560 |  |  |  |  |    |  |
| 2 | 6.141 |  |  |  |  |    |  |
| 2 | 6.878 |  |  |  |  |    |  |
| 2 | 7.231 |  |  |  |  |    |  |

## 6 PCB-1248

|   |       |  |  |  |  |    |  |
|---|-------|--|--|--|--|----|--|
| 1 | 4.213 |  |  |  |  | ND |  |
| 1 | 4.433 |  |  |  |  |    |  |
| 1 | 5.298 |  |  |  |  |    |  |
| 1 | 5.689 |  |  |  |  |    |  |
| 1 | 6.361 |  |  |  |  |    |  |
| 2 | 6.349 |  |  |  |  |    |  |
| 2 | 6.688 |  |  |  |  |    |  |
| 2 | 7.935 |  |  |  |  |    |  |
| 2 | 8.176 |  |  |  |  |    |  |
| 2 | 9.264 |  |  |  |  |    |  |

## 3 PCB-1242

|   |       |  |  |  |  |    |  |
|---|-------|--|--|--|--|----|--|
| 1 | 4.360 |  |  |  |  | ND |  |
| 1 | 4.432 |  |  |  |  |    |  |
| 1 | 4.847 |  |  |  |  |    |  |
| 1 | 4.957 |  |  |  |  |    |  |
| 1 | 5.417 |  |  |  |  |    |  |
| 2 | 5.399 |  |  |  |  |    |  |
| 2 | 5.695 |  |  |  |  |    |  |
| 2 | 6.137 |  |  |  |  |    |  |
| 2 | 6.348 |  |  |  |  |    |  |
| 2 | 6.885 |  |  |  |  |    |  |

## 7 PCB-1254

|   |       |  |  |  |  |    |  |
|---|-------|--|--|--|--|----|--|
| 1 | 5.349 |  |  |  |  | ND |  |
| 1 | 5.788 |  |  |  |  |    |  |
| 1 | 6.087 |  |  |  |  |    |  |
| 1 | 6.835 |  |  |  |  |    |  |
| 1 | 7.330 |  |  |  |  |    |  |
| 2 | 6.134 |  |  |  |  |    |  |
| 2 | 6.796 |  |  |  |  |    |  |
| 2 | 7.931 |  |  |  |  |    |  |
| 2 | 8.620 |  |  |  |  |    |  |
| 2 | 8.949 |  |  |  |  |    |  |

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501026.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 8 PCB-1260

|   |        |  |  |  |  |    |  |
|---|--------|--|--|--|--|----|--|
| 1 | 6.670  |  |  |  |  | ND |  |
| 1 | 7.169  |  |  |  |  |    |  |
| 1 | 7.702  |  |  |  |  |    |  |
| 1 | 8.426  |  |  |  |  |    |  |
| 1 | 9.012  |  |  |  |  |    |  |
| 2 | 9.251  |  |  |  |  |    |  |
| 2 | 9.586  |  |  |  |  |    |  |
| 2 | 9.739  |  |  |  |  |    |  |
| 2 | 10.216 |  |  |  |  |    |  |
| 2 | 10.606 |  |  |  |  |    |  |

## 9 PCB-1262

|   |        |  |  |  |  |    |  |
|---|--------|--|--|--|--|----|--|
| 1 | 7.394  |  |  |  |  | ND |  |
| 1 | 8.032  |  |  |  |  |    |  |
| 1 | 8.500  |  |  |  |  |    |  |
| 1 | 10.084 |  |  |  |  |    |  |
| 1 | 10.497 |  |  |  |  |    |  |
| 2 | 9.577  |  |  |  |  |    |  |
| 2 | 9.825  |  |  |  |  |    |  |
| 2 | 10.324 |  |  |  |  |    |  |
| 2 | 11.725 |  |  |  |  |    |  |
| 2 | 11.945 |  |  |  |  |    |  |

## 10 PCB-1268

|   |        |  |  |  |  |    |  |
|---|--------|--|--|--|--|----|--|
| 1 | 9.560  |  |  |  |  | ND |  |
| 1 | 9.625  |  |  |  |  |    |  |
| 1 | 9.938  |  |  |  |  |    |  |
| 1 | 10.920 |  |  |  |  |    |  |
| 2 | 11.132 |  |  |  |  |    |  |
| 2 | 11.199 |  |  |  |  |    |  |
| 2 | 11.555 |  |  |  |  |    |  |
| 2 | 12.377 |  |  |  |  |    |  |

## \$ 11 DCB Decachlorobiphenyl (Surr)

|   |        |        |        |           |        |        |  |
|---|--------|--------|--------|-----------|--------|--------|--|
| 1 | 11.189 | 11.189 | 0.000  | 16654160H | 0.0200 | 0.0136 |  |
| 2 | 12.712 | 12.713 | -0.001 | 21796512H | 0.0200 | 0.0138 |  |

RPD = 1.64

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501026.D

Injection Date: 01-May-2015 18:20:47

Instrument ID: CHGC8

Lims ID: MB 180-140214/1-C

Client ID:

Operator ID: 402360

ALS Bottle#: 27

Worklist Smp#: 3

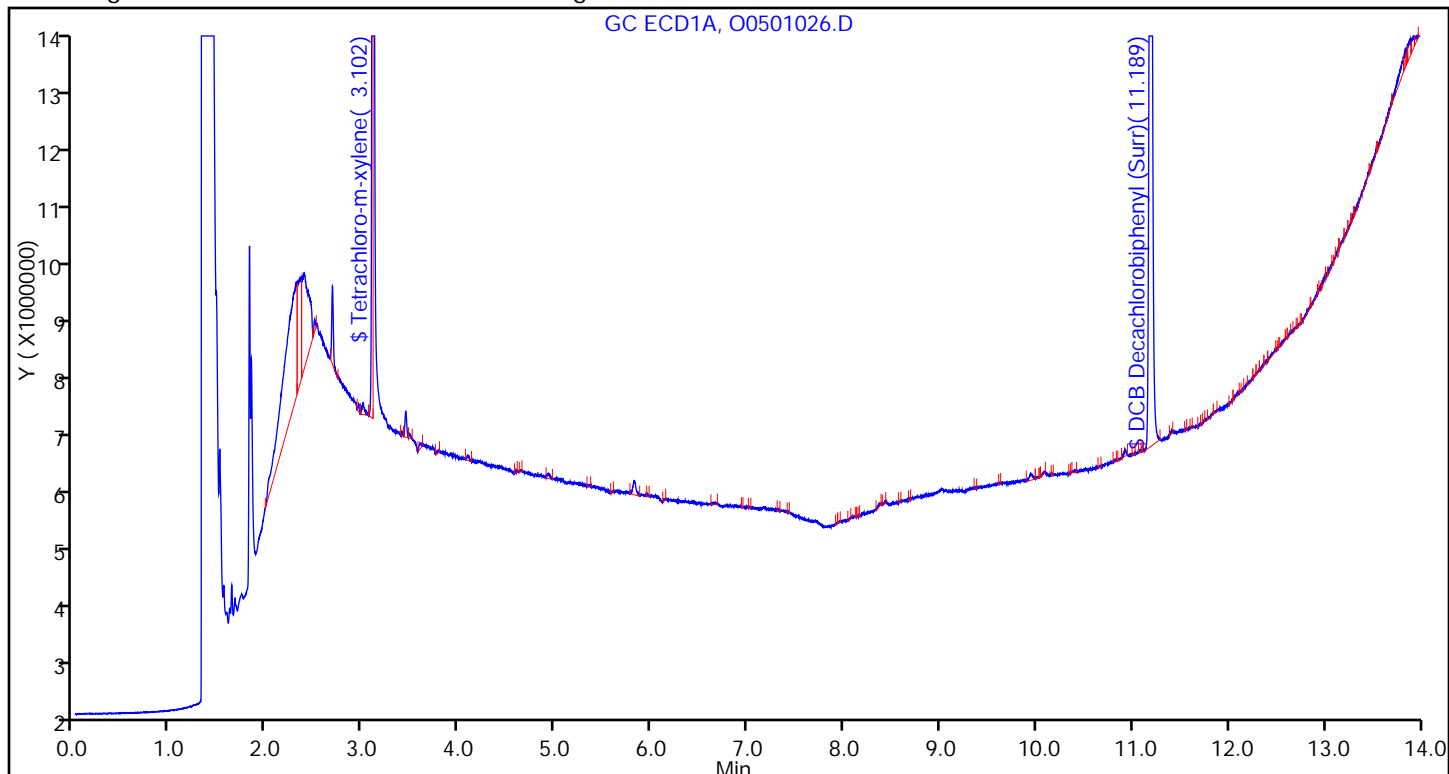
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

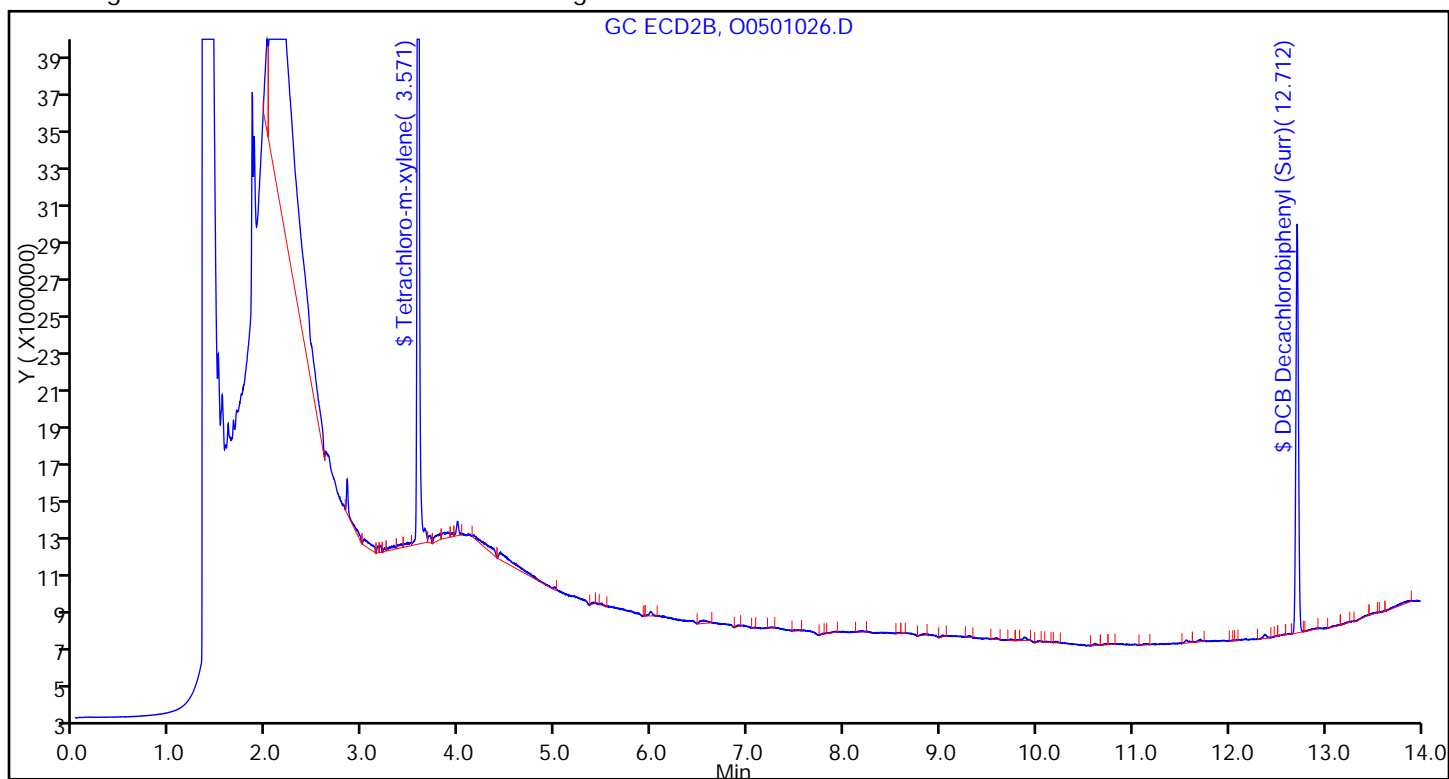
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM I  
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: MB 180-140214/1-C  
Matrix: Sediment Lab File ID: O0501026.D  
Analysis Method: 8082A Date Collected: \_\_\_\_\_  
Extraction Method: 3541 Date Extracted: 05/01/2015 03:16  
Sample wt/vol: 30.0(g) Date Analyzed: 05/01/2015 18:20  
Con. Extract Vol.: 1.0 (mL) Dilution Factor: 1  
Injection Volume: 1 (uL) GC Column: RTX-CLP2 ID: 0.53 (mm)  
% Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
Analysis Batch No.: 140301 Units: ug/Kg

| CAS NO.   | SURROGATE                     | %REC | Q | LIMITS |
|-----------|-------------------------------|------|---|--------|
| 2051-24-3 | DCB Decachlorobiphenyl (Surr) | 69   |   | 20-150 |
| 877-09-8  | Tetrachloro-m-xylene (Surr)   | 79   |   | 30-150 |

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501026.D  
 Lims ID: MB 180-140214/1-C  
 Client ID:  
 Sample Type: MB  
 Inject. Date: 01-May-2015 18:20:47 ALS Bottle#: 27 Worklist Smp#: 3  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006723-003  
 Operator ID: 402360 Instrument ID: CHGC8  
 Method: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 04-May-2015 13:11:04 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D  
 Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B  
 Process Host: XAWRK001

First Level Reviewer: guptaa

Date: 04-May-2015 08:12:39

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## \$ 1 Tetrachloro-m-xylene

|   |       |       |       |           |        |        |  |
|---|-------|-------|-------|-----------|--------|--------|--|
| 1 | 3.102 | 3.102 | 0.000 | 33214528H | 0.0200 | 0.0149 |  |
| 2 | 3.571 | 3.571 | 0.000 | 59710038H | 0.0200 | 0.0158 |  |

RPD = 5.59

## 2 PCB-1221

|   |       |  |  |  |  |    |  |
|---|-------|--|--|--|--|----|--|
| 1 | 3.236 |  |  |  |  | ND |  |
| 1 | 3.365 |  |  |  |  |    |  |
| 1 | 3.401 |  |  |  |  |    |  |
| 2 | 3.859 |  |  |  |  |    |  |
| 2 | 4.015 |  |  |  |  |    |  |
| 2 | 4.086 |  |  |  |  |    |  |

## 5 PCB-1232

|   |       |  |  |  |  |    |  |
|---|-------|--|--|--|--|----|--|
| 1 | 3.237 |  |  |  |  | ND |  |
| 1 | 3.914 |  |  |  |  |    |  |
| 1 | 4.600 |  |  |  |  |    |  |
| 1 | 5.353 |  |  |  |  |    |  |
| 1 | 6.143 |  |  |  |  |    |  |
| 2 | 3.860 |  |  |  |  |    |  |
| 2 | 4.016 |  |  |  |  |    |  |
| 2 | 4.905 |  |  |  |  |    |  |
| 2 | 5.555 |  |  |  |  |    |  |
| 2 | 6.346 |  |  |  |  |    |  |

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 4 PCB-1016

|   |       |  |  |  |  |    |  |
|---|-------|--|--|--|--|----|--|
| 1 | 3.407 |  |  |  |  | ND |  |
| 1 | 3.736 |  |  |  |  |    |  |
| 1 | 4.364 |  |  |  |  |    |  |
| 1 | 4.436 |  |  |  |  |    |  |
| 1 | 4.850 |  |  |  |  |    |  |
| 2 | 5.402 |  |  |  |  |    |  |
| 2 | 5.560 |  |  |  |  |    |  |
| 2 | 6.141 |  |  |  |  |    |  |
| 2 | 6.878 |  |  |  |  |    |  |
| 2 | 7.231 |  |  |  |  |    |  |

## 6 PCB-1248

|   |       |  |  |  |  |    |  |
|---|-------|--|--|--|--|----|--|
| 1 | 4.213 |  |  |  |  | ND |  |
| 1 | 4.433 |  |  |  |  |    |  |
| 1 | 5.298 |  |  |  |  |    |  |
| 1 | 5.689 |  |  |  |  |    |  |
| 1 | 6.361 |  |  |  |  |    |  |
| 2 | 6.349 |  |  |  |  |    |  |
| 2 | 6.688 |  |  |  |  |    |  |
| 2 | 7.935 |  |  |  |  |    |  |
| 2 | 8.176 |  |  |  |  |    |  |
| 2 | 9.264 |  |  |  |  |    |  |

## 3 PCB-1242

|   |       |  |  |  |  |    |  |
|---|-------|--|--|--|--|----|--|
| 1 | 4.360 |  |  |  |  | ND |  |
| 1 | 4.432 |  |  |  |  |    |  |
| 1 | 4.847 |  |  |  |  |    |  |
| 1 | 4.957 |  |  |  |  |    |  |
| 1 | 5.417 |  |  |  |  |    |  |
| 2 | 5.399 |  |  |  |  |    |  |
| 2 | 5.695 |  |  |  |  |    |  |
| 2 | 6.137 |  |  |  |  |    |  |
| 2 | 6.348 |  |  |  |  |    |  |
| 2 | 6.885 |  |  |  |  |    |  |

## 7 PCB-1254

|   |       |  |  |  |  |    |  |
|---|-------|--|--|--|--|----|--|
| 1 | 5.349 |  |  |  |  | ND |  |
| 1 | 5.788 |  |  |  |  |    |  |
| 1 | 6.087 |  |  |  |  |    |  |
| 1 | 6.835 |  |  |  |  |    |  |
| 1 | 7.330 |  |  |  |  |    |  |
| 2 | 6.134 |  |  |  |  |    |  |
| 2 | 6.796 |  |  |  |  |    |  |
| 2 | 7.931 |  |  |  |  |    |  |
| 2 | 8.620 |  |  |  |  |    |  |
| 2 | 8.949 |  |  |  |  |    |  |



Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501026.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 8 PCB-1260

|   |        |  |  |  |  |    |  |
|---|--------|--|--|--|--|----|--|
| 1 | 6.670  |  |  |  |  | ND |  |
| 1 | 7.169  |  |  |  |  |    |  |
| 1 | 7.702  |  |  |  |  |    |  |
| 1 | 8.426  |  |  |  |  |    |  |
| 1 | 9.012  |  |  |  |  |    |  |
| 2 | 9.251  |  |  |  |  |    |  |
| 2 | 9.586  |  |  |  |  |    |  |
| 2 | 9.739  |  |  |  |  |    |  |
| 2 | 10.216 |  |  |  |  |    |  |
| 2 | 10.606 |  |  |  |  |    |  |

## 9 PCB-1262

|   |        |  |  |  |  |    |  |
|---|--------|--|--|--|--|----|--|
| 1 | 7.394  |  |  |  |  | ND |  |
| 1 | 8.032  |  |  |  |  |    |  |
| 1 | 8.500  |  |  |  |  |    |  |
| 1 | 10.084 |  |  |  |  |    |  |
| 1 | 10.497 |  |  |  |  |    |  |
| 2 | 9.577  |  |  |  |  |    |  |
| 2 | 9.825  |  |  |  |  |    |  |
| 2 | 10.324 |  |  |  |  |    |  |
| 2 | 11.725 |  |  |  |  |    |  |
| 2 | 11.945 |  |  |  |  |    |  |

## 10 PCB-1268

|   |        |  |  |  |  |    |  |
|---|--------|--|--|--|--|----|--|
| 1 | 9.560  |  |  |  |  | ND |  |
| 1 | 9.625  |  |  |  |  |    |  |
| 1 | 9.938  |  |  |  |  |    |  |
| 1 | 10.920 |  |  |  |  |    |  |
| 2 | 11.132 |  |  |  |  |    |  |
| 2 | 11.199 |  |  |  |  |    |  |
| 2 | 11.555 |  |  |  |  |    |  |
| 2 | 12.377 |  |  |  |  |    |  |

## \$ 11 DCB Decachlorobiphenyl (Surr)

|   |        |        |        |           |        |        |  |
|---|--------|--------|--------|-----------|--------|--------|--|
| 1 | 11.189 | 11.189 | 0.000  | 16654160H | 0.0200 | 0.0136 |  |
| 2 | 12.712 | 12.713 | -0.001 | 21796512H | 0.0200 | 0.0138 |  |

RPD = 1.64

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501026.D

Injection Date: 01-May-2015 18:20:47

Instrument ID: CHGC8

Lims ID: MB 180-140214/1-C

Client ID:

Operator ID: 402360

ALS Bottle#: 27

Worklist Smp#: 3

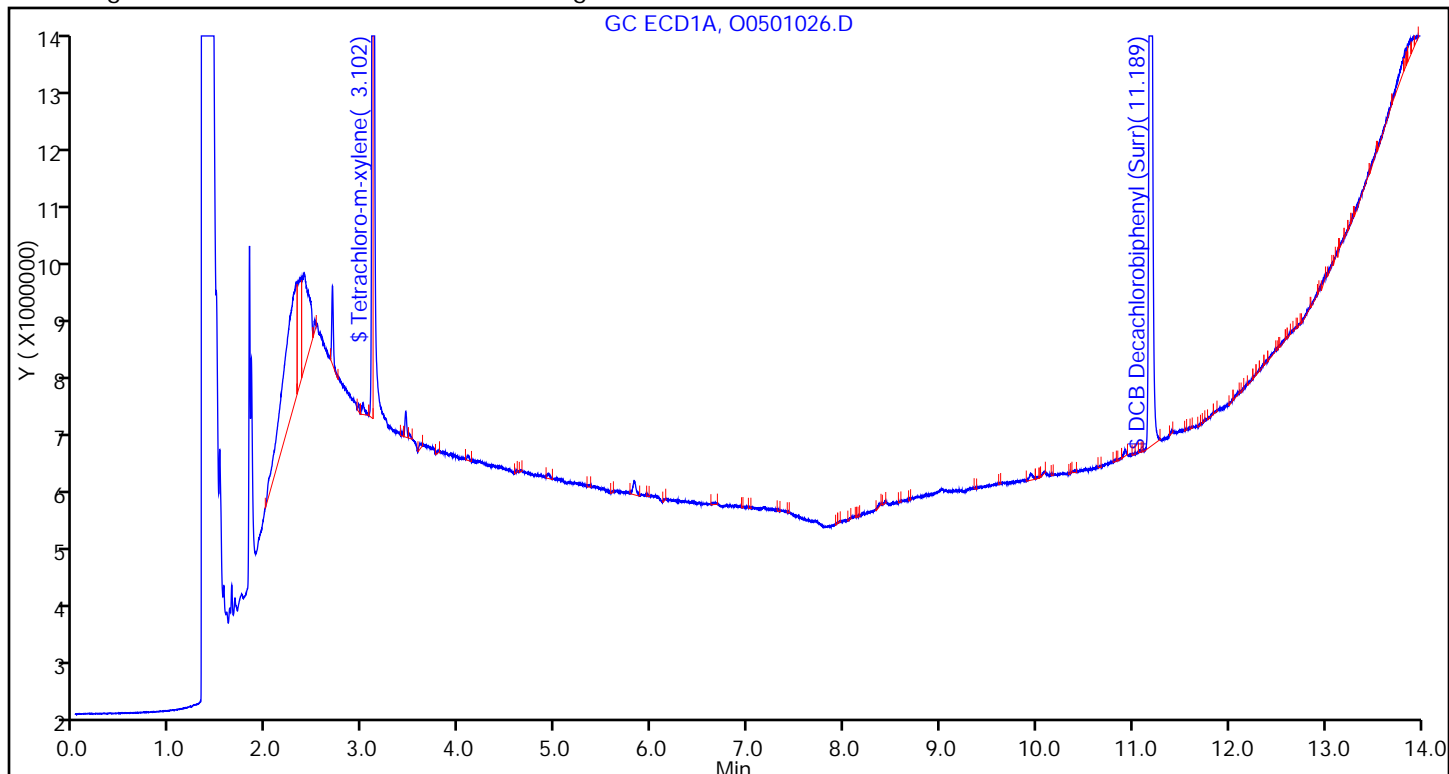
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

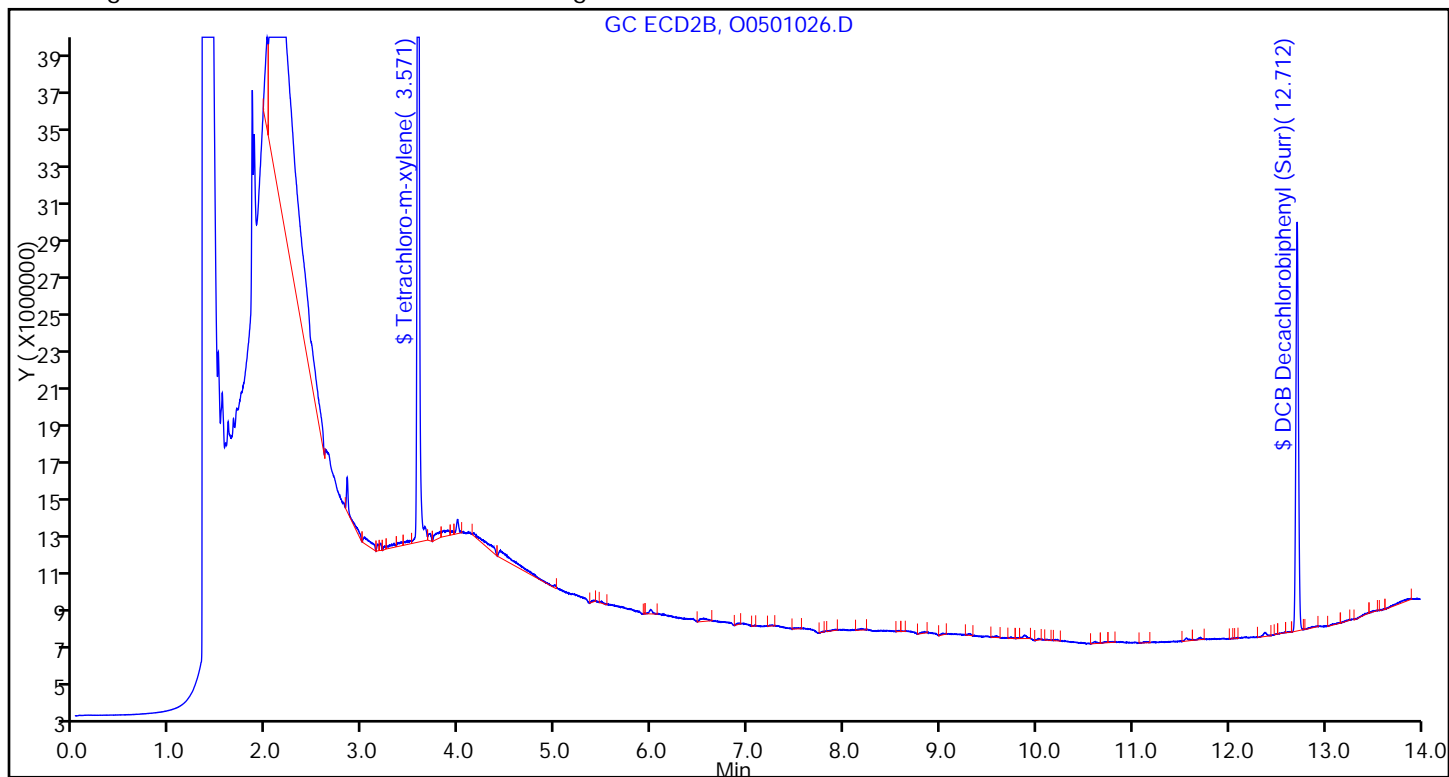
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



FORM I  
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 180-140214/2-C  
Matrix: Sediment Lab File ID: O0501045.D  
Analysis Method: 8082A Date Collected: \_\_\_\_\_  
Extraction Method: 3541 Date Extracted: 05/01/2015 03:16  
Sample wt/vol: 30.0(g) Date Analyzed: 05/02/2015 00:36  
Con. Extract Vol.: 1.0(mL) Dilution Factor: 1  
Injection Volume: 1(uL) GC Column: RTX-CLP1 ID: 0.53(mm)  
% Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
Analysis Batch No.: 140301 Units: ug/Kg

| CAS NO.    | COMPOUND NAME | RESULT | Q | RL   | MDL   |
|------------|---------------|--------|---|------|-------|
| 11096-82-5 | PCB-1260      | 21.2   |   | 0.42 | 0.091 |

| CAS NO.   | SURROGATE                     | %REC | Q | LIMITS |
|-----------|-------------------------------|------|---|--------|
| 2051-24-3 | DCB Decachlorobiphenyl (Surr) | 62   |   | 20-150 |
| 877-09-8  | Tetrachloro-m-xylene (Surr)   | 77   |   | 30-150 |

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501045.D  
 Lims ID: LCS 180-140214/2-C  
 Client ID:  
 Sample Type: LCS  
 Inject. Date: 02-May-2015 00:36:27 ALS Bottle#: 46 Worklist Smp#: 22  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006723-022  
 Operator ID: 402360 Instrument ID: CHGC8  
 Method: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 04-May-2015 13:11:04 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D  
 Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B  
 Process Host: XAWRK001

First Level Reviewer: guptaa

Date: 04-May-2015 08:37:26

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## \$ 1 Tetrachloro-m-xylene

|   |       |       |        |           |        |        |
|---|-------|-------|--------|-----------|--------|--------|
| 1 | 3.097 | 3.102 | -0.005 | 34463156H | 0.0200 | 0.0155 |
| 2 | 3.566 | 3.571 | -0.005 | 62445725H | 0.0200 | 0.0165 |

RPD = 6.38

## 4 PCB-1016

M

|   |       |       |        |           |      |        |   |
|---|-------|-------|--------|-----------|------|--------|---|
| 1 | 3.402 | 3.407 | -0.005 | 21722929H | 1.00 | 0.6160 |   |
| 1 | 3.729 | 3.736 | -0.007 | 32809508H | 1.00 | 0.6142 |   |
| 1 | 4.358 | 4.364 | -0.006 | 24040990H | 1.00 | 0.5988 | M |
| 1 | 4.429 | 4.436 | -0.007 | 17245015H | 1.00 | 0.6126 | M |
| 1 | 4.844 | 4.850 | -0.006 | 22006077H | 1.00 | 0.6177 | M |

Average of Peak Amounts = 0.6119

|   |       |       |        |           |      |        |  |
|---|-------|-------|--------|-----------|------|--------|--|
| 2 | 5.397 | 5.402 | -0.005 | 39037716H | 1.00 | 0.6461 |  |
| 2 | 5.553 | 5.560 | -0.007 | 28285006H | 1.00 | 0.6602 |  |
| 2 | 6.133 | 6.141 | -0.008 | 35795674H | 1.00 | 0.6613 |  |
| 2 | 6.871 | 6.878 | -0.007 | 24872043H | 1.00 | 0.6240 |  |
| 2 | 7.224 | 7.231 | -0.007 | 19593335H | 1.00 | 0.6055 |  |

Average of Peak Amounts = 0.6394

RPD = 4.40

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501045.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## 8 PCB-1260

M

|   |       |       |        |           |      |        |   |
|---|-------|-------|--------|-----------|------|--------|---|
| 1 | 6.663 | 6.670 | -0.007 | 37907971H | 1.00 | 0.6461 | M |
| 1 | 7.163 | 7.169 | -0.006 | 51338753H | 1.00 | 0.6427 | M |
| 1 | 7.696 | 7.702 | -0.006 | 37076608H | 1.00 | 0.6431 | M |
| 1 | 8.420 | 8.426 | -0.006 | 32502718H | 1.00 | 0.6305 | M |
| 1 | 9.007 | 9.012 | -0.005 | 69351668H | 1.00 | 0.6102 | M |

Average of Peak Amounts =

0.6345

|   |        |        |        |            |      |        |  |
|---|--------|--------|--------|------------|------|--------|--|
| 2 | 9.245  | 9.251  | -0.006 | 37240879H  | 1.00 | 0.6133 |  |
| 2 | 9.582  | 9.586  | -0.004 | 56765957H  | 1.00 | 0.5847 |  |
| 2 | 9.732  | 9.739  | -0.007 | 49600765H  | 1.00 | 0.5761 |  |
| 2 | 10.210 | 10.216 | -0.006 | 51386353H  | 1.00 | 0.5509 |  |
| 2 | 10.602 | 10.606 | -0.004 | 107350713H | 1.00 | 0.5602 |  |

Average of Peak Amounts =

0.5770

RPD = 9.49

## \$ 11 DCB Decachlorobiphenyl (Surr)

|   |        |        |        |           |        |        |  |
|---|--------|--------|--------|-----------|--------|--------|--|
| 1 | 11.185 | 11.189 | -0.004 | 15166048H | 0.0200 | 0.0124 |  |
| 2 | 12.708 | 12.713 | -0.005 | 19951791H | 0.0200 | 0.0127 |  |

RPD = 2.16

## QC Flag Legend

Review Flags

M - Manually Integrated

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501045.D

Injection Date: 02-May-2015 00:36:27

Instrument ID: CHGC8

Lims ID: LCS 180-140214/2-C

Client ID:

Operator ID: 402360

ALS Bottle#: 46

Worklist Smp#: 22

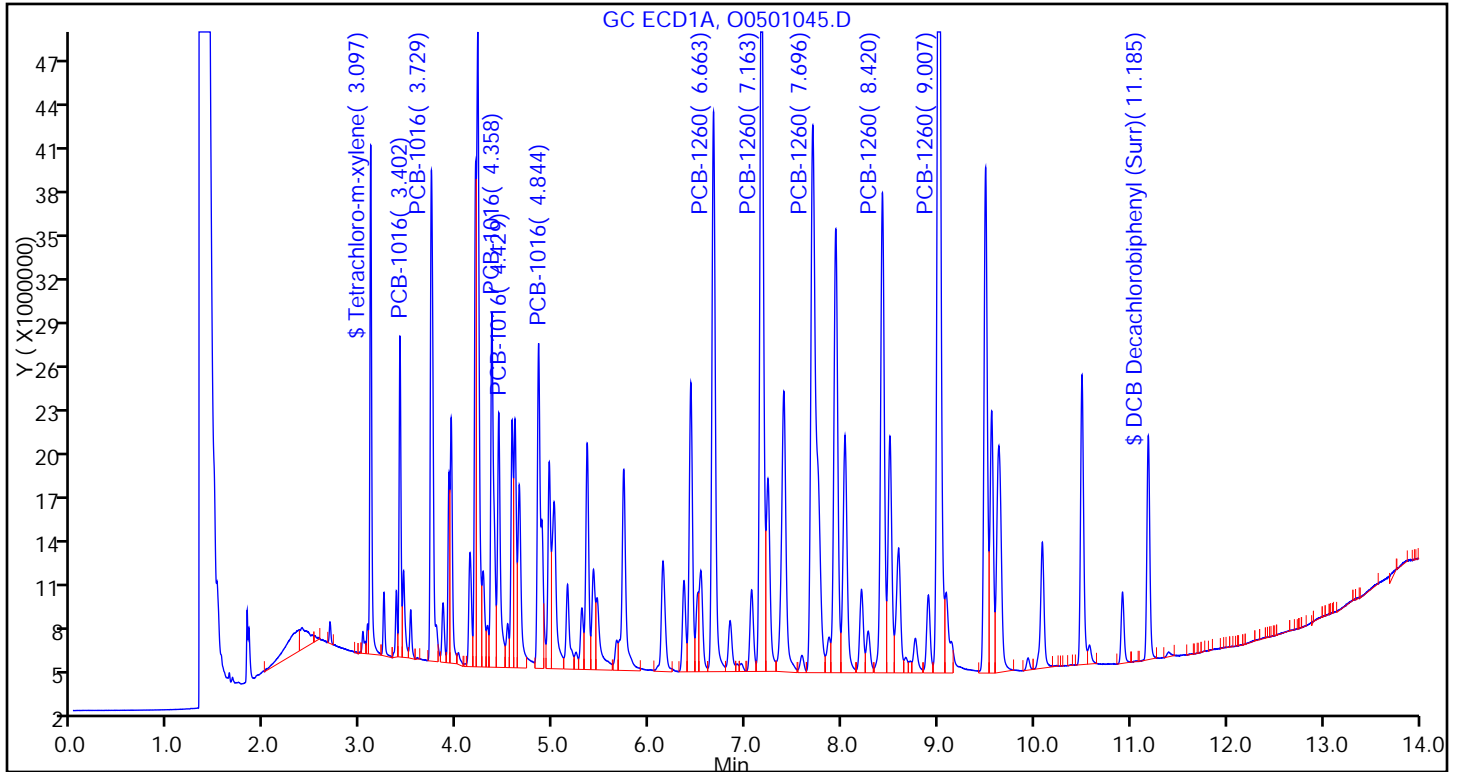
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

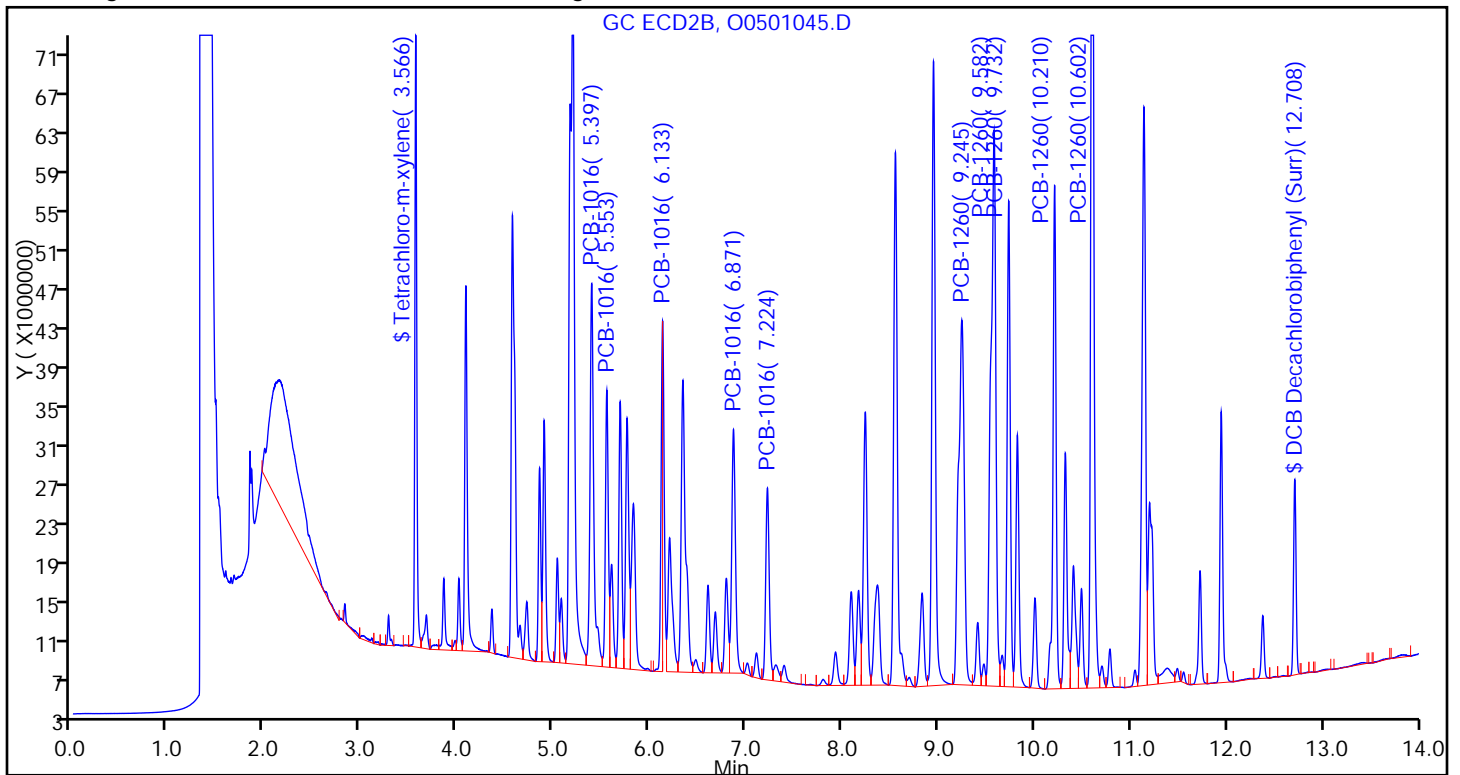
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Report Date: 04-May-2015 13:11:08

Chrom Revision: 2.2 09-Apr-2015 10:05:40

TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501045.D

Injection Date: 02-May-2015 00:36:27

Instrument ID: CHGC8

Lims ID: LCS 180-140214/2-C

Client ID:

Operator ID: 402360

ALS Bottle#: 46

Worklist Smp#: 22

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

Method: PCB\_CHGC8DUAL

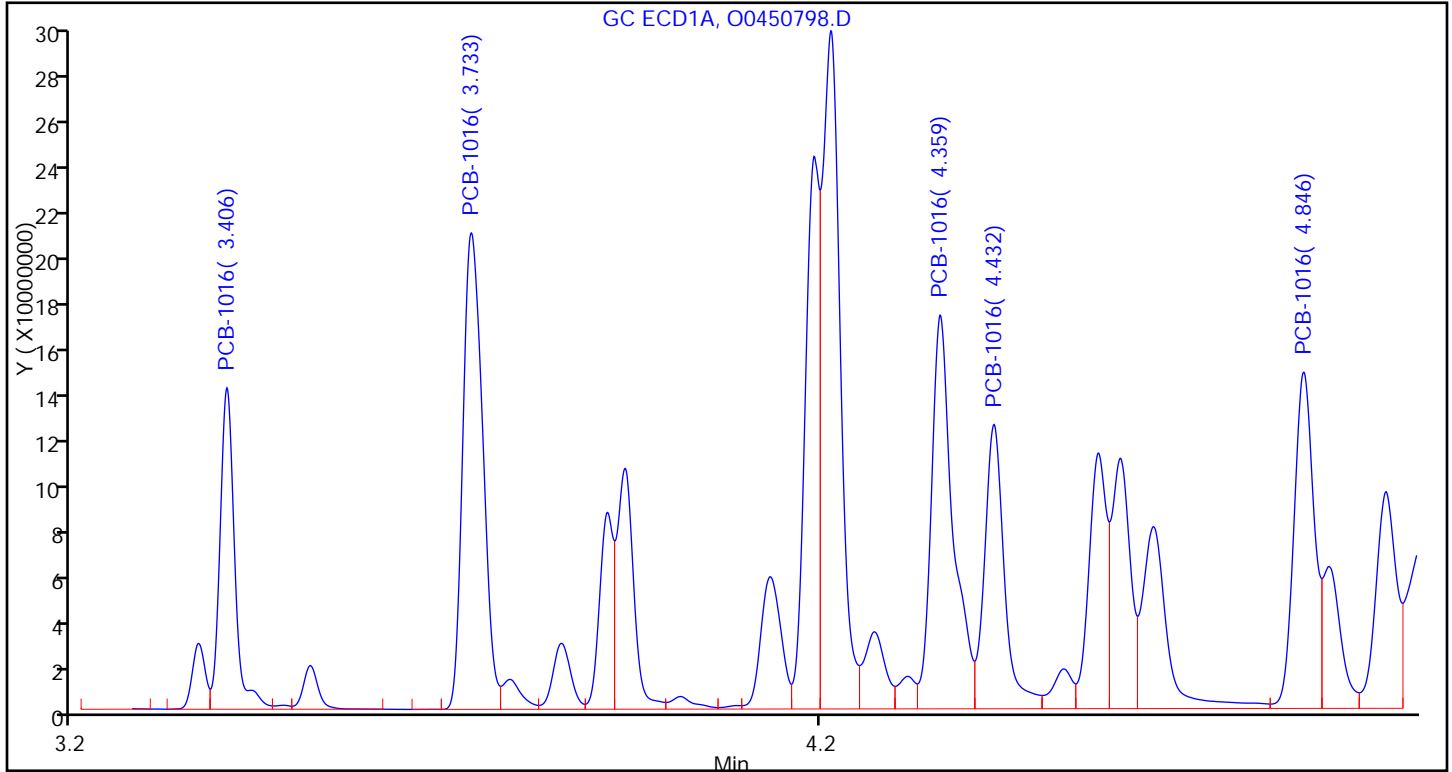
Limit Group: GCS 8082A ICAL

Column:

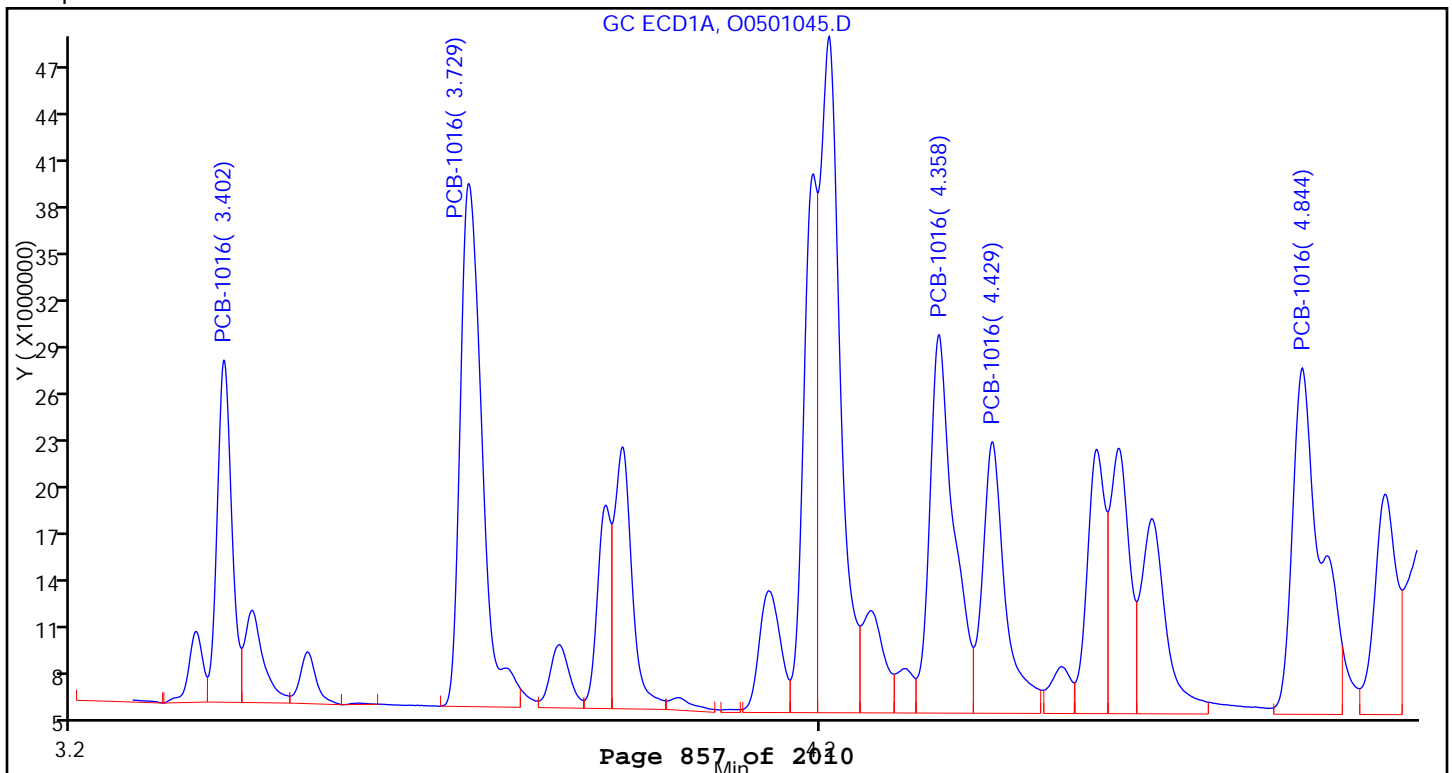
Detector GC ECD1A

4 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 7



Sample



Report Date: 04-May-2015 13:11:08

Chrom Revision: 2.2 09-Apr-2015 10:05:40

TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501045.D

Injection Date: 02-May-2015 00:36:27

Instrument ID: CHGC8

Lims ID: LCS 180-140214/2-C

Client ID:

Operator ID: 402360

ALS Bottle#: 46

Worklist Smp#: 22

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

Method: PCB\_CHGC8DUAL

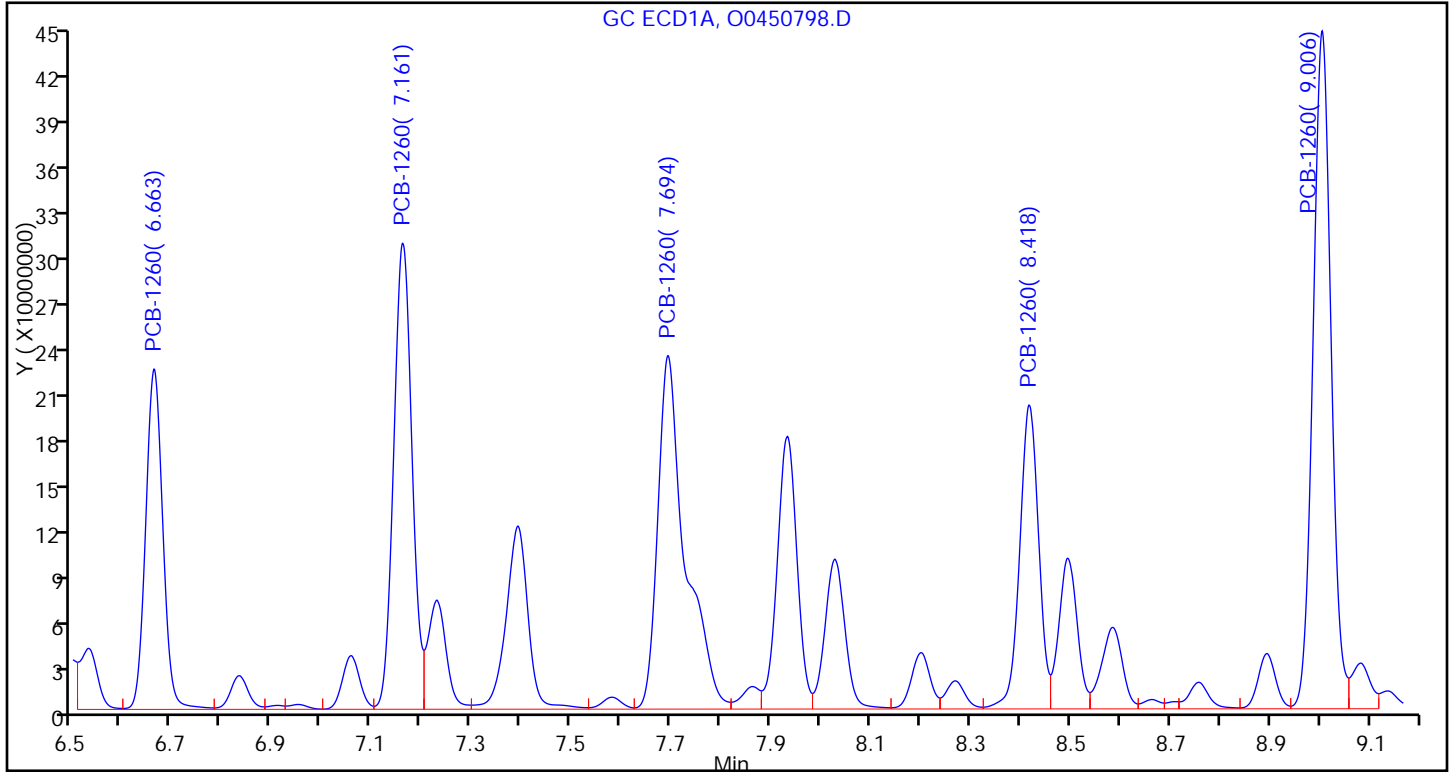
Limit Group: GCS 8082A ICAL

Column:

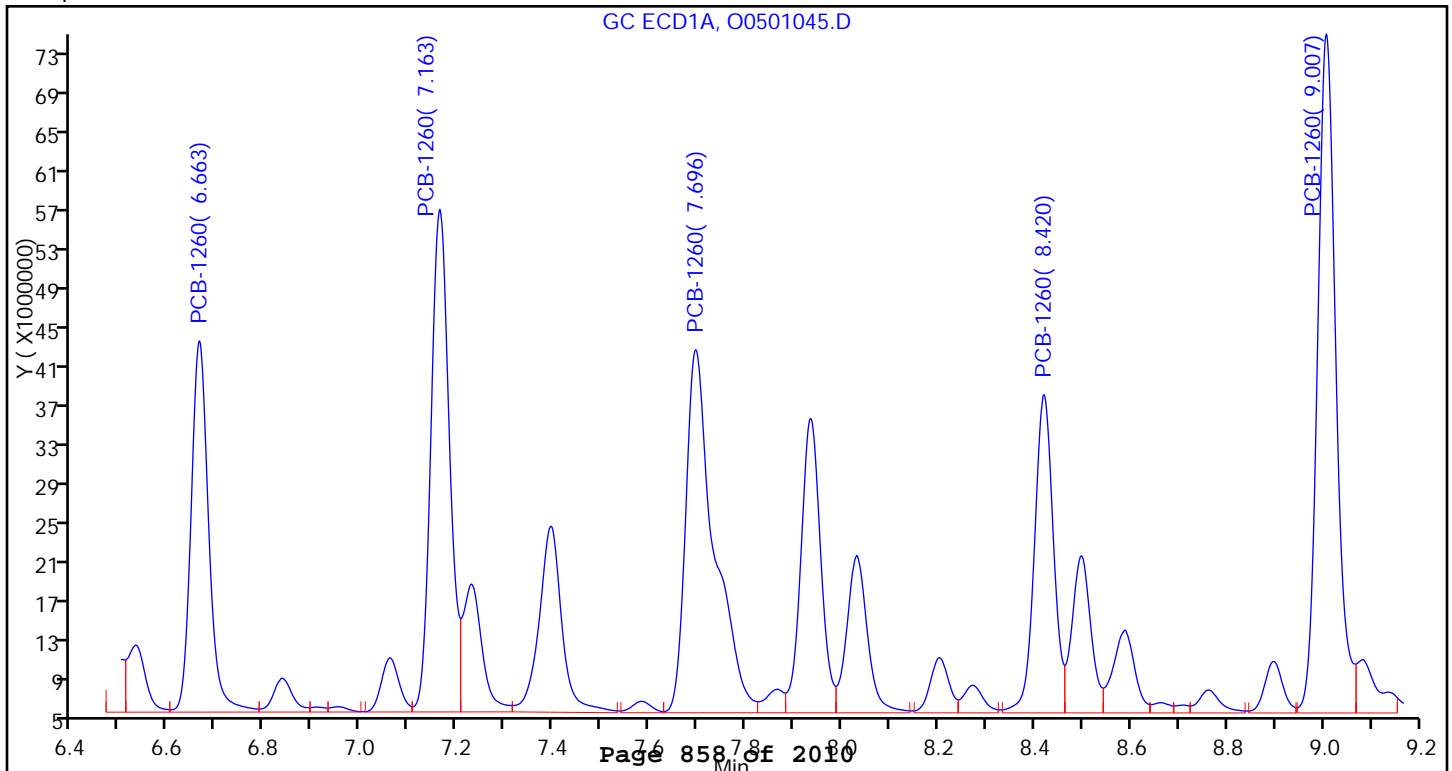
Detector GC ECD1A

8 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 7



Sample





## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501045.D

Injection Date: 02-May-2015 00:36:27

Instrument ID: CHGC8

Lims ID: LCS 180-140214/2-C

Client ID:

Operator ID: 402360

ALS Bottle#: 46

Worklist Smp#: 22

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

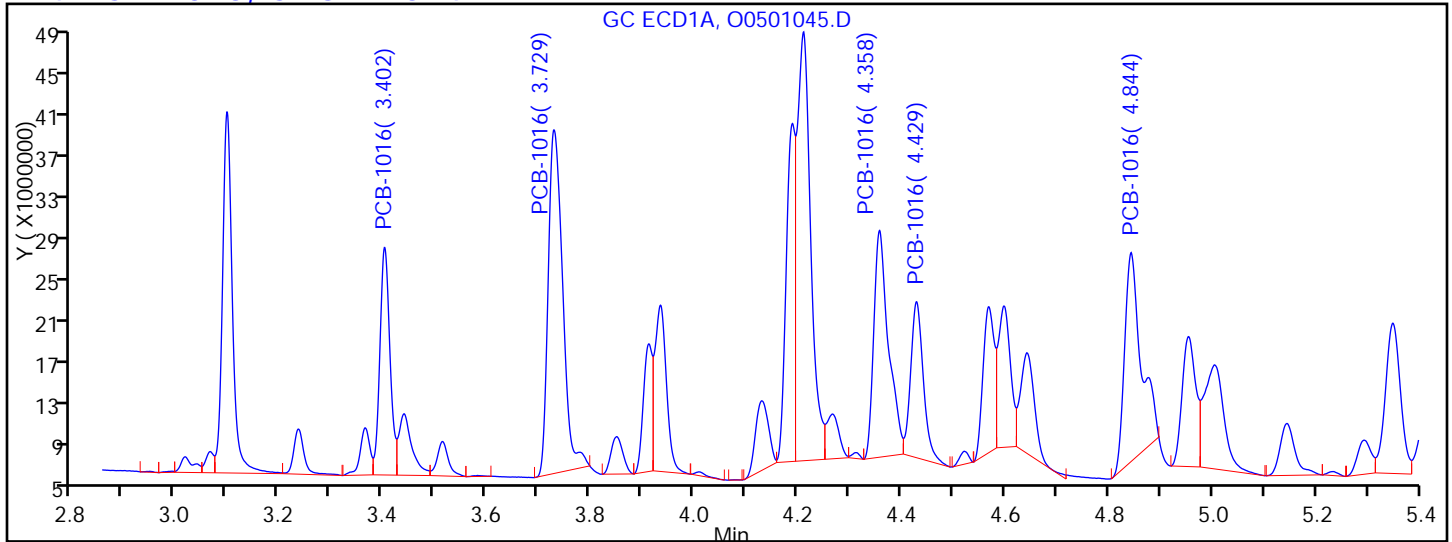
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Column:

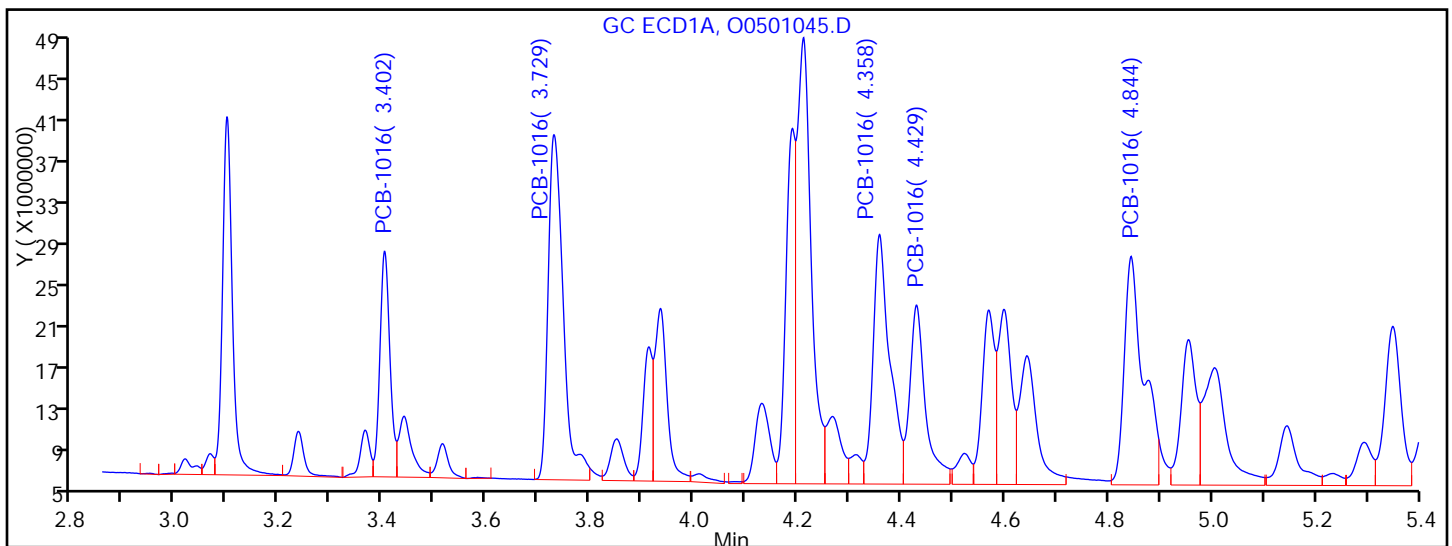
Detector GC ECD1A

## 4 PCB-1016, CAS: 12674-11-2



## Processing Integration Results

|            |                     |   |
|------------|---------------------|---|
| RT = 3.402 | Response = 21722929 |   |
| RT = 3.729 | Response = 32809508 |   |
| RT = 4.358 | Response = 21651033 | M |
| RT = 4.429 | Response = 14889321 | M |
| RT = 4.844 | Response = 19944860 | M |



## Manual Integration Results

|            |                     |   |
|------------|---------------------|---|
| RT = 3.402 | Response = 21722929 |   |
| RT = 3.729 | Response = 32809508 |   |
| RT = 4.358 | Response = 24040990 | M |
| RT = 4.429 | Response = 17245015 | M |
| RT = 4.844 | Response = 22006077 | M |

Reviewer: guptaa, 04-May-2015 09:09:31

Audit Action: Assigned New Baseline

Audit Reason: Instrument noise

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501045.D

Injection Date: 02-May-2015 00:36:27

Instrument ID: CHGC8

Lims ID: LCS 180-140214/2-C

Client ID:

Operator ID: 402360

ALS Bottle#:

46

Worklist Smp#: 22

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

Method: PCB\_CHGC8DUAL

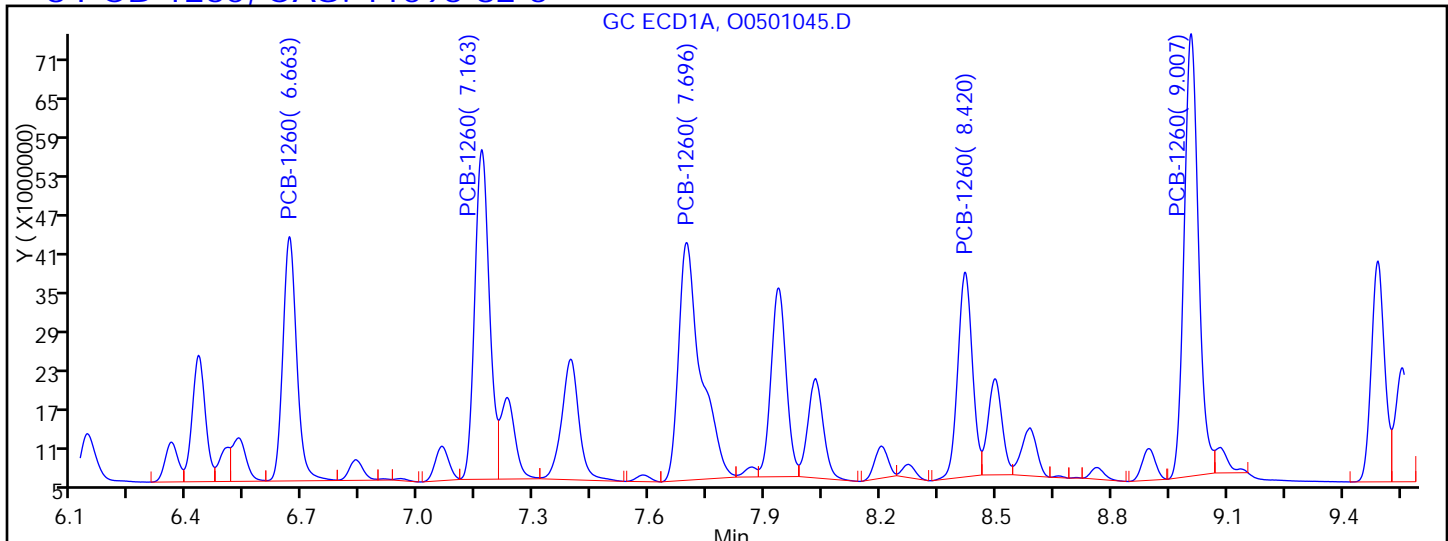
Limit Group: GCS 8082A ICAL

Column:

Detector

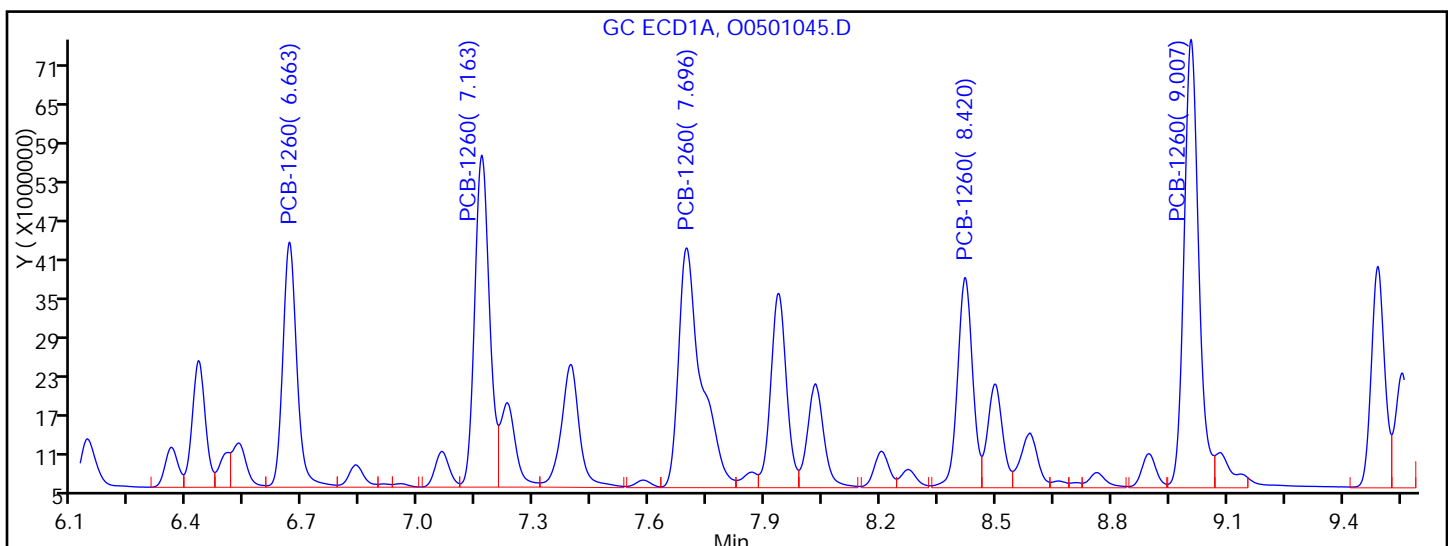
GC ECD1A

## 8 PCB-1260, CAS: 11096-82-5



## Processing Integration Results

|            |                     |   |
|------------|---------------------|---|
| RT = 6.663 | Response = 37718455 | M |
| RT = 7.163 | Response = 50911122 | M |
| RT = 7.696 | Response = 36716172 | M |
| RT = 8.420 | Response = 31611278 | M |
| RT = 9.007 | Response = 68334587 | M |



## Manual Integration Results

|            |                     |   |
|------------|---------------------|---|
| RT = 6.663 | Response = 37907971 | M |
| RT = 7.163 | Response = 51338753 | M |
| RT = 7.696 | Response = 37076608 | M |
| RT = 8.420 | Response = 32502718 | M |
| RT = 9.007 | Response = 69351668 | M |

Reviewer: guptaa, 04-May-2015 09:09:31

Audit Action: Assigned New Baseline

Audit Reason: Instrument noise

FORM I  
GC SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Client Sample ID: \_\_\_\_\_ Lab Sample ID: LCS 180-140214/2-C  
Matrix: Sediment Lab File ID: O0501045.D  
Analysis Method: 8082A Date Collected: \_\_\_\_\_  
Extraction Method: 3541 Date Extracted: 05/01/2015 03:16  
Sample wt/vol: 30.0(g) Date Analyzed: 05/02/2015 00:36  
Con. Extract Vol.: 1.0(mL) Dilution Factor: 1  
Injection Volume: 1(uL) GC Column: RTX-CLP2 ID: 0.53(mm)  
% Moisture: \_\_\_\_\_ GPC Cleanup: (Y/N) N  
Analysis Batch No.: 140301 Units: ug/Kg

| CAS NO.    | COMPOUND NAME | RESULT | Q | RL   | MDL   |
|------------|---------------|--------|---|------|-------|
| 12674-11-2 | PCB-1016      | 21.3   |   | 0.42 | 0.085 |

| CAS NO.   | SURROGATE                     | %REC | Q | LIMITS |
|-----------|-------------------------------|------|---|--------|
| 2051-24-3 | DCB Decachlorobiphenyl (Surr) | 63   |   | 20-150 |
| 877-09-8  | Tetrachloro-m-xylene (Surr)   | 82   |   | 30-150 |

TestAmerica Pittsburgh  
Target Compound Quantitation Report

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501045.D  
 Lims ID: LCS 180-140214/2-C  
 Client ID:  
 Sample Type: LCS  
 Inject. Date: 02-May-2015 00:36:27 ALS Bottle#: 46 Worklist Smp#: 22  
 Injection Vol: 1.0 ul Dil. Factor: 1.0000  
 Sample Info: 180-0006723-022  
 Operator ID: 402360 Instrument ID: CHGC8  
 Method: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\PCB\_CHGC8DUAL.m  
 Limit Group: GCS 8082A ICAL  
 Last Update: 04-May-2015 13:11:04 Calib Date: 16-Apr-2015 16:47:04  
 Integrator: Falcon  
 Quant Method: External Standard Quant By: Initial Calibration  
 Last ICal File: \\PITCHROM\ChromData\CHGC8\20150416-6499.b\O0450798.D  
 Column 1 : Det: GC ECD1A  
 Column 2 : Det: GC ECD2B  
 Process Host: XAWRK001

First Level Reviewer: guptaa

Date: 04-May-2015 08:37:26

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

## \$ 1 Tetrachloro-m-xylene

|   |       |       |        |           |        |        |
|---|-------|-------|--------|-----------|--------|--------|
| 1 | 3.097 | 3.102 | -0.005 | 34463156H | 0.0200 | 0.0155 |
| 2 | 3.566 | 3.571 | -0.005 | 62445725H | 0.0200 | 0.0165 |

RPD = 6.38

## 4 PCB-1016

M

|   |       |       |        |           |      |        |   |
|---|-------|-------|--------|-----------|------|--------|---|
| 1 | 3.402 | 3.407 | -0.005 | 21722929H | 1.00 | 0.6160 |   |
| 1 | 3.729 | 3.736 | -0.007 | 32809508H | 1.00 | 0.6142 |   |
| 1 | 4.358 | 4.364 | -0.006 | 24040990H | 1.00 | 0.5988 | M |
| 1 | 4.429 | 4.436 | -0.007 | 17245015H | 1.00 | 0.6126 | M |
| 1 | 4.844 | 4.850 | -0.006 | 22006077H | 1.00 | 0.6177 | M |

Average of Peak Amounts = 0.6119

|   |       |       |        |           |      |        |
|---|-------|-------|--------|-----------|------|--------|
| 2 | 5.397 | 5.402 | -0.005 | 39037716H | 1.00 | 0.6461 |
| 2 | 5.553 | 5.560 | -0.007 | 28285006H | 1.00 | 0.6602 |
| 2 | 6.133 | 6.141 | -0.008 | 35795674H | 1.00 | 0.6613 |
| 2 | 6.871 | 6.878 | -0.007 | 24872043H | 1.00 | 0.6240 |
| 2 | 7.224 | 7.231 | -0.007 | 19593335H | 1.00 | 0.6055 |

Average of Peak Amounts = 0.6394

RPD = 4.40

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501045.D

| Col | RT<br>(min.) | Exp RT<br>(min.) | Dlt RT<br>(min.) | Response | Cal Amt<br>ng | OnCol Amt<br>ng | Flags |
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|
|-----|--------------|------------------|------------------|----------|---------------|-----------------|-------|

8 PCB-1260

M

|   |       |       |        |           |      |        |   |
|---|-------|-------|--------|-----------|------|--------|---|
| 1 | 6.663 | 6.670 | -0.007 | 37907971H | 1.00 | 0.6461 | M |
| 1 | 7.163 | 7.169 | -0.006 | 51338753H | 1.00 | 0.6427 | M |
| 1 | 7.696 | 7.702 | -0.006 | 37076608H | 1.00 | 0.6431 | M |
| 1 | 8.420 | 8.426 | -0.006 | 32502718H | 1.00 | 0.6305 | M |
| 1 | 9.007 | 9.012 | -0.005 | 69351668H | 1.00 | 0.6102 | M |

Average of Peak Amounts =

0.6345

|   |        |        |        |            |      |        |  |
|---|--------|--------|--------|------------|------|--------|--|
| 2 | 9.245  | 9.251  | -0.006 | 37240879H  | 1.00 | 0.6133 |  |
| 2 | 9.582  | 9.586  | -0.004 | 56765957H  | 1.00 | 0.5847 |  |
| 2 | 9.732  | 9.739  | -0.007 | 49600765H  | 1.00 | 0.5761 |  |
| 2 | 10.210 | 10.216 | -0.006 | 51386353H  | 1.00 | 0.5509 |  |
| 2 | 10.602 | 10.606 | -0.004 | 107350713H | 1.00 | 0.5602 |  |

Average of Peak Amounts =

0.5770

RPD = 9.49

\$ 11 DCB Decachlorobiphenyl (Surr)

|   |        |        |        |           |        |        |  |
|---|--------|--------|--------|-----------|--------|--------|--|
| 1 | 11.185 | 11.189 | -0.004 | 15166048H | 0.0200 | 0.0124 |  |
| 2 | 12.708 | 12.713 | -0.005 | 19951791H | 0.0200 | 0.0127 |  |

RPD = 2.16

### QC Flag Legend

Review Flags

M - Manually Integrated

## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501045.D

Injection Date: 02-May-2015 00:36:27

Instrument ID: CHGC8

Lims ID: LCS 180-140214/2-C

Client ID:

Operator ID: 402360

ALS Bottle#: 46

Worklist Smp#: 22

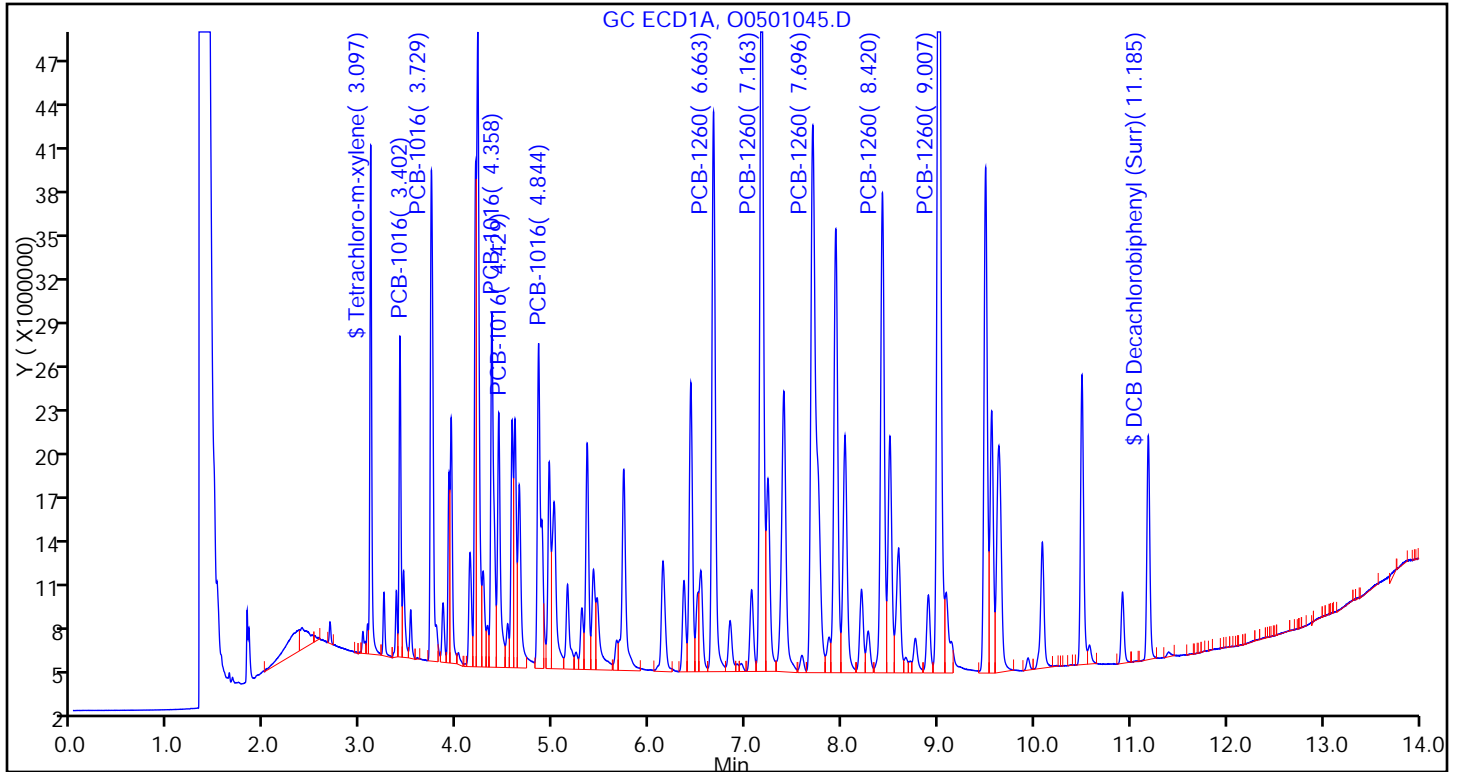
Injection Vol: 1.0 ul

Dil. Factor: 1.0000

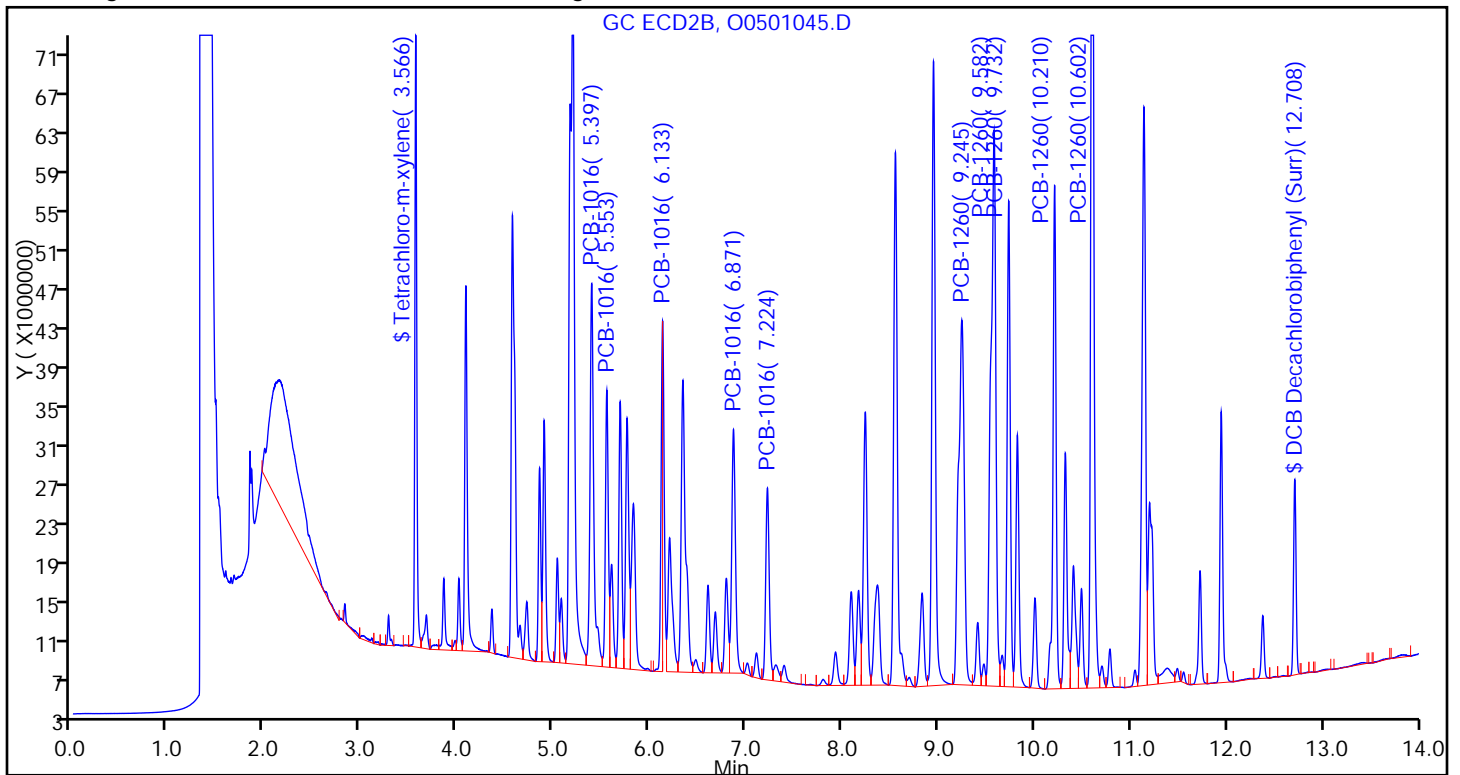
Method: PCB\_CHGC8DUAL

Limit Group: GCS 8082A ICAL

Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Y Scaling: Method Defined: Scale to the Nth Largest Peak: 3



Report Date: 04-May-2015 13:11:09

Chrom Revision: 2.2 09-Apr-2015 10:05:40

TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501045.D

Injection Date: 02-May-2015 00:36:27

Instrument ID: CHGC8

Lims ID: LCS 180-140214/2-C

Client ID:

Operator ID: 402360

ALS Bottle#: 46

Worklist Smp#: 22

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

Method: PCB\_CHGC8DUAL

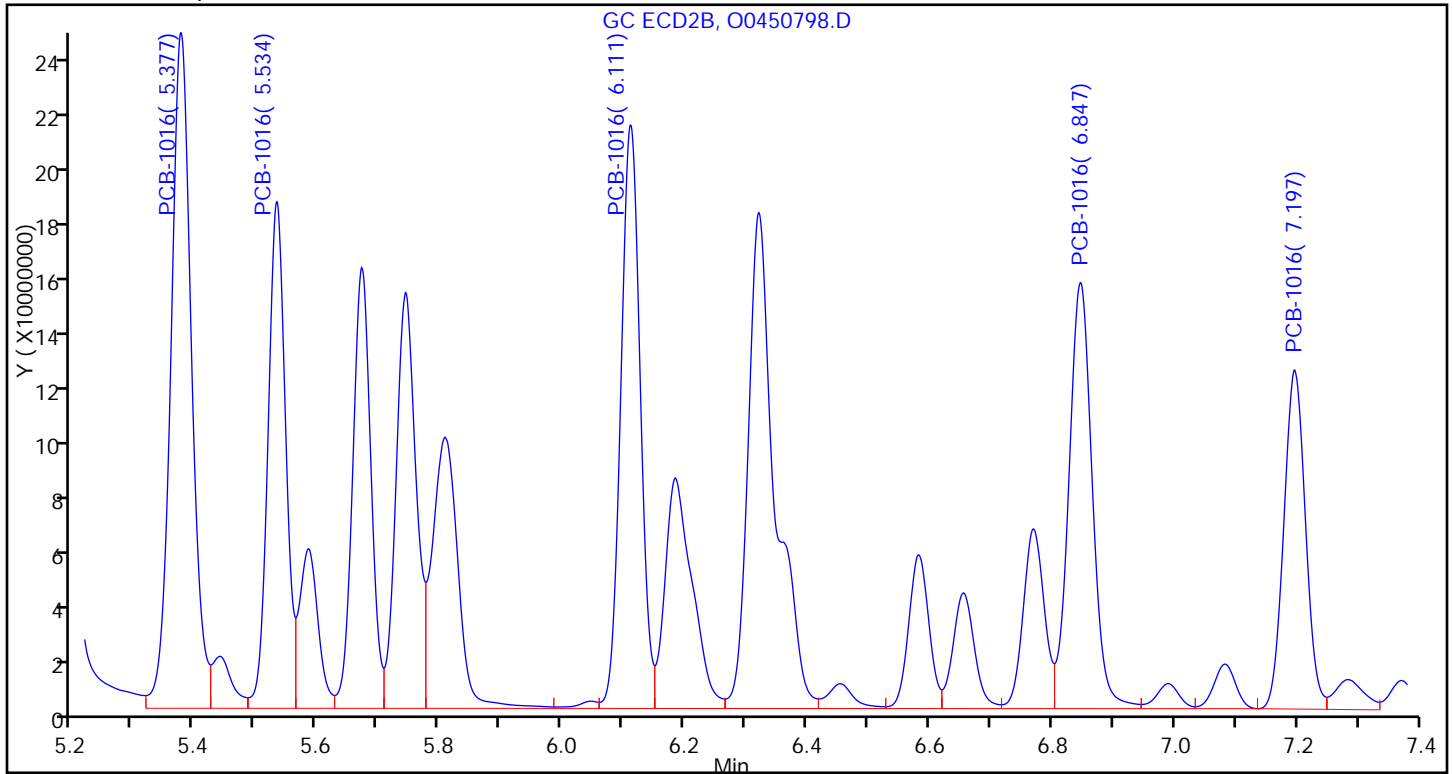
Limit Group: GCS 8082A ICAL

Column:

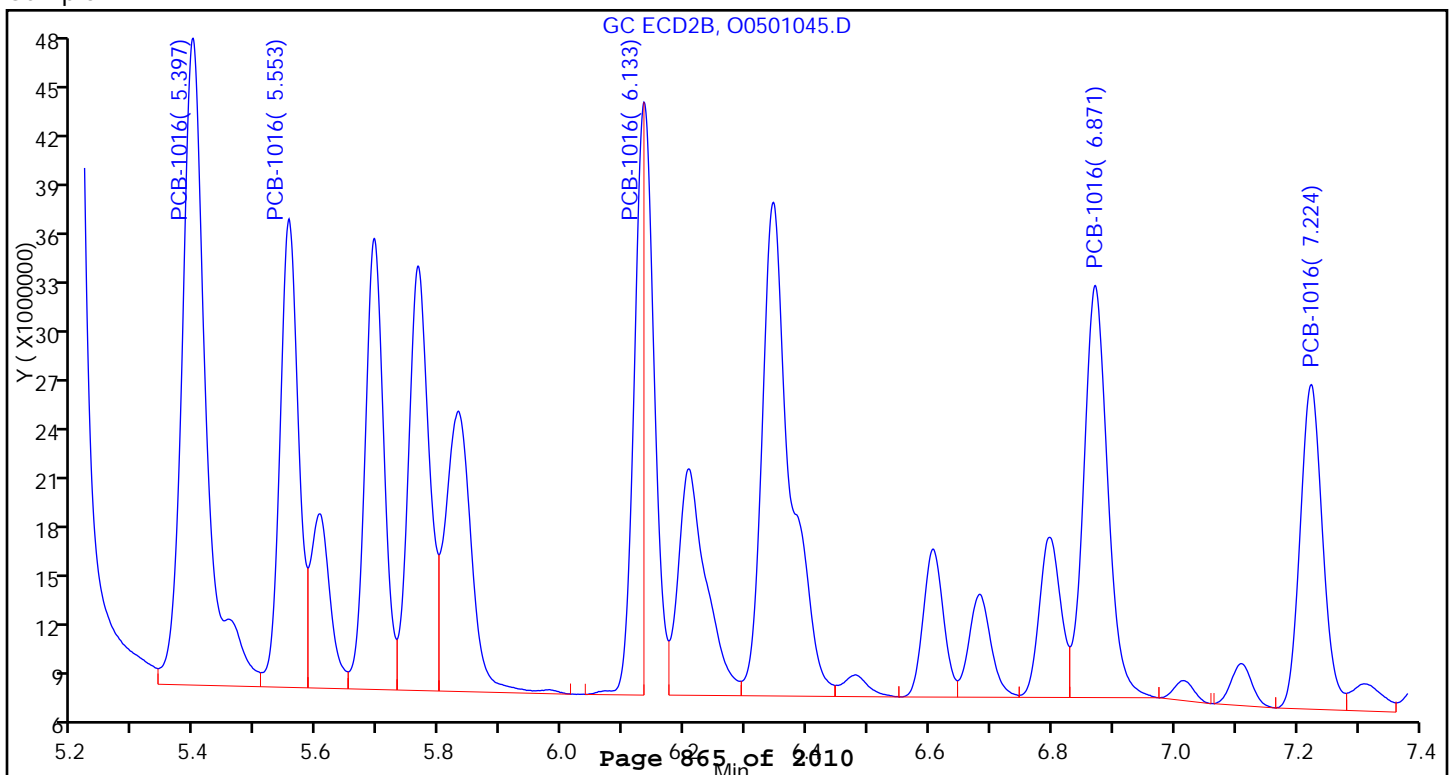
Detector GC ECD2B

4 PCB-1016, CAS: 12674-11-2

Calibration Sample, Level: 7



Sample



## TestAmerica Pittsburgh

Data File: \\PITCHROM\ChromData\CHGC8\20150501-6723.b\O0501045.D

Injection Date: 02-May-2015 00:36:27

Instrument ID: CHGC8

Lims ID: LCS 180-140214/2-C

Client ID:

Operator ID: 402360

ALS Bottle#: 46

Worklist Smp#: 22

Injection Vol: 1.0 ul

Dil. Factor: 1.0000

Method: PCB\_CHGC8DUAL

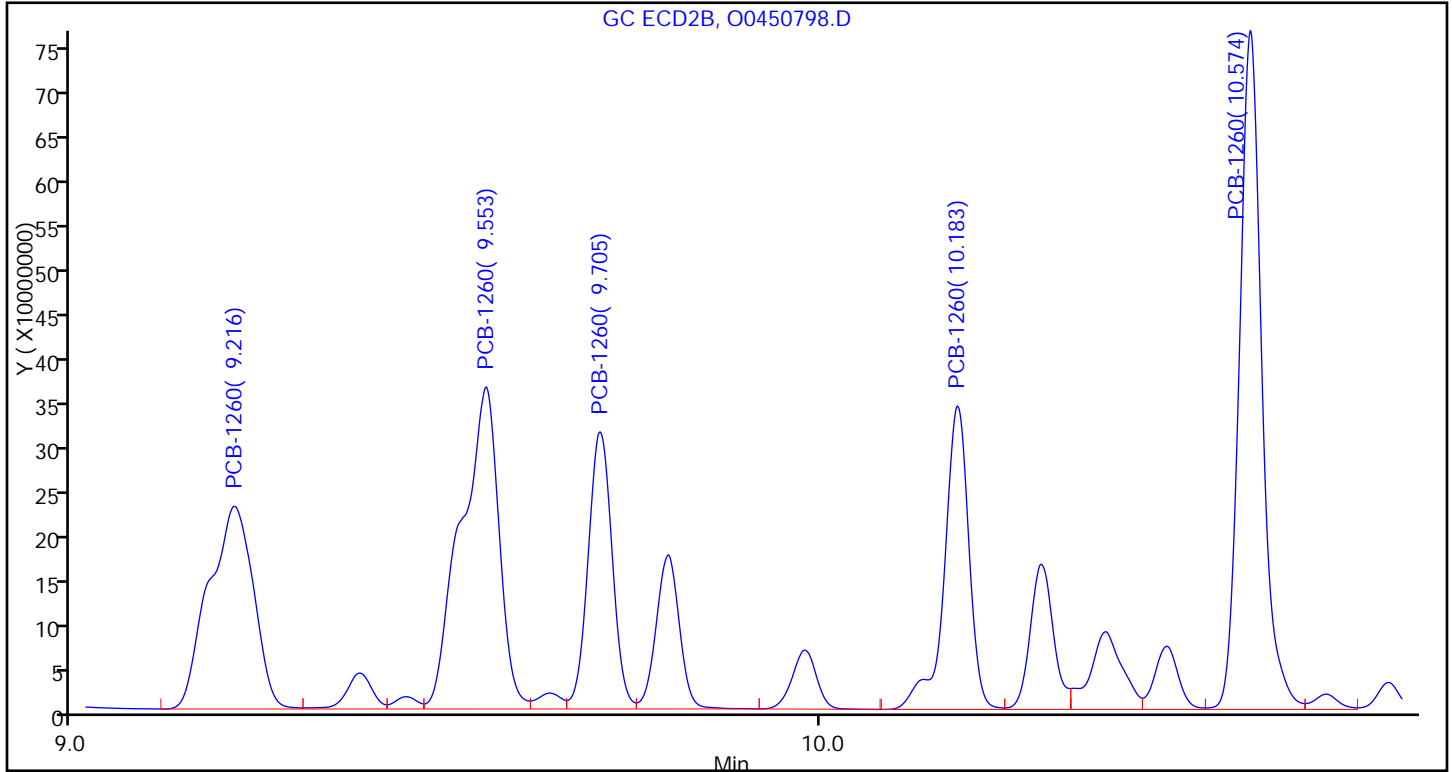
Limit Group: GCS 8082A ICAL

Column:

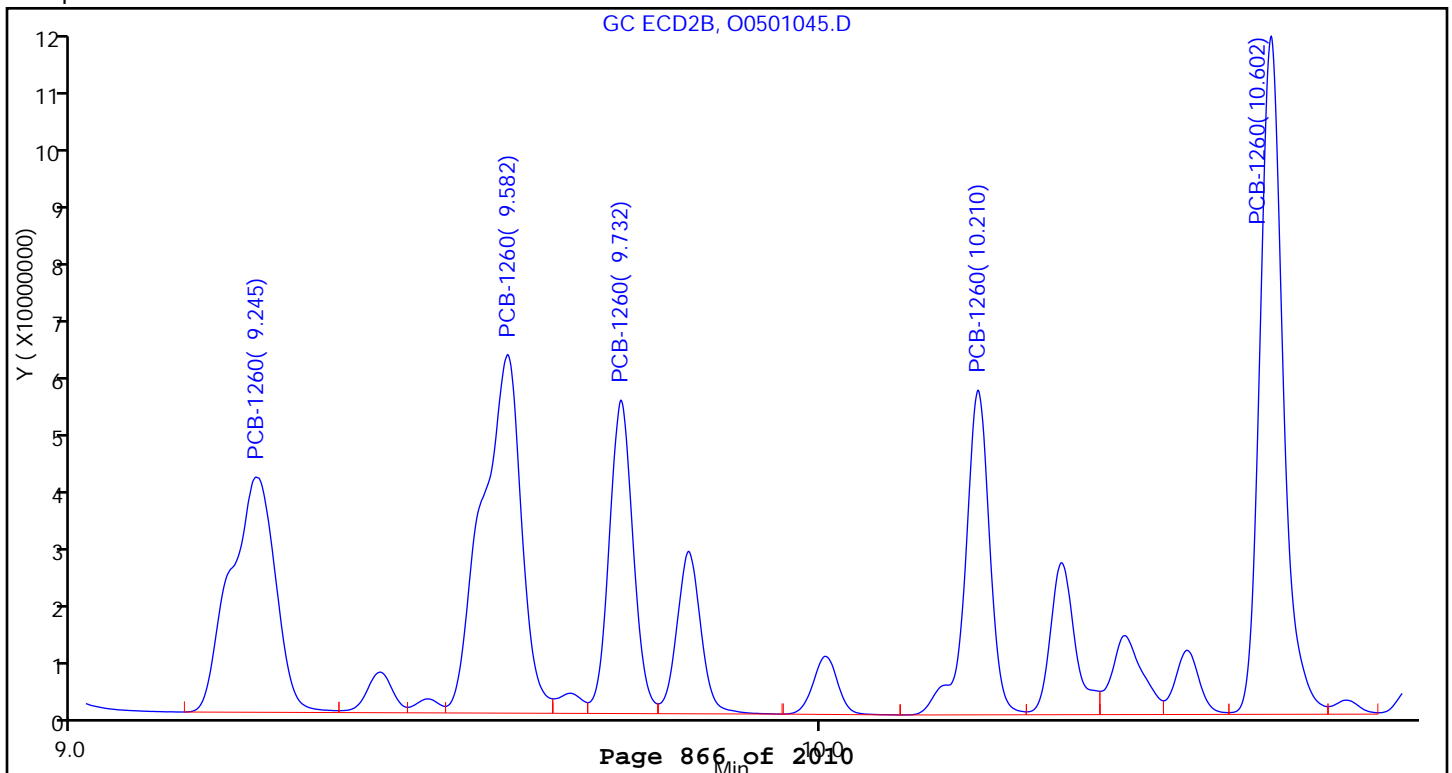
Detector: GC ECD2B

## 8 PCB-1260, CAS: 11096-82-5

Calibration Sample, Level: 7



Sample





## GC SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica PittsburghJob No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8Start Date: 04/16/2015 10:51Analysis Batch Number: 138696End Date: 04/17/2015 01:20

| LAB SAMPLE ID      | CLIENT SAMPLE ID | DATE ANALYZED    | DILUTION<br>FACTOR | LAB FILE ID | COLUMN ID          |
|--------------------|------------------|------------------|--------------------|-------------|--------------------|
| IC 180-138696/3    |                  | 04/16/2015 10:51 | 1                  | 00450780.D  | RTX-CLP1 0.53 (mm) |
| IC 180-138696/3    |                  | 04/16/2015 10:51 | 1                  | 00450780.D  | RTX-CLP2 0.53 (mm) |
| IC 180-138696/4    |                  | 04/16/2015 11:11 | 1                  | 00450781.D  | RTX-CLP1 0.53 (mm) |
| IC 180-138696/4    |                  | 04/16/2015 11:11 | 1                  | 00450781.D  | RTX-CLP2 0.53 (mm) |
| IC 180-138696/5    |                  | 04/16/2015 11:31 | 1                  | 00450782.D  | RTX-CLP1 0.53 (mm) |
| IC 180-138696/5    |                  | 04/16/2015 11:31 | 1                  | 00450782.D  | RTX-CLP2 0.53 (mm) |
| IC 180-138696/6    |                  | 04/16/2015 11:50 | 1                  | 00450783.D  | RTX-CLP1 0.53 (mm) |
| IC 180-138696/6    |                  | 04/16/2015 11:50 | 1                  | 00450783.D  | RTX-CLP2 0.53 (mm) |
| IC 180-138696/7    |                  | 04/16/2015 12:10 | 1                  | 00450784.D  | RTX-CLP1 0.53 (mm) |
| IC 180-138696/7    |                  | 04/16/2015 12:10 | 1                  | 00450784.D  | RTX-CLP2 0.53 (mm) |
| IC 180-138696/8    |                  | 04/16/2015 12:30 | 1                  | 00450785.D  | RTX-CLP1 0.53 (mm) |
| IC 180-138696/8    |                  | 04/16/2015 12:30 | 1                  | 00450785.D  | RTX-CLP2 0.53 (mm) |
| IC 180-138696/9    |                  | 04/16/2015 12:50 | 1                  | 00450786.D  | RTX-CLP1 0.53 (mm) |
| IC 180-138696/9    |                  | 04/16/2015 12:50 | 1                  | 00450786.D  | RTX-CLP2 0.53 (mm) |
| IC 180-138696/10   |                  | 04/16/2015 13:09 | 1                  | 00450787.D  | RTX-CLP1 0.53 (mm) |
| IC 180-138696/10   |                  | 04/16/2015 13:09 | 1                  | 00450787.D  | RTX-CLP2 0.53 (mm) |
| IC 180-138696/11   |                  | 04/16/2015 13:29 | 1                  | 00450788.D  | RTX-CLP1 0.53 (mm) |
| IC 180-138696/11   |                  | 04/16/2015 13:29 | 1                  | 00450788.D  | RTX-CLP2 0.53 (mm) |
| IC 180-138696/12   |                  | 04/16/2015 13:49 | 1                  | 00450789.D  | RTX-CLP1 0.53 (mm) |
| IC 180-138696/12   |                  | 04/16/2015 13:49 | 1                  | 00450789.D  | RTX-CLP2 0.53 (mm) |
| IC 180-138696/13   |                  | 04/16/2015 14:09 | 1                  | 00450790.D  | RTX-CLP1 0.53 (mm) |
| IC 180-138696/13   |                  | 04/16/2015 14:09 | 1                  | 00450790.D  | RTX-CLP2 0.53 (mm) |
| IC 180-138696/14   |                  | 04/16/2015 14:28 | 1                  | 00450791.D  | RTX-CLP1 0.53 (mm) |
| IC 180-138696/14   |                  | 04/16/2015 14:28 | 1                  | 00450791.D  | RTX-CLP2 0.53 (mm) |
| IC 180-138696/15   |                  | 04/16/2015 14:48 | 1                  | 00450792.D  | RTX-CLP1 0.53 (mm) |
| IC 180-138696/15   |                  | 04/16/2015 14:48 | 1                  | 00450792.D  | RTX-CLP2 0.53 (mm) |
| IC 180-138696/16   |                  | 04/16/2015 15:08 | 1                  | 00450793.D  | RTX-CLP1 0.53 (mm) |
| IC 180-138696/16   |                  | 04/16/2015 15:08 | 1                  | 00450793.D  | RTX-CLP2 0.53 (mm) |
| IC 180-138696/17   |                  | 04/16/2015 15:28 | 1                  | 00450794.D  | RTX-CLP1 0.53 (mm) |
| IC 180-138696/17   |                  | 04/16/2015 15:28 | 1                  | 00450794.D  | RTX-CLP2 0.53 (mm) |
| ICRT 180-138696/18 |                  | 04/16/2015 15:47 | 1                  | 00450795.D  | RTX-CLP1 0.53 (mm) |
| ICRT 180-138696/18 |                  | 04/16/2015 15:47 | 1                  | 00450795.D  | RTX-CLP2 0.53 (mm) |
| IC 180-138696/19   |                  | 04/16/2015 16:07 | 1                  | 00450796.D  | RTX-CLP1 0.53 (mm) |
| IC 180-138696/19   |                  | 04/16/2015 16:07 | 1                  | 00450796.D  | RTX-CLP2 0.53 (mm) |
| IC 180-138696/20   |                  | 04/16/2015 16:27 | 1                  | 00450797.D  | RTX-CLP1 0.53 (mm) |
| IC 180-138696/20   |                  | 04/16/2015 16:27 | 1                  | 00450797.D  | RTX-CLP2 0.53 (mm) |
| IC 180-138696/21   |                  | 04/16/2015 16:47 | 1                  | 00450798.D  | RTX-CLP1 0.53 (mm) |
| IC 180-138696/21   |                  | 04/16/2015 16:47 | 1                  | 00450798.D  | RTX-CLP2 0.53 (mm) |
| ICV 180-138696/22  |                  | 04/16/2015 17:06 | 1                  |             | RTX-CLP1 0.53 (mm) |
| ICV 180-138696/22  |                  | 04/16/2015 17:06 | 1                  |             | RTX-CLP2 0.53 (mm) |
| ICV 180-138696/23  |                  | 04/16/2015 17:26 | 1                  |             | RTX-CLP1 0.53 (mm) |
| ICV 180-138696/23  |                  | 04/16/2015 17:26 | 1                  |             | RTX-CLP2 0.53 (mm) |
| ICV 180-138696/24  |                  | 04/16/2015 17:46 | 1                  |             | RTX-CLP1 0.53 (mm) |
| ICV 180-138696/24  |                  | 04/16/2015 17:46 | 1                  |             | RTX-CLP2 0.53 (mm) |
| ICV 180-138696/25  |                  | 04/16/2015 18:06 | 1                  |             | RTX-CLP1 0.53 (mm) |

## GC SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica PittsburghJob No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8Start Date: 04/16/2015 10:51Analysis Batch Number: 138696End Date: 04/17/2015 01:20

| LAB SAMPLE ID     | CLIENT SAMPLE ID | DATE ANALYZED    | DILUTION<br>FACTOR | LAB FILE ID | COLUMN ID          |
|-------------------|------------------|------------------|--------------------|-------------|--------------------|
| ICV 180-138696/25 |                  | 04/16/2015 18:06 | 1                  |             | RTX-CLP2 0.53 (mm) |
| ICV 180-138696/26 |                  | 04/16/2015 18:25 | 1                  |             | RTX-CLP1 0.53 (mm) |
| ICV 180-138696/26 |                  | 04/16/2015 18:25 | 1                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 18:45 | 1                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 18:45 | 1                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 19:05 | 5                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 19:05 | 5                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 19:24 | 1                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 19:24 | 1                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 19:44 | 1                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 19:44 | 1                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 20:04 | 1                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 20:04 | 1                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 20:24 | 1                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 20:24 | 1                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 20:43 | 1                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 20:43 | 1                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 21:03 | 1                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 21:03 | 1                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 21:23 | 1                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 21:23 | 1                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 21:43 | 1                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 21:43 | 1                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 22:02 | 1                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 22:02 | 1                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 22:22 | 1                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 22:22 | 1                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 22:42 | 1                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 22:42 | 1                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 23:02 | 1                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 23:02 | 1                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 23:21 | 1                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 23:21 | 1                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 23:41 | 1                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ             |                  | 04/16/2015 23:41 | 1                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ             |                  | 04/17/2015 00:01 | 1                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ             |                  | 04/17/2015 00:01 | 1                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ             |                  | 04/17/2015 00:21 | 1                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ             |                  | 04/17/2015 00:21 | 1                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ             |                  | 04/17/2015 00:40 | 1                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ             |                  | 04/17/2015 00:40 | 1                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ             |                  | 04/17/2015 01:00 | 1                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ             |                  | 04/17/2015 01:00 | 1                  |             | RTX-CLP2 0.53 (mm) |
| CCV 180-138696/47 |                  | 04/17/2015 01:20 | 1                  |             | RTX-CLP1 0.53 (mm) |
| CCV 180-138696/47 |                  | 04/17/2015 01:20 | 1                  |             | RTX-CLP2 0.53 (mm) |

## GC SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica PittsburghJob No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8Start Date: 05/01/2015 18:01Analysis Batch Number: 140301End Date: 05/02/2015 04:53

| LAB SAMPLE ID      | CLIENT SAMPLE ID | DATE ANALYZED    | DILUTION<br>FACTOR | LAB FILE ID | COLUMN ID          |
|--------------------|------------------|------------------|--------------------|-------------|--------------------|
| CCVRT 180-140301/2 |                  | 05/01/2015 18:01 | 1                  | O0501025.D  | RTX-CLP1 0.53 (mm) |
| CCVRT 180-140301/2 |                  | 05/01/2015 18:01 | 1                  | O0501025.D  | RTX-CLP2 0.53 (mm) |
| MB 180-140214/1-C  |                  | 05/01/2015 18:20 | 1                  | O0501026.D  | RTX-CLP1 0.53 (mm) |
| MB 180-140214/1-C  |                  | 05/01/2015 18:20 | 1                  | O0501026.D  | RTX-CLP2 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 18:40 | 5                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 18:40 | 5                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 19:00 | 5                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 19:00 | 5                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 19:20 | 5                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 19:20 | 5                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 19:40 | 5                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 19:40 | 5                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 19:59 | 5                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 19:59 | 5                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 20:19 | 5                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 20:19 | 5                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 20:39 | 5                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 20:39 | 5                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 20:59 | 5                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 20:59 | 5                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 21:18 | 5                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 21:18 | 5                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 21:38 | 5                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 21:38 | 5                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 21:58 | 5                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 21:58 | 5                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 22:18 | 5                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 22:18 | 5                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 22:37 | 5                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 22:37 | 5                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 22:57 | 5                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 22:57 | 5                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 23:17 | 5                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 23:17 | 5                  |             | RTX-CLP2 0.53 (mm) |
| 180-43411-2        | F05-SD           | 05/01/2015 23:37 | 5                  | O0501042.D  | RTX-CLP1 0.53 (mm) |
| 180-43411-2        | F05-SD           | 05/01/2015 23:37 | 5                  | O0501042.D  | RTX-CLP2 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 23:56 | 5                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ              |                  | 05/01/2015 23:56 | 5                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ              |                  | 05/02/2015 00:16 | 1                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ              |                  | 05/02/2015 00:16 | 1                  |             | RTX-CLP2 0.53 (mm) |
| LCS 180-140214/2-C |                  | 05/02/2015 00:36 | 1                  | O0501045.D  | RTX-CLP1 0.53 (mm) |
| LCS 180-140214/2-C |                  | 05/02/2015 00:36 | 1                  | O0501045.D  | RTX-CLP2 0.53 (mm) |
| CCV 180-140301/23  |                  | 05/02/2015 00:56 | 1                  | O0501046.D  | RTX-CLP1 0.53 (mm) |
| CCV 180-140301/23  |                  | 05/02/2015 00:56 | 1                  | O0501046.D  | RTX-CLP2 0.53 (mm) |
| ZZZZZ              |                  | 05/02/2015 01:15 | 5                  |             | RTX-CLP1 0.53 (mm) |

## GC SEMI VOA ANALYSIS RUN LOG

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: CHGC8 Start Date: 05/01/2015 18:01Analysis Batch Number: 140301 End Date: 05/02/2015 04:53

| LAB SAMPLE ID     | CLIENT SAMPLE ID | DATE ANALYZED    | DILUTION<br>FACTOR | LAB FILE ID | COLUMN ID          |
|-------------------|------------------|------------------|--------------------|-------------|--------------------|
| ZZZZZ             |                  | 05/02/2015 01:15 | 5                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ             |                  | 05/02/2015 01:35 | 5                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ             |                  | 05/02/2015 01:35 | 5                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ             |                  | 05/02/2015 01:55 | 5                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ             |                  | 05/02/2015 01:55 | 5                  |             | RTX-CLP2 0.53 (mm) |
| ZZZZZ             |                  | 05/02/2015 02:15 | 5                  |             | RTX-CLP1 0.53 (mm) |
| ZZZZZ             |                  | 05/02/2015 02:15 | 5                  |             | RTX-CLP2 0.53 (mm) |
| CCV 180-140301/35 |                  | 05/02/2015 04:53 | 1                  |             | RTX-CLP1 0.53 (mm) |
| CCV 180-140301/35 |                  | 05/02/2015 04:53 | 1                  |             | RTX-CLP2 0.53 (mm) |

## GC SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Batch Number: 140214 Batch Start Date: 05/01/15 03:16 Batch Analyst: Pino, BrianBatch Method: 3541 Batch End Date: 05/01/15 10:35

| Lab Sample ID       | Client Sample ID | Method Chain                 | Basis | FinalAmount | InitialAmount | GCMATRIXWORKS<br>00012 | OP/PESTPCBRTS<br>00002 |  |  |
|---------------------|------------------|------------------------------|-------|-------------|---------------|------------------------|------------------------|--|--|
| MB 180-140214/1     |                  | 3541, 3665A,<br>3660B, 8082A |       | 1.0 mL      | 30.0 g        |                        | 0.1 mL                 |  |  |
| LCS<br>180-140214/2 |                  | 3541, 3665A,<br>3660B, 8082A |       | 1.0 mL      | 30.0 g        | 0.025 mL               | 0.1 mL                 |  |  |
| 180-43411-A-2       | F05-SD           | 3541, 3665A,<br>3660B, 8082A | T     | 1.0 mL      | 30.4 g        |                        | 0.1 mL                 |  |  |

| Batch Notes                             |                |
|---|----------------|
| Balance ID                              | 1120122641     |
| Batch Comment                           | sox 4 5 6 7    |
| Person's name who did the concentration | BP             |
| Exchange Solvent Lot #                  | 1531111        |
| Exchange Solvent Name                   | Hexane         |
| Magnesium Sulfate Lot #                 | 1543719        |
| N-evap #                                | 2              |
| Na2SO4 Lot Number                       | 1540001        |
| Person's name who did the prep          | BP             |
| Solvent                                 | Hexane/acetone |
| Solvent Lot #                           | 1545687        |
| Uncorrected N-evap Temperature          | 32 Degrees C   |

| Basis | Basis Description |
|-------|-------------------|
| T     | Total/NA          |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

## GC SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Batch Number: 140296 Batch Start Date: 05/01/15 12:37 Batch Analyst: Gupta, AshokBatch Method: 3665A Batch End Date: \_\_\_\_\_

| Lab Sample ID         | Client Sample ID | Method Chain           | Basis | InitialAmount | FinalAmount | WH2SO4ConcP<br>00038 |  |  |  |
|-----------------------|------------------|------------------------|-------|---------------|-------------|----------------------|--|--|--|
| MB<br>180-140214/1-A  |                  | 3665A,<br>3660B, 8082A |       | 2 mL          | 2 mL        | 2 mL                 |  |  |  |
| LCS<br>180-140214/2-A |                  | 3665A,<br>3660B, 8082A |       | 2 mL          | 2 mL        | 2 mL                 |  |  |  |
| 180-43411-A-2-F       | F05-SD           | 3665A,<br>3660B, 8082A | T     | 2 mL          | 2 mL        | 2 mL                 |  |  |  |

| Batch Notes |  |
|-------------|--|
|             |  |
|             |  |

| Basis | Basis Description |
|-------|-------------------|
| T     | Total/NA          |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

## GC SEMI VOA BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Batch Number: 140297 Batch Start Date: 05/01/15 12:39 Batch Analyst: Gupta, AshokBatch Method: 3660B Batch End Date: \_\_\_\_\_

| Lab Sample ID         | Client Sample ID | Method Chain | Basis | InitialAmount | FinalAmount | GCTBASOLUTION<br>00027 |  |  |  |
|-----------------------|------------------|--------------|-------|---------------|-------------|------------------------|--|--|--|
| MB<br>180-140214/1-B  |                  | 3660B, 8082A |       | 2 mL          | 2 mL        | 2 mL                   |  |  |  |
| LCS<br>180-140214/2-B |                  | 3660B, 8082A |       | 2 mL          | 2 mL        | 2 mL                   |  |  |  |
| 180-43411-A-2-G       | F05-SD           | 3660B, 8082A | T     | 2 mL          | 2 mL        | 2 mL                   |  |  |  |

| Batch Notes |  |
|-------------|--|
|             |  |
|             |  |

| Basis | Basis Description |
|-------|-------------------|
| T     | Total/NA          |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

# METALS



COVER PAGE  
METALS

Lab Name: TestAmerica Pittsburgh Job Number: 180-43411-1

SDG No.: \_\_\_\_\_

Project: Sparrows Point Trust Offshore Investigat

Client Sample ID

DE01-SD

F05-SD

Lab Sample ID

180-43411-1

180-43411-2

Comments:

1A-IN  
INORGANIC ANALYSIS DATA SHEET  
METALS

Client Sample ID: DE01-SD

Lab Sample ID: 180-43411-1

Lab Name: TestAmerica Pittsburgh

Job No.: 180-43411-1

SDG ID.:

Matrix: Sediment

Date Sampled: 04/23/2015 13:00

Reporting Basis: DRY

Date Received: 04/24/2015 08:30

% Solids: 72.2

| CAS No.   | Analyte   | Result | RL    | MDL    | Units | C | Q | DIL | Method |
|-----------|-----------|--------|-------|--------|-------|---|---|-----|--------|
| 7440-38-2 | Arsenic   | 5.0    | 0.068 | 0.012  | mg/Kg |   |   | 1   | 6020A  |
| 7440-43-9 | Cadmium   | 1.8    | 0.068 | 0.0048 | mg/Kg |   |   | 1   | 6020A  |
| 7440-47-3 | Chromium  | 110    | 0.14  | 0.0042 | mg/Kg |   |   | 1   | 6020A  |
| 7439-92-1 | Lead      | 15     | 0.068 | 0.0026 | mg/Kg |   |   | 1   | 6020A  |
| 7782-49-2 | Selenium  | 0.13   | 0.34  | 0.034  | mg/Kg | J |   | 1   | 6020A  |
| 7440-22-4 | Silver    | 0.073  | 0.068 | 0.0027 | mg/Kg |   |   | 1   | 6020A  |
| 7440-41-7 | Beryllium | 0.10   | 0.068 | 0.0051 | mg/Kg |   |   | 1   | 6020A  |
| 7440-28-0 | Thallium  | 0.032  | 0.068 | 0.0014 | mg/Kg | J | B | 1   | 6020A  |
| 7440-36-0 | Antimony  | 0.29   | 0.14  | 0.0018 | mg/Kg |   |   | 1   | 6020A  |
| 7440-02-0 | Nickel    | 4.1    | 0.068 | 0.0077 | mg/Kg |   |   | 1   | 6020A  |
| 7440-66-6 | Zinc      | 290    | 0.34  | 0.044  | mg/Kg |   |   | 1   | 6020A  |
| 7440-50-8 | Copper    | 8.5    | 0.14  | 0.023  | mg/Kg |   |   | 1   | 6020A  |

1A-IN  
INORGANIC ANALYSIS DATA SHEET  
METALS - SEM/AVS

|                                  |                                 |
|----------------------------------|---------------------------------|
| Client Sample ID: DE01-SD        | Lab Sample ID: 180-43411-1      |
| Lab Name: TestAmerica Pittsburgh | Job No.: 180-43411-1            |
| SDG ID.:                         |                                 |
| Matrix: Sediment                 | Date Sampled: 04/23/2015 13:00  |
| Reporting Basis: DRY             | Date Received: 04/24/2015 08:30 |
| % Solids: 72.2                   |                                 |

| CAS No.   | Analyte     | Result | RL     | MDL      | Units  | C | Q | DIL | Method |
|-----------|-------------|--------|--------|----------|--------|---|---|-----|--------|
| 7440-43-9 | Cadmium SEM | 2.5    | 0.17   | 0.0057   | mg/Kg  |   |   | 1   | 6010B  |
| 7440-43-9 | Cadmium SEM | 0.022  | 0.0015 | 0.000050 | umol/g |   |   | 1   | 6010B  |
| 7440-50-8 | Copper SEM  | 9.1    | 0.86   | 0.077    | mg/Kg  |   | B | 1   | 6010B  |
| 7440-50-8 | Copper SEM  | 0.14   | 0.014  | 0.0012   | umol/g |   | B | 1   | 6010B  |
| 7439-92-1 | Lead SEM    | 14     | 0.35   | 0.068    | mg/Kg  |   |   | 1   | 6010B  |
| 7439-92-1 | Lead SEM    | 0.067  | 0.0017 | 0.00033  | umol/g |   |   | 1   | 6010B  |
| 7440-02-0 | Nickel SEM  | 3.4    | 1.4    | 0.040    | mg/Kg  |   | B | 1   | 6010B  |
| 7440-02-0 | Nickel SEM  | 0.059  | 0.024  | 0.00068  | umol/g |   | B | 1   | 6010B  |
| 7440-66-6 | Zinc SEM    | 420    | 3.5    | 0.26     | mg/Kg  |   | B | 1   | 6010B  |
| 7440-66-6 | Zinc SEM    | 6.4    | 0.053  | 0.0039   | umol/g |   | B | 1   | 6010B  |

1A-IN  
INORGANIC ANALYSIS DATA SHEET  
METALS - SEM/AVS

Client Sample ID: DE01-SD

Lab Sample ID: 180-43411-1

Lab Name: TestAmerica Pittsburgh

Job No.: 180-43411-1

SDG ID.:

Matrix: Sediment

Date Sampled: 04/23/2015 13:00

Reporting Basis: WET

Date Received: 04/24/2015 08:30

| CAS No. | Analyte       | Result | RL     | MDL    | Units | C | Q | DIL | Method |
|---------|---------------|--------|--------|--------|-------|---|---|-----|--------|
|         | SEM/AVS Ratio | 19     | 0.0010 | 0.0010 | NONE  |   |   | 1   | SEM    |

1A-IN  
INORGANIC ANALYSIS DATA SHEET  
METALS

Client Sample ID: F05-SD

Lab Sample ID: 180-43411-2

Lab Name: TestAmerica Pittsburgh

Job No.: 180-43411-1

SDG ID.:

Matrix: Sediment

Date Sampled: 04/23/2015 16:00

Reporting Basis: DRY

Date Received: 04/24/2015 08:30

% Solids: 71.3

| CAS No.   | Analyte   | Result | RL    | MDL    | Units | C | Q | DIL | Method |
|-----------|-----------|--------|-------|--------|-------|---|---|-----|--------|
| 7440-38-2 | Arsenic   | 5.9    | 0.068 | 0.012  | mg/Kg |   |   | 1   | 6020A  |
| 7440-43-9 | Cadmium   | 5.3    | 0.068 | 0.0048 | mg/Kg |   |   | 1   | 6020A  |
| 7440-47-3 | Chromium  | 860    | 0.14  | 0.0042 | mg/Kg |   |   | 1   | 6020A  |
| 7439-92-1 | Lead      | 75     | 0.068 | 0.0026 | mg/Kg |   |   | 1   | 6020A  |
| 7782-49-2 | Selenium  | 0.34   | 0.34  | 0.034  | mg/Kg |   |   | 1   | 6020A  |
| 7440-22-4 | Silver    | 0.80   | 0.068 | 0.0027 | mg/Kg |   |   | 1   | 6020A  |
| 7440-41-7 | Beryllium | 0.10   | 0.068 | 0.0051 | mg/Kg |   |   | 1   | 6020A  |
| 7440-28-0 | Thallium  | 0.093  | 0.068 | 0.0014 | mg/Kg |   | B | 1   | 6020A  |
| 7440-36-0 | Antimony  | 1.9    | 0.14  | 0.0018 | mg/Kg |   |   | 1   | 6020A  |
| 7440-02-0 | Nickel    | 41     | 0.068 | 0.0077 | mg/Kg |   |   | 1   | 6020A  |
| 7440-66-6 | Zinc      | 1200   | 0.34  | 0.044  | mg/Kg |   |   | 1   | 6020A  |
| 7440-50-8 | Copper    | 66     | 0.14  | 0.023  | mg/Kg |   |   | 1   | 6020A  |
| 7439-97-6 | Mercury   | 0.088  | 0.023 | 0.0077 | mg/Kg |   |   | 1   | 7471A  |

1A-IN  
INORGANIC ANALYSIS DATA SHEET  
METALS - SEM/AVS

Client Sample ID: F05-SD

Lab Sample ID: 180-43411-2

Lab Name: TestAmerica Pittsburgh

Job No.: 180-43411-1

SDG ID.:

Matrix: Sediment

Date Sampled: 04/23/2015 16:00

Reporting Basis: DRY

Date Received: 04/24/2015 08:30

% Solids: 71.3

| CAS No.   | Analyte     | Result | RL     | MDL      | Units  | C | Q | DIL | Method |
|-----------|-------------|--------|--------|----------|--------|---|---|-----|--------|
| 7440-43-9 | Cadmium SEM | 3.0    | 0.18   | 0.0058   | mg/Kg  |   |   | 1   | 6010B  |
| 7440-43-9 | Cadmium SEM | 0.027  | 0.0016 | 0.000051 | umol/g |   |   | 1   | 6010B  |
| 7440-50-8 | Copper SEM  | 22     | 0.88   | 0.079    | mg/Kg  |   | B | 1   | 6010B  |
| 7440-50-8 | Copper SEM  | 0.34   | 0.014  | 0.0012   | umol/g |   | B | 1   | 6010B  |
| 7439-92-1 | Lead SEM    | 34     | 0.70   | 0.14     | mg/Kg  |   |   | 2   | 6010B  |
| 7439-92-1 | Lead SEM    | 0.16   | 0.0034 | 0.00067  | umol/g |   |   | 2   | 6010B  |
| 7440-02-0 | Nickel SEM  | 17     | 2.8    | 0.081    | mg/Kg  |   | B | 2   | 6010B  |
| 7440-02-0 | Nickel SEM  | 0.28   | 0.048  | 0.0014   | umol/g |   | B | 2   | 6010B  |
| 7440-66-6 | Zinc SEM    | 570    | 3.5    | 0.26     | mg/Kg  |   | B | 1   | 6010B  |
| 7440-66-6 | Zinc SEM    | 8.7    | 0.054  | 0.0040   | umol/g |   | B | 1   | 6010B  |

1A-IN  
INORGANIC ANALYSIS DATA SHEET  
METALS - SEM/AVS

Client Sample ID: F05-SD

Lab Sample ID: 180-43411-2

Lab Name: TestAmerica Pittsburgh

Job No.: 180-43411-1

SDG ID.:

Matrix: Sediment

Date Sampled: 04/23/2015 16:00

Reporting Basis: WET

Date Received: 04/24/2015 08:30

| CAS No. | Analyte       | Result | RL     | MDL    | Units | C | Q | DIL | Method |
|---------|---------------|--------|--------|--------|-------|---|---|-----|--------|
|         | SEM/AVS Ratio | 0.28   | 0.0010 | 0.0010 | NONE  |   |   | 1   | SEM    |

2A-IN  
CALIBRATION VERIFICATIONS  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

ICV Source: MICV1\_00052 Concentration Units: ug/L

CCV Source: MCCV1\_00152

| Analyte            | ICV 180-140803/4<br>05/06/2015 07:12 |   |      |     | ICV 180-140803/5<br>05/06/2015 07:16 |   |      |     | CCV 180-140803/12<br>05/06/2015 07:52 |   |      |     |
|--------------------|--------------------------------------|---|------|-----|--------------------------------------|---|------|-----|---------------------------------------|---|------|-----|
|                    | Found                                | C | True | %R  | Found                                | C | True | %R  | Found                                 | C | True | %R  |
| <b>Cadmium SEM</b> | 248                                  |   | 250  | 99  | 253                                  |   | 250  | 101 | 515                                   |   | 500  | 103 |
| <b>Copper SEM</b>  | 968                                  |   | 1000 | 97  | 955                                  |   | 1000 | 96  | 1900                                  |   | 2000 | 95  |
| <b>Lead SEM</b>    | 244                                  |   | 250  | 98  | 251                                  |   | 250  | 100 | 516                                   |   | 500  | 103 |
| <b>Nickel SEM</b>  | 1010                                 |   | 1000 | 101 | 1050                                 |   | 1000 | 105 | 2090                                  |   | 2000 | 104 |
| <b>Zinc SEM</b>    | 991                                  |   | 1000 | 99  | 1020                                 |   | 1000 | 102 | 2010                                  |   | 2000 | 101 |

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.  
Italicized analytes were not requested for this sequence.



2A-IN  
CALIBRATION VERIFICATIONS  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

ICV Source: MICV1\_00052 Concentration Units: ug/L

CCV Source: MCCV1\_00152

| Analyte            | CCV 180-140803/76<br>05/06/2015 13:16 |   |      |     | CCV 180-140803/88<br>05/06/2015 14:19 |   |      |     | CCV 180-140803/100<br>05/06/2015 15:20 |   |      |     |
|--------------------|---------------------------------------|---|------|-----|---------------------------------------|---|------|-----|--|---|------|-----|
|                    | Found                                 | C | True | %R  | Found                                 | C | True | %R  | Found                                  | C | True | %R  |
| <b>Cadmium SEM</b> | 522                                   |   | 500  | 104 | 531                                   |   | 500  | 106 | 523                                    |   | 500  | 105 |
| <b>Copper SEM</b>  | 1970                                  |   | 2000 | 99  | 1940                                  |   | 2000 | 97  | 1950                                   |   | 2000 | 98  |
| <b>Lead SEM</b>    | 515                                   |   | 500  | 103 | 525                                   |   | 500  | 105 | 517                                    |   | 500  | 103 |
| <b>Nickel SEM</b>  | 2090                                  |   | 2000 | 105 | 2120                                  |   | 2000 | 106 | 2090                                   |   | 2000 | 104 |
| <b>Zinc SEM</b>    | 2020                                  |   | 2000 | 101 | 2030                                  |   | 2000 | 101 | 2010                                   |   | 2000 | 100 |

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.  
Italicized analytes were not requested for this sequence.

2A-IN  
CALIBRATION VERIFICATIONS  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

ICV Source: MICV1\_00052 Concentration Units: ug/L

CCV Source: MCCV1\_00152

| Analyte           | ICV 180-140890/4<br>05/07/2015 07:38 |   |      |     | CCV 180-140890/9<br>05/07/2015 08:04 |   |      |     | CCV 180-140890/21<br>05/07/2015 09:06 |   |      |     |
|-------------------|--------------------------------------|---|------|-----|--------------------------------------|---|------|-----|---------------------------------------|---|------|-----|
|                   | Found                                | C | True | %R  | Found                                | C | True | %R  | Found                                 | C | True | %R  |
| <b>Lead SEM</b>   | 241                                  |   | 250  | 97  | 503                                  |   | 500  | 101 | 516                                   |   | 500  | 103 |
| <b>Nickel SEM</b> | 1000                                 |   | 1000 | 100 | 2030                                 |   | 2000 | 102 | 2070                                  |   | 2000 | 104 |
| <i>Cadmium</i>    | 245                                  |   | 250  | 98  | 503                                  |   | 500  | 101 | 513                                   |   | 500  | 103 |
| <i>Copper</i>     | 966                                  |   | 1000 | 97  | 1880                                 |   | 2000 | 94  | 1900                                  |   | 2000 | 95  |
| <i>Zinc</i>       | 980                                  |   | 1000 | 98  | 1960                                 |   | 2000 | 98  | 1990                                  |   | 2000 | 100 |

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.  
Italicized analytes were not requested for this sequence.

2A-IN  
CALIBRATION VERIFICATIONS  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

ICV Source: MICVX\_00031 Concentration Units: ug/L

CCV Source: MCCV1X\_00074

| Analyte          | ICV 180-140396/5<br>05/01/2015 16:05 |   |      |     | CCV 180-140396/10<br>05/01/2015 16:39 |   |      |     | CCV 180-140396/22<br>05/01/2015 17:51 |   |      |     |
|------------------|--------------------------------------|---|------|-----|---------------------------------------|---|------|-----|---------------------------------------|---|------|-----|
|                  | Found                                | C | True | %R  | Found                                 | C | True | %R  | Found                                 | C | True | %R  |
| <b>Antimony</b>  | 80.1                                 |   | 80.0 | 100 | 101                                   |   | 100  | 101 | 98.3                                  |   | 100  | 98  |
| <b>Arsenic</b>   | 81.5                                 |   | 80.0 | 102 | 105                                   |   | 100  | 105 | 104                                   |   | 100  | 104 |
| <b>Beryllium</b> | 82.6                                 |   | 80.0 | 103 | 103                                   |   | 100  | 103 | 94.1                                  |   | 100  | 94  |
| <b>Cadmium</b>   | 80.5                                 |   | 80.0 | 101 | 105                                   |   | 100  | 105 | 101                                   |   | 100  | 101 |
| <b>Chromium</b>  | 75.7                                 |   | 80.0 | 95  | 95.4                                  |   | 100  | 95  | 92.7                                  |   | 100  | 93  |
| <b>Copper</b>    | 79.2                                 |   | 80.0 | 99  | 103                                   |   | 100  | 103 | 101                                   |   | 100  | 101 |
| <b>Lead</b>      | 81.9                                 |   | 80.0 | 102 | 97.1                                  |   | 100  | 97  | 97.2                                  |   | 100  | 97  |
| <b>Nickel</b>    | 76.7                                 |   | 80.0 | 96  | 99.5                                  |   | 100  | 99  | 97.6                                  |   | 100  | 98  |
| <b>Selenium</b>  | 83.4                                 |   | 80.0 | 104 | 108                                   |   | 100  | 108 | 108                                   |   | 100  | 108 |
| <b>Silver</b>    | 78.2                                 |   | 80.0 | 98  | 103                                   |   | 100  | 103 | 102                                   |   | 100  | 102 |
| <b>Thallium</b>  | 82.8                                 |   | 80.0 | 104 | 95.0                                  |   | 100  | 95  | 94.9                                  |   | 100  | 95  |
| <b>Zinc</b>      | 87.3                                 |   | 80.0 | 109 | 109                                   |   | 100  | 109 | 108                                   |   | 100  | 108 |

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.  
Italicized analytes were not requested for this sequence.

2A-IN  
CALIBRATION VERIFICATIONS  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

ICV Source: MICVX\_00031 Concentration Units: ug/L

CCV Source: MCCV1X\_00074

| Analyte          | CCV 180-140396/34<br>05/01/2015 19:00 |   |      |     |       |   |      |    |       |   |      |    |
|------------------|---------------------------------------|---|------|-----|-------|---|------|----|-------|---|------|----|
|                  | Found                                 | C | True | %R  | Found | C | True | %R | Found | C | True | %R |
| <b>Antimony</b>  | 97.9                                  |   | 100  | 98  |       |   |      |    |       |   |      |    |
| <b>Arsenic</b>   | 105                                   |   | 100  | 105 |       |   |      |    |       |   |      |    |
| <b>Beryllium</b> | 91.5                                  |   | 100  | 91  |       |   |      |    |       |   |      |    |
| <b>Cadmium</b>   | 102                                   |   | 100  | 102 |       |   |      |    |       |   |      |    |
| <b>Chromium</b>  | 91.9                                  |   | 100  | 92  |       |   |      |    |       |   |      |    |
| <b>Copper</b>    | 103                                   |   | 100  | 103 |       |   |      |    |       |   |      |    |
| <b>Lead</b>      | 97.3                                  |   | 100  | 97  |       |   |      |    |       |   |      |    |
| <b>Nickel</b>    | 95.8                                  |   | 100  | 96  |       |   |      |    |       |   |      |    |
| <b>Selenium</b>  | 108                                   |   | 100  | 108 |       |   |      |    |       |   |      |    |
| <b>Silver</b>    | 103                                   |   | 100  | 103 |       |   |      |    |       |   |      |    |
| <b>Thallium</b>  | 94.6                                  |   | 100  | 95  |       |   |      |    |       |   |      |    |
| <b>Zinc</b>      | 107                                   |   | 100  | 107 |       |   |      |    |       |   |      |    |

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.  
Italicized analytes were not requested for this sequence.

2A-IN  
CALIBRATION VERIFICATIONS  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

ICV Source: MHgWorkingicv\_01011 Concentration Units: ug/L

CCV Source: MHgworkingCal\_01040

| Analyte        | ICV 180-141017/7-A<br>05/08/2015 12:25 |   |      |     | CCV 180-141017/10-A<br>05/08/2015 12:31 |   |      |     | CCV 180-141017/10-A<br>05/08/2015 13:38 |   |      |    |
|----------------|--|---|------|-----|---|---|------|-----|---|---|------|----|
|                | Found                                  | C | True | %R  | Found                                   | C | True | %R  | Found                                   | C | True | %R |
| <b>Mercury</b> | 2.56                                   |   | 2.50 | 103 | 5.20                                    |   | 5.00 | 104 | 4.90                                    |   | 5.00 | 98 |

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.  
Italicized analytes were not requested for this sequence.

2A-IN  
CALIBRATION VERIFICATIONS  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

ICV Source: MHgWorkingicv\_01011 Concentration Units: ug/L

CCV Source: MHgworkingCal\_01040

| Analyte        | CCV 180-141017/10-A<br>05/08/2015 14:03 |   |      |     | CCV 180-141017/10-A<br>05/08/2015 14:26 |   |      |    | CCV 180-141017/10-A<br>05/08/2015 14:50 |   |      |    |
|----------------|---|---|------|-----|---|---|------|----|---|---|------|----|
|                | Found                                   | C | True | %R  | Found                                   | C | True | %R | Found                                   | C | True | %R |
| <b>Mercury</b> | 5.04                                    |   | 5.00 | 101 | 4.97                                    |   | 5.00 | 99 | 4.81                                    |   | 5.00 | 96 |

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.  
Italicized analytes were not requested for this sequence.

2B-IN  
CRQL CHECK STANDARD  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Method: 6010B Instrument ID: C  
 Lab Sample ID: CRI 180-140803/9 Concentration Units: ug/L  
 CRQL Check Standard Source: MCRA/RLV\_00066

| Analyte     | CRQL Check Standard |       |            |       |        |
|-------------|---------------------|-------|------------|-------|--------|
|             | True                | Found | Qualifiers | %R(1) | Limits |
| Cadmium SEM | 5.00                | 4.87  | J          | 97    | 50-150 |
| Copper SEM  | 25.0                | 25.7  |            | 103   | 50-150 |
| Lead SEM    | 10.0                | 8.86  | J          | 89    | 50-150 |
| Nickel SEM  | 40.0                | 38.9  | J          | 97    | 50-150 |
| Zinc SEM    | 20.0                | 19.2  | J          | 96    | 50-150 |

Lab Sample ID: CRI 180-140803/78 Concentration Units: ug/L  
 CRQL Check Standard Source: MCRA/RLV\_00066

| Analyte     | CRQL Check Standard |       |            |       |        |
|-------------|---------------------|-------|------------|-------|--------|
|             | True                | Found | Qualifiers | %R(1) | Limits |
| Cadmium SEM | 5.00                | 5.06  |            | 101   | 50-150 |
| Copper SEM  | 25.0                | 26.2  |            | 105   | 50-150 |
| Lead SEM    | 10.0                | 10.5  |            | 105   | 50-150 |
| Nickel SEM  | 40.0                | 39.8  | J          | 100   | 50-150 |
| Zinc SEM    | 20.0                | 19.9  | J          | 99    | 50-150 |

Lab Sample ID: CRI 180-140890/6 Concentration Units: ug/L  
 CRQL Check Standard Source: MCRA/RLV\_00066

| Analyte    | CRQL Check Standard |       |            |       |        |
|------------|---------------------|-------|------------|-------|--------|
|            | True                | Found | Qualifiers | %R(1) | Limits |
| Cadmium    | 5.00                | 4.81  | J          | 96    | 50-150 |
| Copper     | 25.0                | 25.0  |            | 100   | 50-150 |
| Lead SEM   | 10.0                | 10.8  |            | 108   | 50-150 |
| Nickel SEM | 40.0                | 37.7  | J          | 94    | 50-150 |
| Zinc       | 20.0                | 18.9  | J          | 94    | 50-150 |

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

2B-IN  
CRQL CHECK STANDARD  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Method: 6020A Instrument ID: X  
 Lab Sample ID: CRI 180-140396/7 Concentration Units: ug/L  
 CRQL Check Standard Source: MCRIX\_00066

| Analyte   | CRQL Check Standard |       |            |       |        |
|-----------|---------------------|-------|------------|-------|--------|
|           | True                | Found | Qualifiers | %R(1) | Limits |
| Arsenic   | 1.00                | 1.11  |            | 111   | 70-130 |
| Cadmium   | 1.00                | 1.08  |            | 108   | 70-130 |
| Chromium  | 2.00                | 1.84  | J          | 92    | 70-130 |
| Lead      | 1.00                | 0.885 | J          | 89    | 70-130 |
| Selenium  | 5.00                | 5.61  |            | 112   | 70-130 |
| Silver    | 1.00                | 1.14  |            | 114   | 70-130 |
| Beryllium | 1.00                | 1.05  |            | 105   | 70-130 |
| Thallium  | 1.00                | 0.840 | J          | 84    | 70-130 |
| Antimony  | 2.00                | 1.73  | J          | 86    | 70-130 |
| Nickel    | 1.00                | 1.18  |            | 118   | 70-130 |
| Zinc      | 5.00                | 6.00  |            | 120   | 70-130 |
| Copper    | 2.00                | 2.29  |            | 114   | 70-130 |

Lab Sample ID: CRI 180-140396/48 Concentration Units: ug/L  
 CRQL Check Standard Source: MCRIX\_00065

| Analyte   | CRQL Check Standard |       |            |       |        |
|-----------|---------------------|-------|------------|-------|--------|
|           | True                | Found | Qualifiers | %R(1) | Limits |
| Arsenic   | 1.00                | 0.965 | J          | 97    | 70-130 |
| Cadmium   | 1.00                | 1.14  |            | 114   | 70-130 |
| Chromium  | 2.00                | 1.82  | J          | 91    | 70-130 |
| Lead      | 1.00                | 0.878 | J          | 88    | 70-130 |
| Selenium  | 5.00                | 5.73  |            | 115   | 70-130 |
| Silver    | 1.00                | 1.17  |            | 117   | 70-130 |
| Beryllium | 1.00                | 0.984 | J          | 98    | 70-130 |
| Thallium  | 1.00                | 0.808 | J          | 81    | 70-130 |
| Antimony  | 2.00                | 1.92  | J          | 96    | 70-130 |
| Nickel    | 1.00                | 1.03  |            | 103   | 70-130 |
| Zinc      | 5.00                | 6.01  |            | 120   | 70-130 |
| Copper    | 2.00                | 2.23  |            | 111   | 70-130 |

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.



2B-IN  
CRQL CHECK STANDARD  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Method: 7471A Instrument ID: K  
Lab Sample ID: CRA 180-141017/9-A Concentration Units: ug/L  
CRQL Check Standard Source: MHgworkingCal\_01040

| Analyte | CRQL Check Standard |       |            |       |        |
|---------|---------------------|-------|------------|-------|--------|
|         | True                | Found | Qualifiers | %R(1) | Limits |
| Mercury | 0.200               | 0.223 |            | 111   | 50-150 |

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

3-IN  
INSTRUMENT BLANKS  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Concentration Units: ug/L

| Analyte            | RL  | ICBIS 180-140803/8<br>05/06/2015 07:32 |   | CCB1 180-140803/13<br>05/06/2015 07:57 |   | CCB7 180-140803/77<br>05/06/2015 13:21 |   | CCB8 180-140803/89<br>05/06/2015 14:24 |   |
|--------------------|-----|--|---|--|---|--|---|--|---|
|                    |     | Found                                  | C | Found                                  | C | Found                                  | C | Found                                  | C |
| <b>Cadmium SEM</b> | 5.0 | ND                                     |   | ND                                     |   | ND                                     |   | ND                                     |   |
| <b>Copper SEM</b>  | 25  | ND                                     |   | ND                                     |   | ND                                     |   | ND                                     |   |
| <b>Lead SEM</b>    | 10  | ND                                     |   | ND                                     |   | ND                                     |   | ND                                     |   |
| <b>Nickel SEM</b>  | 40  | ND                                     |   | ND                                     |   | ND                                     |   | ND                                     |   |
| <b>Zinc SEM</b>    | 20  | ND                                     |   | ND                                     |   | ND                                     |   | ND                                     |   |

Italicized analytes were not requested for this sequence.

3-IN  
INSTRUMENT BLANKS  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Concentration Units: ug/L

| Analyte            | RL  | CCB9 180-140803/101<br>05/06/2015 15:24 |   |       |   |       |   |       |   |
|--------------------|-----|---|---|-------|---|-------|---|-------|---|
|                    |     | Found                                   | C | Found | C | Found | C | Found | C |
| <b>Cadmium SEM</b> | 5.0 | ND                                      |   |       |   |       |   |       |   |
| <b>Copper SEM</b>  | 25  | ND                                      |   |       |   |       |   |       |   |
| <b>Lead SEM</b>    | 10  | ND                                      |   |       |   |       |   |       |   |
| <b>Nickel SEM</b>  | 40  | ND                                      |   |       |   |       |   |       |   |
| <b>Zinc SEM</b>    | 20  | ND                                      |   |       |   |       |   |       |   |

Italicized analytes were not requested for this sequence.

3-IN  
INSTRUMENT BLANKS  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Concentration Units: ug/L

| Analyte           | RL  | ICBIS 180-140890/5<br>05/07/2015 07:43 |   | CCB1 180-140890/10<br>05/07/2015 08:08 |   | CCB2 180-140890/22<br>05/07/2015 09:11 |   |       |   |
|-------------------|-----|--|---|--|---|--|---|-------|---|
|                   |     | Found                                  | C | Found                                  | C | Found                                  | C | Found | C |
| <b>Lead SEM</b>   | 10  | ND                                     |   | 1.56                                   | J | ND                                     |   |       |   |
| <b>Nickel SEM</b> | 40  | ND                                     |   | ND                                     |   | ND                                     |   |       |   |
| <i>Cadmium</i>    | 5.0 | ND                                     |   | ND                                     |   | ND                                     |   |       |   |
| <i>Copper</i>     | 25  | ND                                     |   | ND                                     |   | ND                                     |   |       |   |
| <i>Zinc</i>       | 20  | ND                                     |   | ND                                     |   | ND                                     |   |       |   |

Italicized analytes were not requested for this sequence.

3-IN  
INSTRUMENT BLANKS  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Concentration Units: ug/L

| Analyte          | RL  | ICB 180-140396/6<br>05/01/2015 16:14 |   | CCB1 180-140396/11<br>05/01/2015 16:48 |   | CCB2 180-140396/23<br>05/01/2015 18:00 |   | CCB3 180-140396/35<br>05/01/2015 19:09 |   |
|------------------|-----|--------------------------------------|---|--|---|--|---|--|---|
|                  |     | Found                                | C | Found                                  | C | Found                                  | C | Found                                  | C |
| <b>Antimony</b>  | 2.0 | ND                                   |   | 0.0250                                 | J | 0.0260                                 | J | ND                                     |   |
| <b>Arsenic</b>   | 1.0 | ND                                   |   | ND                                     |   | ND                                     |   | ND                                     |   |
| <b>Beryllium</b> | 1.0 | ND                                   |   | ND                                     |   | ND                                     |   | ND                                     |   |
| <b>Cadmium</b>   | 1.0 | ND                                   |   | ND                                     |   | ND                                     |   | ND                                     |   |
| <b>Chromium</b>  | 2.0 | ND                                   |   | ND                                     |   | ND                                     |   | ND                                     |   |
| <b>Copper</b>    | 2.0 | ND                                   |   | ND                                     |   | ND                                     |   | ND                                     |   |
| <b>Lead</b>      | 1.0 | ND                                   |   | ND                                     |   | ND                                     |   | ND                                     |   |
| <b>Nickel</b>    | 1.0 | ND                                   |   | ND                                     |   | ND                                     |   | ND                                     |   |
| <b>Selenium</b>  | 5.0 | ND                                   |   | ND                                     |   | ND                                     |   | ND                                     |   |
| <b>Silver</b>    | 1.0 | ND                                   |   | ND                                     |   | ND                                     |   | ND                                     |   |
| <b>Thallium</b>  | 1.0 | 0.0230                               | J | 0.0290                                 | J | 0.0500                                 | J | 0.0370                                 | J |
| <b>Zinc</b>      | 5.0 | ND                                   |   | ND                                     |   | ND                                     |   | ND                                     |   |

Italicized analytes were not requested for this sequence.

3-IN  
INSTRUMENT BLANKS  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Concentration Units: ug/L

| Analyte        | RL   | ICB 180-141017/8-A<br>05/08/2015 12:27 |   | CCB 180-141017/11-A<br>05/08/2015 12:33 |   | CCB 180-141017/11-A<br>05/08/2015 13:41 |   | CCB 180-141017/11-A<br>05/08/2015 14:05 |   |
|----------------|------|--|---|---|---|---|---|---|---|
|                |      | Found                                  | C | Found                                   | C | Found                                   | C | Found                                   | C |
| <b>Mercury</b> | 0.20 | ND                                     |   | ND                                      |   | ND                                      |   | ND                                      |   |

Italicized analytes were not requested for this sequence.

3-IN  
INSTRUMENT BLANKS  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Concentration Units: ug/L

| Analyte        | RL   | CCB 180-141017/11-A<br>05/08/2015 14:28 |   | CCB 180-141017/11-A<br>05/08/2015 14:52 |   |       |   |       |   |
|----------------|------|---|---|---|---|-------|---|-------|---|
|                |      | Found                                   | C | Found                                   | C | Found | C | Found | C |
| <b>Mercury</b> | 0.20 | ND                                      |   | ND                                      |   |       |   |       |   |

Italicized analytes were not requested for this sequence.

3-IN  
METHOD BLANK  
METALS - SEM/AVS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Concentration Units: mg/Kg Lab Sample ID: MB 180-140635/1-A  
Instrument Code: C Batch No.: 140803

| CAS No.   | Analyte     | Concentration | C | Q | Method |
|-----------|-------------|---------------|---|---|--------|
| 7440-43-9 | Cadmium SEM | ND            |   |   | 6010B  |
| 7440-50-8 | Copper SEM  | 0.0665        | J |   | 6010B  |
| 7439-92-1 | Lead SEM    | ND            |   |   | 6010B  |
| 7440-02-0 | Nickel SEM  | 0.0618        | J |   | 6010B  |
| 7440-66-6 | Zinc SEM    | 1.35          | J |   | 6010B  |



3-IN  
METHOD BLANK  
METALS - SEM/AVS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Concentration Units: umol/g Lab Sample ID: MB 180-140635/1-A  
Instrument Code: C Batch No.: 140803

| CAS No.   | Analyte     | Concentration | C | Q | Method |
|-----------|-------------|---------------|---|---|--------|
| 7440-43-9 | Cadmium SEM | ND            |   |   | 6010B  |
| 7440-50-8 | Copper SEM  | 0.00105       | J |   | 6010B  |
| 7439-92-1 | Lead SEM    | ND            |   |   | 6010B  |
| 7440-02-0 | Nickel SEM  | 0.00105       | J |   | 6010B  |
| 7440-66-6 | Zinc SEM    | 0.0206        | J |   | 6010B  |

3-IN  
METHOD BLANK  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Concentration Units: mg/Kg Lab Sample ID: MB 180-139790/1-A

Instrument Code: X Batch No.: 140396

| CAS No.   | Analyte   | Concentration | C | Q | Method |
|-----------|-----------|---------------|---|---|--------|
| 7440-38-2 | Arsenic   | ND            |   |   | 6020A  |
| 7440-43-9 | Cadmium   | ND            |   |   | 6020A  |
| 7440-47-3 | Chromium  | ND            |   |   | 6020A  |
| 7439-92-1 | Lead      | ND            |   |   | 6020A  |
| 7782-49-2 | Selenium  | ND            |   |   | 6020A  |
| 7440-22-4 | Silver    | ND            |   |   | 6020A  |
| 7440-41-7 | Beryllium | ND            |   |   | 6020A  |
| 7440-28-0 | Thallium  | 0.00129       | J |   | 6020A  |
| 7440-36-0 | Antimony  | ND            |   |   | 6020A  |
| 7440-02-0 | Nickel    | ND            |   |   | 6020A  |
| 7440-66-6 | Zinc      | ND            |   |   | 6020A  |
| 7440-50-8 | Copper    | ND            |   |   | 6020A  |

3-IN  
METHOD BLANK  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Concentration Units: mg/Kg Lab Sample ID: MB 180-140974/1-A  
Instrument Code: K Batch No.: 141156

| CAS No.   | Analyte | Concentration | C | Q | Method |
|-----------|---------|---------------|---|---|--------|
| 7439-97-6 | Mercury | ND            |   |   | 7471A  |

4A-IN  
INTERFERENCE CHECK STANDARD  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICSAB 180-140803/11 Instrument ID: C  
Lab File ID: C50506A.asc ICS Source: MICSAB\_00053  
Concentration Units: ug/L

| Analyte            | True        | Found       | Percent<br>Recovery |
|--------------------|-------------|-------------|---------------------|
|                    | Solution AB | Solution AB |                     |
| <b>Cadmium SEM</b> | <b>1000</b> | <b>1027</b> | <b>103</b>          |
| <b>Copper SEM</b>  | <b>500</b>  | <b>496</b>  | <b>99</b>           |
| <b>Lead SEM</b>    | <b>1000</b> | <b>950</b>  | <b>95</b>           |
| <b>Nickel SEM</b>  | <b>1000</b> | <b>971</b>  | <b>97</b>           |
| <b>Zinc SEM</b>    | <b>1000</b> | <b>901</b>  | <b>90</b>           |
| <i>Arsenic</i>     | <i>1000</i> | <i>989</i>  | <i>99</i>           |
| <i>Chromium</i>    | <i>500</i>  | <i>477</i>  | <i>95</i>           |
| <i>Silver</i>      | <i>1000</i> | <i>1115</i> | <i>111</i>          |

Calculations are performed before rounding to avoid round-off errors in calculated results.

4A-IN  
INTERFERENCE CHECK STANDARD  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Lab Sample ID: ICSAB 180-140890/8 Instrument ID: C  
Lab File ID: C50507B1.asc ICS Source: MICSAB\_00053  
Concentration Units: ug/L

| Analyte           | True        | Found       |                  |
|-------------------|-------------|-------------|------------------|
|                   | Solution AB | Solution AB | Percent Recovery |
| <b>Lead SEM</b>   | <b>1000</b> | <b>944</b>  | <b>94</b>        |
| <b>Nickel SEM</b> | <b>1000</b> | <b>965</b>  | <b>96</b>        |
| <i>Arsenic</i>    | <i>1000</i> | <i>983</i>  | <i>98</i>        |
| <i>Cadmium</i>    | <i>1000</i> | <i>1018</i> | <i>102</i>       |
| <i>Chromium</i>   | <i>500</i>  | <i>462</i>  | <i>92</i>        |
| <i>Copper</i>     | <i>500</i>  | <i>489</i>  | <i>98</i>        |
| <i>Silver</i>     | <i>1000</i> | <i>1082</i> | <i>108</i>       |
| <i>Zinc</i>       | <i>1000</i> | <i>890</i>  | <i>89</i>        |

Calculations are performed before rounding to avoid round-off errors in calculated results.

4A-IN  
INTERFERENCE CHECK STANDARD  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Lab Sample ID: ICSA 180-140396/8 Instrument ID: X  
 Lab File ID: X50501A.xml ICS Source: MICSAX\_00065  
 Concentration Units: ug/L

| Analyte           | True<br>Solution A | Found<br>Solution A | Percent<br>Recovery |
|-------------------|--------------------|---------------------|---------------------|
| <b>Antimony</b>   |                    | <b>0.0520</b>       |                     |
| <b>Arsenic</b>    |                    | <b>0.673</b>        |                     |
| <b>Beryllium</b>  |                    | <b>0.0350</b>       |                     |
| <b>Cadmium</b>    |                    | <b>2.55</b>         |                     |
| <b>Chromium</b>   |                    | <b>1.45</b>         |                     |
| <b>Copper</b>     |                    | <b>2.60</b>         |                     |
| <b>Lead</b>       |                    | <b>0.292</b>        |                     |
| <b>Nickel</b>     |                    | <b>0.485</b>        |                     |
| <b>Selenium</b>   |                    | <b>0.146</b>        |                     |
| <b>Silver</b>     |                    | <b>0.0500</b>       |                     |
| <b>Thallium</b>   |                    | <b>0.0910</b>       |                     |
| <b>Zinc</b>       |                    | <b>4.79</b>         |                     |
| <i>Aluminum</i>   | <i>100000</i>      | <i>93500</i>        | <i>94</i>           |
| <i>Barium</i>     |                    | <i>0.201</i>        |                     |
| <i>Boron</i>      |                    | <i>1.17</i>         |                     |
| <i>Calcium</i>    | <i>100000</i>      | <i>106000</i>       | <i>106</i>          |
| <i>Cobalt</i>     |                    | <i>0.283</i>        |                     |
| <i>Iron</i>       | <i>100000</i>      | <i>98050</i>        | <i>98</i>           |
| <i>Magnesium</i>  | <i>100000</i>      | <i>96770</i>        | <i>97</i>           |
| <i>Manganese</i>  |                    | <i>1.91</i>         |                     |
| <i>Molybdenum</i> | <i>2000</i>        | <i>2367</i>         | <i>118</i>          |
| <i>Potassium</i>  | <i>100000</i>      | <i>103500</i>       | <i>104</i>          |
| <i>Silicon</i>    |                    | <i>48.8</i>         |                     |
| <i>Sodium</i>     | <i>100000</i>      | <i>92360</i>        | <i>92</i>           |
| <i>Strontium</i>  |                    | <i>0.858</i>        |                     |
| <i>Tin</i>        |                    | <i>-0.0490</i>      |                     |
| <i>Titanium</i>   | <i>2000</i>        | <i>2278</i>         | <i>114</i>          |
| <i>Vanadium</i>   |                    | <i>0.196</i>        |                     |

Calculations are performed before rounding to avoid round-off errors in calculated results.

4A-IN  
INTERFERENCE CHECK STANDARD  
METALS

Lab Name: TestAmerica Pittsburgh

Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Lab Sample ID: ICSAB 180-140396/9

Instrument ID: X

Lab File ID: X50501A.xml

ICS Source: MICSABX\_00069

Concentration Units: ug/L

| Analyte           | True          | Found         |                  |
|-------------------|---------------|---------------|------------------|
|                   | Solution AB   | Solution AB   | Percent Recovery |
| <b>Antimony</b>   | <b>20.0</b>   | <b>19.8</b>   | <b>99</b>        |
| <b>Arsenic</b>    | <b>20.0</b>   | <b>20.3</b>   | <b>101</b>       |
| <b>Beryllium</b>  | <b>20.0</b>   | <b>18.5</b>   | <b>93</b>        |
| <b>Cadmium</b>    | <b>20.0</b>   | <b>20.6</b>   | <b>103</b>       |
| <b>Chromium</b>   | <b>20.0</b>   | <b>20.9</b>   | <b>105</b>       |
| <b>Copper</b>     | <b>20.0</b>   | <b>21.4</b>   | <b>107</b>       |
| <b>Lead</b>       | <b>20.0</b>   | <b>21.8</b>   | <b>109</b>       |
| <b>Nickel</b>     | <b>20.0</b>   | <b>19.3</b>   | <b>96</b>        |
| <b>Selenium</b>   | <b>50.0</b>   | <b>51.0</b>   | <b>102</b>       |
| <b>Silver</b>     | <b>20.0</b>   | <b>18.6</b>   | <b>93</b>        |
| <b>Thallium</b>   | <b>20.0</b>   | <b>21.2</b>   | <b>106</b>       |
| <b>Zinc</b>       | <b>25.0</b>   | <b>22.9</b>   | <b>91</b>        |
| <i>Aluminum</i>   | <i>100000</i> | <i>93570</i>  | <i>94</i>        |
| <i>Barium</i>     | <i>20.0</i>   | <i>20.6</i>   | <i>103</i>       |
| <i>Boron</i>      | <i>50.0</i>   | <i>44.1</i>   | <i>88</i>        |
| <i>Calcium</i>    | <i>100000</i> | <i>108100</i> | <i>108</i>       |
| <i>Cobalt</i>     | <i>20.0</i>   | <i>19.6</i>   | <i>98</i>        |
| <i>Iron</i>       | <i>100000</i> | <i>100153</i> | <i>100</i>       |
| <i>Magnesium</i>  | <i>100000</i> | <i>95390</i>  | <i>95</i>        |
| <i>Manganese</i>  | <i>22.5</i>   | <i>21.6</i>   | <i>96</i>        |
| <i>Molybdenum</i> | <i>2000</i>   | <i>2356</i>   | <i>118</i>       |
| <i>Potassium</i>  | <i>100000</i> | <i>105267</i> | <i>105</i>       |
| <i>Silicon</i>    | <i>500</i>    | <i>591</i>    | <i>118</i>       |
| <i>Sodium</i>     | <i>100000</i> | <i>94843</i>  | <i>95</i>        |
| <i>Strontium</i>  | <i>25.0</i>   | <i>21.3</i>   | <i>85</i>        |
| <i>Tin</i>        | <i>100</i>    | <i>101</i>    | <i>101</i>       |
| <i>Titanium</i>   | <i>2000</i>   | <i>2257</i>   | <i>113</i>       |
| <i>Vanadium</i>   | <i>20.0</i>   | <i>19.3</i>   | <i>97</i>        |

Calculations are performed before rounding to avoid round-off errors in calculated results.

7A-IN  
LAB CONTROL SAMPLE  
METALS - SEM/AVS

Lab ID: LCS 180-140635/2-A

Lab Name: TestAmerica Pittsburgh

Job No.: 180-43411-1

Sample Matrix: Sediment

LCS Source: MTAPITMSBREV\_00014

| Analyte     | Sediment (mg/Kg) |       |   |     |        |     |   | Method |
|-------------|------------------|-------|---|-----|--------|-----|---|--------|
|             | True             | Found | C | %R  | Limits |     | Q |        |
| Cadmium SEM | 1.25             | 1.26  |   | 101 | 80     | 120 |   | 6010B  |
| Copper SEM  | 6.25             | 6.41  |   | 103 | 80     | 120 |   | 6010B  |
| Lead SEM    | 12.5             | 12.0  |   | 96  | 80     | 120 |   | 6010B  |
| Nickel SEM  | 12.5             | 12.0  |   | 96  | 80     | 120 |   | 6010B  |
| Zinc SEM    | 12.5             | 13.6  |   | 109 | 80     | 120 |   | 6010B  |

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN



7A-IN  
LAB CONTROL SAMPLE  
METALS

Lab ID: LCS 180-139790/2-A

Lab Name: TestAmerica Pittsburgh

Job No.: 180-43411-1

Sample Matrix: Sediment

LCS Source: MTAPITTICPMS\_00020

| Analyte   | Sediment (mg/Kg) |       |   |     |        |     |   |        |
|-----------|------------------|-------|---|-----|--------|-----|---|--------|
|           | True             | Found | C | %R  | Limits |     | Q | Method |
| Arsenic   | 1.99             | 1.96  |   | 99  | 80     | 120 |   | 6020A  |
| Cadmium   | 2.49             | 2.27  |   | 91  | 80     | 120 |   | 6020A  |
| Chromium  | 9.95             | 9.64  |   | 97  | 80     | 120 |   | 6020A  |
| Lead      | 0.995            | 1.04  |   | 104 | 80     | 120 |   | 6020A  |
| Selenium  | 0.498            | 0.414 |   | 83  | 80     | 120 |   | 6020A  |
| Silver    | 2.49             | 2.47  |   | 99  | 80     | 120 |   | 6020A  |
| Beryllium | 2.49             | 2.11  |   | 85  | 80     | 120 |   | 6020A  |
| Thallium  | 2.49             | 2.49  |   | 100 | 80     | 120 |   | 6020A  |
| Antimony  | 24.9             | 21.3  |   | 86  | 80     | 120 |   | 6020A  |
| Nickel    | 24.9             | 24.8  |   | 100 | 80     | 120 |   | 6020A  |
| Zinc      | 24.9             | 21.3  |   | 85  | 80     | 120 |   | 6020A  |
| Copper    | 12.4             | 12.8  |   | 103 | 80     | 120 |   | 6020A  |

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN  
LAB CONTROL SAMPLE  
METALS

Lab ID: LCS 180-140974/2-A

Lab Name: TestAmerica Pittsburgh

Job No.: 180-43411-1

Sample Matrix: Sediment

LCS Source: MHgworkingCal\_01040

| Analyte | Sediment (mg/Kg) |       |   |     |        |     |   |        |
|---------|------------------|-------|---|-----|--------|-----|---|--------|
|         | True             | Found | C | %R  | Limits |     | Q | Method |
| Mercury | 0.208            | 0.221 |   | 106 | 80     | 120 |   | 7471A  |

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

9-IN  
DETECTION LIMITS  
METALS - SEM/AVS

Lab Name: TestAmerica Pittsburgh

Job Number: 180-43411-1

SDG Number: \_\_\_\_\_

Matrix: Sediment

Instrument ID: C

Method: 6010B

MDL Date: 03/01/2011 13:33

Prep Method: AVSSEM

| Analyte     | Wavelength/<br>Mass | RL<br>(mg/Kg) | MDL<br>(mg/Kg) |
|-------------|---------------------|---------------|----------------|
| Cadmium SEM |                     | 0.125         | 0.0041         |
| Copper SEM  |                     | 0.625         | 0.0561         |
| Lead SEM    |                     | 0.25          | 0.0495         |
| Nickel SEM  |                     | 1             | 0.0287         |
| Zinc SEM    |                     | 2.5           | 0.1849         |

9-IN  
CALIBRATION BLANK DETECTION LIMITS  
METALS - SEM/AVS

Lab Name: TestAmerica Pittsburgh Job Number: 180-43411-1  
SDG Number: \_\_\_\_\_  
Matrix: Sediment Instrument ID: C  
Method: 6010B XMDL Date: 03/01/2011 13:34

| Analyte     | Wavelength/<br>Mass | XRL<br>(ug/L) | XMDL<br>(ug/L) |
|-------------|---------------------|---------------|----------------|
| Cadmium SEM | 111                 | 5             | 0.13           |
| Copper SEM  | 65                  | 25            | 2.71           |
| Lead SEM    | 208                 | 10            | 1.26           |
| Nickel SEM  | 60                  | 40            | 1.56           |
| Zinc SEM    | 66                  | 20            | 2.46           |

9-IN  
DETECTION LIMITS  
METALS - SEM/AVS

Lab Name: TestAmerica Pittsburgh Job Number: 180-43411-1  
SDG Number: \_\_\_\_\_  
Matrix: Sediment Instrument ID: NOEQUIP  
Method: SEM MDL Date: 01/26/2010 14:34

| Analyte       | Wavelength/<br>Mass | RL<br>(NONE) | MDL<br>(NONE) |
|---------------|---------------------|--------------|---------------|
| SEM/AVS Ratio |                     | 0.001        | 0.001         |

9-IN  
CALIBRATION BLANK DETECTION LIMITS  
METALS - SEM/AVS

Lab Name: TestAmerica Pittsburgh

Job Number: 180-43411-1

SDG Number: \_\_\_\_\_

Matrix: Sediment

Instrument ID: NOEQUIP

Method: SEM

XMDL Date: 01/26/2010 14:34

| Analyte       | Wavelength/<br>Mass | XRL<br>(NONE) | XMDL<br>(NONE) |
|---------------|---------------------|---------------|----------------|
| SEM/AVS Ratio |                     | 0.001         | 0.001          |

9-IN  
DETECTION LIMITS  
METALS

Lab Name: TestAmerica Pittsburgh

Job Number: 180-43411-1

SDG Number: \_\_\_\_\_

Matrix: Sediment

Instrument ID: X

Method: 6020A

MDL Date: 01/26/2010 14:19

Prep Method: 3050B

| Analyte   | Wavelength/<br>Mass | RL<br>(mg/Kg) | MDL<br>(mg/Kg) |
|-----------|---------------------|---------------|----------------|
| Antimony  | 121                 | 0.1           | 0.0013         |
| Arsenic   | 75                  | 0.05          | 0.00905        |
| Beryllium | 9                   | 0.05          | 0.00375        |
| Cadmium   | 111                 | 0.05          | 0.0035         |
| Chromium  | 52                  | 0.1           | 0.00305        |
| Copper    | 65                  | 0.1           | 0.0165         |
| Lead      | 208                 | 0.05          | 0.0019         |
| Nickel    | 60                  | 0.05          | 0.00565        |
| Selenium  | 82                  | 0.25          | 0.0251         |
| Silver    | 107                 | 0.05          | 0.00195        |
| Thallium  | 205                 | 0.05          | 0.001          |
| Zinc      | 66                  | 0.25          | 0.0324         |

9-IN  
CALIBRATION BLANK DETECTION LIMITS  
METALS

Lab Name: TestAmerica Pittsburgh

Job Number: 180-43411-1

SDG Number: \_\_\_\_\_

Matrix: Sediment

Instrument ID: X

Method: 6020A

XMDL Date: 01/26/2010 14:25

| Analyte   | Wavelength/<br>Mass | XRL<br>(ug/L) | XMDL<br>(ug/L) |
|-----------|---------------------|---------------|----------------|
| Antimony  | 121                 | 2             | 0.0187         |
| Arsenic   | 75                  | 1             | 0.2908         |
| Beryllium | 9                   | 1             | 0.0367         |
| Cadmium   | 111                 | 1             | 0.1144         |
| Chromium  | 52                  | 2             | 0.5433         |
| Copper    | 65                  | 2             | 0.2443         |
| Lead      | 208                 | 1             | 0.0192         |
| Nickel    | 60                  | 1             | 0.1749         |
| Selenium  | 82                  | 5             | 0.4216         |
| Silver    | 107                 | 1             | 0.0362         |
| Thallium  | 205                 | 1             | 0.0152         |
| Zinc      | 66                  | 5             | 0.9609         |



9-IN  
DETECTION LIMITS  
METALS

Lab Name: TestAmerica Pittsburgh

Job Number: 180-43411-1

SDG Number: \_\_\_\_\_

Matrix: Sediment

Instrument ID: K

Method: 7471A

MDL Date: 03/13/2015 17:36

Prep Method: 7471A

| Analyte | Wavelength/<br>Mass | RL<br>(mg/Kg) | MDL<br>(mg/Kg) |
|---------|---------------------|---------------|----------------|
| Mercury | 253.7               | 0.0165        | 0.00565        |

9-IN  
CALIBRATION BLANK DETECTION LIMITS  
METALS

Lab Name: TestAmerica Pittsburgh Job Number: 180-43411-1  
SDG Number: \_\_\_\_\_  
Matrix: Sediment Instrument ID: K  
Method: 7471A XMDL Date: 03/23/2015 12:38

| Analyte | Wavelength/<br>Mass | XRL<br>(ug/L) | XMDL<br>(ug/L) |
|---------|---------------------|---------------|----------------|
| Mercury | 253.7               | 0.2           | 0.0778         |

10-IN  
ICP-AES INTERELEMENT CORRECTION FACTORS  
METALS

Lab Name: TestAmerica Pittsburgh Job Number: 180-43411-1

SDG No.: \_\_\_\_\_

ICP-AES Instrument ID: C Date: 04/15/2015

| Analyte    | Wave Length | Ag | Al        | As       | B | Ba | Be | Ca | Cd | Co       | Cr        | Cu | Fe        | K | La |
|------------|-------------|----|-----------|----------|---|----|----|----|----|----------|-----------|----|-----------|---|----|
| Aluminum   | 308.215     |    |           |          |   |    |    |    |    |          |           |    |           |   |    |
| Antimony   | 217.581     |    | -0.000079 |          |   |    |    |    |    |          |           |    | -0.000015 |   |    |
| Arsenic    | 189.042     |    |           |          |   |    |    |    |    |          | 0.000623  |    |           |   |    |
| Barium     | 455.403     |    |           |          |   |    |    |    |    |          |           |    |           |   |    |
| Beryllium  | 313.042     |    |           |          |   |    |    |    |    |          |           |    |           |   |    |
| Boron      | 182.641     |    |           |          |   |    |    |    |    |          |           |    |           |   |    |
| Cadmium    | 228.802     |    |           | 0.011436 |   |    |    |    |    |          |           |    |           |   |    |
| Calcium    | 317.933     |    |           |          |   |    |    |    |    |          |           |    |           |   |    |
| Chromium   | 267.716     |    |           |          |   |    |    |    |    |          |           |    |           |   |    |
| Cobalt     | 228.616     |    |           |          |   |    |    |    |    |          |           |    |           |   |    |
| Copper     | 324.396     |    |           |          |   |    |    |    |    |          |           |    |           |   |    |
| Iron       | 259.94      |    |           |          |   |    |    |    |    |          |           |    |           |   |    |
| Lead       | 220.353     |    | -0.000090 |          |   |    |    |    |    |          |           |    | 0.000039  |   |    |
| Lithium    | 670.784     |    |           |          |   |    |    |    |    |          |           |    |           |   |    |
| Magnesium  | 279.079     |    |           |          |   |    |    |    |    |          |           |    |           |   |    |
| Manganese  | 257.61      |    |           |          |   |    |    |    |    |          |           |    |           |   |    |
| Molybdenum | 202.03      |    |           |          |   |    |    |    |    |          |           |    |           |   |    |
| Nickel     | 231.604     |    |           |          |   |    |    |    |    |          |           |    | 0.000071  |   |    |
| Potassium  | 766.490     |    |           |          |   |    |    |    |    |          |           |    |           |   |    |
| Selenium   | 196.090     |    |           |          |   |    |    |    |    |          |           |    |           |   |    |
| Silicon    | 251.611     |    |           |          |   |    |    |    |    |          |           |    |           |   |    |
| Silver     | 328.068     |    |           |          |   |    |    |    |    |          |           |    |           |   |    |
| Sodium     | 589.592     |    |           |          |   |    |    |    |    |          |           |    |           |   |    |
| Strontium  | 346.446     |    |           |          |   |    |    |    |    |          |           |    |           |   |    |
| Thallium   | 190.856     |    |           |          |   |    |    |    |    | 0.003544 |           |    |           |   |    |
| Tin        | 189.989     |    |           |          |   |    |    |    |    |          |           |    |           |   |    |
| Titanium   | 337.280     |    |           |          |   |    |    |    |    |          |           |    |           |   |    |
| Vanadium   | 290.882     |    |           |          |   |    |    |    |    |          |           |    | 0.000040  |   |    |
| Zinc       | 206.200     |    |           |          |   |    |    |    |    |          | -0.000491 |    |           |   |    |

X-IN

10-IN  
ICP-AES INTERELEMENT CORRECTION FACTORS  
METALS

Lab Name: TestAmerica Pittsburgh Job Number: 180-43411-1

SDG No.: \_\_\_\_\_

ICP-AES Instrument ID: C Date: 04/15/2015

| Analyte    | Wave Length | Mg | Mn       | Mo       | Na | Ni | P | Pb        | Sb | Se | Si | Sn | Sr | Ti       | Tl |
|------------|-------------|----|----------|----------|----|----|---|-----------|----|----|----|----|----|----------|----|
| Aluminum   | 308.215     |    |          | 0.023790 |    |    |   |           |    |    |    |    |    |          |    |
| Antimony   | 217.581     |    |          |          |    |    |   | -0.001052 |    |    |    |    |    |          |    |
| Arsenic    | 189.042     |    |          | 0.001077 |    |    |   |           |    |    |    |    |    |          |    |
| Barium     | 455.403     |    |          |          |    |    |   |           |    |    |    |    |    |          |    |
| Beryllium  | 313.042     |    |          |          |    |    |   |           |    |    |    |    |    |          |    |
| Boron      | 182.641     |    |          |          |    |    |   |           |    |    |    |    |    |          |    |
| Cadmium    | 228.802     |    |          |          |    |    |   |           |    |    |    |    |    |          |    |
| Calcium    | 317.933     |    |          |          |    |    |   |           |    |    |    |    |    |          |    |
| Chromium   | 267.716     |    |          |          |    |    |   |           |    |    |    |    |    |          |    |
| Cobalt     | 228.616     |    |          |          |    |    |   |           |    |    |    |    |    | 0.001848 |    |
| Copper     | 324.396     |    |          |          |    |    |   |           |    |    |    |    |    |          |    |
| Iron       | 259.94      |    |          |          |    |    |   |           |    |    |    |    |    |          |    |
| Lead       | 220.353     |    |          |          |    |    |   |           |    |    |    |    |    |          |    |
| Lithium    | 670.784     |    |          |          |    |    |   |           |    |    |    |    |    |          |    |
| Magnesium  | 279.079     |    |          |          |    |    |   |           |    |    |    |    |    |          |    |
| Manganese  | 257.61      |    |          |          |    |    |   |           |    |    |    |    |    |          |    |
| Molybdenum | 202.03      |    |          |          |    |    |   |           |    |    |    |    |    |          |    |
| Nickel     | 231.604     |    |          |          |    |    |   |           |    |    |    |    |    |          |    |
| Potassium  | 766.490     |    |          |          |    |    |   |           |    |    |    |    |    |          |    |
| Selenium   | 196.090     |    | 0.000571 |          |    |    |   |           |    |    |    |    |    |          |    |
| Silicon    | 251.611     |    |          |          |    |    |   |           |    |    |    |    |    |          |    |
| Silver     | 328.068     |    | 0.000167 |          |    |    |   |           |    |    |    |    |    |          |    |
| Sodium     | 589.592     |    |          |          |    |    |   |           |    |    |    |    |    |          |    |
| Strontium  | 346.446     |    |          |          |    |    |   |           |    |    |    |    |    |          |    |
| Thallium   | 190.856     |    | 0.000756 |          |    |    |   |           |    |    |    |    |    |          |    |
| Tin        | 189.989     |    |          |          |    |    |   |           |    |    |    |    |    |          |    |
| Titanium   | 337.280     |    |          |          |    |    |   |           |    |    |    |    |    |          |    |
| Vanadium   | 290.882     |    |          |          |    |    |   |           |    |    |    |    |    |          |    |
| Zinc       | 206.200     |    |          |          |    |    |   |           |    |    |    |    |    |          |    |

X-IN

10-IN  
ICP-AES INTERELEMENT CORRECTION FACTORS  
METALS

Lab Name: TestAmerica Pittsburgh Job Number: 180-43411-1

SDG No.: \_\_\_\_\_

ICP-AES Instrument ID: C Date: 04/15/2015

| Analyte    | Wave Length | V        | Zn |  |  |  |  |  |  |  |  |  |  |  |  |
|------------|-------------|----------|----|--|--|--|--|--|--|--|--|--|--|--|--|
| Aluminum   | 308.215     | 0.058962 |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Antimony   | 217.581     | 0.002693 |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Arsenic    | 189.042     |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Barium     | 455.403     |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Beryllium  | 313.042     | 0.002134 |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Boron      | 182.641     |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Cadmium    | 228.802     |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Calcium    | 317.933     |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Chromium   | 267.716     |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Cobalt     | 228.616     |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Copper     | 324.396     |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Iron       | 259.94      |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Lead       | 220.353     |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Lithium    | 670.784     |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Magnesium  | 279.079     |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Manganese  | 257.61      |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Molybdenum | 202.03      |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Nickel     | 231.604     |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Potassium  | 766.490     |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Selenium   | 196.090     |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Silicon    | 251.611     |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Silver     | 328.068     |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Sodium     | 589.592     |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Strontium  | 346.446     |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Thallium   | 190.856     |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Tin        | 189.989     |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Titanium   | 337.280     |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Vanadium   | 290.882     |          |    |  |  |  |  |  |  |  |  |  |  |  |  |
| Zinc       | 206.200     |          |    |  |  |  |  |  |  |  |  |  |  |  |  |

X-IN

11-IN  
LINEAR RANGES  
METALS

Lab Name: TestAmerica Pittsburgh

Job No: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: X

Date: 03/14/2011 22:35

| Analyte   | Integ.<br>Time<br>(Sec.) | Concentration<br>(ug/L) | Method |
|-----------|--------------------------|-------------------------|--------|
| Arsenic   |                          | 4500                    | 6020A  |
| Cadmium   |                          | 13500                   | 6020A  |
| Chromium  |                          | 13500                   | 6020A  |
| Lead      |                          | 20000                   | 6020A  |
| Selenium  |                          | 4500                    | 6020A  |
| Silver    |                          | 2500                    | 6020A  |
| Beryllium |                          | 9000                    | 6020A  |
| Thallium  |                          | 13500                   | 6020A  |
| Antimony  |                          | 13500                   | 6020A  |
| Nickel    |                          | 13500                   | 6020A  |
| Zinc      |                          | 25000                   | 6020A  |
| Copper    |                          | 20000                   | 6020A  |

12-IN  
PREPARATION LOG  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Prep Method: AVSSEM

| Lab<br>Sample<br>ID | Preparation<br>Date | Prep<br>Batch | Initial<br>Weight<br>(g) | Initial<br>Volume | Final<br>Volume<br>(mL) |
|---------------------|---------------------|---------------|--------------------------|-------------------|-------------------------|
| MB 180-140635/1-A   | 05/05/2015 16:30    | 140635        | 10.00                    |                   | 250                     |
| LCS 180-140635/2-A  | 05/05/2015 16:30    | 140635        | 10.00                    |                   | 250                     |
| 180-43411-1         | 05/05/2015 16:30    | 140635        | 10.03                    |                   | 250                     |
| 180-43411-2         | 05/05/2015 16:30    | 140635        | 9.95                     |                   | 250                     |

12-IN  
PREPARATION LOG  
METALS

Lab Name: TestAmerica Pittsburgh

Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Prep Method: 3050B

| Lab<br>Sample<br>ID | Preparation<br>Date | Prep<br>Batch | Initial<br>Weight<br>(g) | Initial<br>Volume | Final<br>Volume<br>(mL) |
|---------------------|---------------------|---------------|--------------------------|-------------------|-------------------------|
| MB 180-139790/1-A   | 04/27/2015 14:21    | 139790        | 00002.01                 |                   | 100                     |
| LCS 180-139790/2-A  | 04/27/2015 14:21    | 139790        | 00002.01                 |                   | 100                     |
| 180-43411-1         | 04/27/2015 14:21    | 139790        | 00002.03                 |                   | 100                     |
| 180-43411-2         | 04/27/2015 14:21    | 139790        | 00002.05                 |                   | 100                     |



12-IN  
PREPARATION LOG  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Prep Method: 7471A

| Lab<br>Sample<br>ID | Preparation<br>Date | Prep<br>Batch | Initial<br>Weight<br>(g) | Initial<br>Volume | Final<br>Volume<br>(mL) |
|---------------------|---------------------|---------------|--------------------------|-------------------|-------------------------|
| MB 180-140974/1-A   | 05/08/2015 09:24    | 140974        | 1.24                     |                   | 100                     |
| LCS 180-140974/2-A  | 05/08/2015 09:24    | 140974        | 1.20                     |                   | 100                     |
| 180-43411-2         | 05/08/2015 09:24    | 140974        | 1.23                     |                   | 100                     |

13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Pittsburgh

Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: C

Analysis Method: 6010B

Start Date: 05/06/2015 06:56

End Date: 05/06/2015 19:07

| Lab Sample Id         | D/F | T<br>y<br>p<br>e | Time  | Analytes |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------|-----|------------------|-------|----------|--------|--------|--------|--------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|                       |     |                  |       | C<br>d   | C<br>u | N<br>i | P<br>b | Z<br>n |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| STD1 180-140803/1 IC  |     |                  | 06:56 | X        | X      | X      | X      | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| STD2A 180-140803/2 IC |     |                  | 07:01 | X        | X      | X      | X      | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| STD3 180-140803/3 IC  |     |                  | 07:06 | X        | X      | X      | X      | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ICV 180-140803/4      | 1   |                  | 07:12 | X        | X      | X      | X      | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ICV 180-140803/5      | 1   |                  | 07:16 | X        | X      | X      | X      | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ICV 180-140803/6      |     |                  | 07:21 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ICV 180-140803/7      |     |                  | 07:26 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ICBIS 180-140803/8    | 1   |                  | 07:32 | X        | X      | X      | X      | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CRI 180-140803/9      | 1   |                  | 07:37 | X        | X      | X      | X      | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ICSA 180-140803/10    | 1   |                  | 07:42 | X        | X      | X      | X      | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ICSAB 180-140803/11   | 1   |                  | 07:47 | X        | X      | X      | X      | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140803/12     | 1   |                  | 07:52 | X        | X      | X      | X      | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB1 180-140803/13    | 1   |                  | 07:57 | X        | X      | X      | X      | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 08:02 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 08:07 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 08:12 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 08:17 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 08:22 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 08:28 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 08:32 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 08:37 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 08:43 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 08:48 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140803/24     |     |                  | 08:53 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB2 180-140803/25    |     |                  | 08:58 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 09:03 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 09:08 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140803/28     |     |                  | 09:13 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB3 180-140803/29    |     |                  | 09:18 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CRI 180-140803/30     |     |                  | 09:23 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 09:28 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 09:34 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 09:38 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 09:44 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 09:49 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 09:53 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 09:58 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 10:03 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 10:08 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140803/40     |     |                  | 10:14 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB4 180-140803/41    |     |                  | 10:18 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 10:24 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Pittsburgh

Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: C

Analysis Method: 6010B

Start Date: 05/06/2015 06:56

End Date: 05/06/2015 19:07

| Lab Sample Id      | D/F | T<br>y<br>p<br>e | Time  | Analytes |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------|-----|------------------|-------|----------|--------|--------|--------|--------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|                    |     |                  |       | C<br>d   | C<br>u | N<br>i | P<br>b | Z<br>n |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 10:29 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 10:34 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 10:39 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 10:44 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 10:48 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 10:54 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 10:59 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 11:04 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 11:09 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140803/52  |     |                  | 11:13 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB5 180-140803/53 |     |                  | 11:18 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 11:23 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 11:29 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 11:34 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 11:39 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 11:44 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 11:49 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 11:54 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 12:00 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 12:05 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 12:10 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140803/64  |     |                  | 12:15 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB6 180-140803/65 |     |                  | 12:20 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 12:25 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 12:30 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 12:35 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 12:40 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 12:45 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 12:50 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 12:55 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 13:00 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 13:06 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 13:11 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140803/76  | 1   |                  | 13:16 | X        | X      | X      | X      | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB7 180-140803/77 | 1   |                  | 13:21 | X        | X      | X      | X      | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CRI 180-140803/78  | 1   |                  | 13:26 | X        | X      | X      | X      | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MB 180-140635/1-A  | 1   | V                | 13:33 | X        | X      | X      | X      | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LCS 180-140635/2-A | 1   | V                | 13:38 | X        | X      | X      | X      | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 13:43 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 13:48 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 13:53 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 13:58 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Pittsburgh

Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: C

Analysis Method: 6010B

Start Date: 05/06/2015 06:56

End Date: 05/06/2015 19:07

| Lab Sample Id        | D/F | T<br>y<br>p<br>e | Time  | Analytes |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------|-----|------------------|-------|----------|--------|--------|--------|--------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|                      |     |                  |       | C<br>d   | C<br>u | N<br>i | P<br>b | Z<br>n |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 14:03 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 14:09 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 14:14 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140803/88    | 1   |                  | 14:19 | X        | X      | X      | X      | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB8 180-140803/89   | 1   |                  | 14:24 | X        | X      | X      | X      | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 14:29 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 14:34 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 180-43411-1          | 1   | V                | 14:39 | X        | X      | X      | X      | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 180-43411-2          | 1   | V                | 14:44 | X        | X      |        |        | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 14:49 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 14:54 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 14:59 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 15:05 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 15:10 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 15:14 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140803/100   | 1   |                  | 15:20 | X        | X      | X      | X      | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB9 180-140803/101  | 1   |                  | 15:24 | X        | X      | X      | X      | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 15:30 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 15:35 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 15:40 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 15:44 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 15:49 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 15:55 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 16:00 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 16:05 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 16:10 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 16:15 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140803/112   |     |                  | 16:20 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB10 180-140803/113 |     |                  | 16:25 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 16:30 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 16:35 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 16:40 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 16:45 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 16:50 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 16:55 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 17:00 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 17:05 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 17:10 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 17:15 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140803/124   |     |                  | 17:20 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB11 180-140803/125 |     |                  | 17:25 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 17:30 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: C Analysis Method: 6010B

Start Date: 05/06/2015 06:56 End Date: 05/06/2015 19:07

| Lab Sample Id        | D/F | T<br>Y<br>P<br>e | Time  | Analytes |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------|-----|------------------|-------|----------|--------|--------|--------|--------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|                      |     |                  |       | C<br>d   | C<br>u | N<br>i | P<br>b | Z<br>n |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 17:35 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 17:40 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 17:46 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 17:51 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 17:56 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 18:01 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 18:06 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 18:11 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 18:16 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140803/136   |     |                  | 18:21 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB12 180-140803/137 |     |                  | 18:26 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 18:31 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 18:36 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 18:41 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 18:47 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 18:52 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |                  | 18:57 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140803/144   |     |                  | 19:02 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB13 180-140803/145 |     |                  | 19:07 |          |        |        |        |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Prep Types: \_\_\_\_\_  
V = SEM/AVS

13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Pittsburgh

Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: C

Analysis Method: 6010B

Start Date: 05/07/2015 07:23

End Date: 05/07/2015 12:23

| Lab Sample Id         | D/F | T<br>y<br>p<br>e | Time  | Analytes |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------|-----|------------------|-------|----------|--------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|                       |     |                  |       | N<br>i   | P<br>b |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| STD1 180-140890/1 IC  |     |                  | 07:23 | X        | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| STD2A 180-140890/2 IC |     |                  | 07:28 | X        | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| STD3 180-140890/3 IC  |     |                  | 07:33 | X        | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ICV 180-140890/4      | 1   |                  | 07:38 | X        | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ICBIS 180-140890/5    | 1   |                  | 07:43 | X        | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CRI 180-140890/6      | 1   |                  | 07:48 | X        | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ICSA 180-140890/7     | 1   |                  | 07:53 | X        | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ICSAB 180-140890/8    | 1   |                  | 07:59 | X        | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140890/9      | 1   |                  | 08:04 | X        | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB1 180-140890/10    | 1   |                  | 08:08 | X        | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 08:14 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 180-43411-2           | 2   | V                | 08:19 | X        | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 08:24 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 08:30 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 08:35 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 08:40 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 08:45 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 08:50 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 08:56 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 09:01 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140890/21     | 1   |                  | 09:06 | X        | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB2 180-140890/22    | 1   |                  | 09:11 | X        | X      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 09:16 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 09:21 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 09:26 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 09:32 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 09:37 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 09:42 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 09:47 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 09:52 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 09:57 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 10:02 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140890/33     |     |                  | 10:07 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB3 180-140890/34    |     |                  | 10:12 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 10:17 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 10:22 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 10:28 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 10:33 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 10:38 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 10:44 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 10:49 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ                |     |                  | 10:54 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: C Analysis Method: 6010B

Start Date: 05/07/2015 07:23 End Date: 05/07/2015 12:23

| Lab Sample Id      | D/F | T<br>Y<br>P<br>e | Time  | Analytes |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------|-----|------------------|-------|----------|--------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|                    |     |                  |       | N<br>i   | P<br>b |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 11:00 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 11:05 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140890/45  |     |                  | 11:10 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB4 180-140890/46 |     |                  | 11:15 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 11:20 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 11:25 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 11:30 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 11:35 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 11:41 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 11:46 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 11:51 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 11:57 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 12:02 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 12:07 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140890/57  |     |                  | 12:13 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB5 180-140890/58 |     |                  | 12:17 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CRI 180-140890/59  |     |                  | 12:23 |          |        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Prep Types: \_\_\_\_\_  
V = SEM/AVS

13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: NOEQUIP Analysis Method: SEM

Start Date: 05/11/2015 12:50 End Date: 05/11/2015 12:50

| Lab Sample Id | D/F | T<br>y<br>p<br>e | Time  | Analytes              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---------------|-----|------------------|-------|-----------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|               |     |                  |       | A<br>V<br>S<br>S<br>R |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 180-43411-1   | 1   | V                | 12:50 | X                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Prep Types: \_\_\_\_\_  
V = SEM/AVS



13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: NOEQUIP Analysis Method: SEM

Start Date: 05/13/2015 12:40 End Date: 05/13/2015 12:40

| Lab Sample Id | D/F | T<br>y<br>p<br>e | Time  | Analytes              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---------------|-----|------------------|-------|-----------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|               |     |                  |       | A<br>V<br>S<br>S<br>R |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 180-43411-2   | 1   | V                | 12:40 | X                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Prep Types: \_\_\_\_\_  
V = SEM/AVS

13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Pittsburgh

Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: X

Analysis Method: 6020A

Start Date: 05/01/2015 13:38

End Date: 05/02/2015 00:27

| Lab Sample Id        | D/F | Type | Time  | Analytes |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
|----------------------|-----|------|-------|----------|---|---|---|---|---|---|---|---|---|---|---|--|--|--|--|--|--|--|--|--|--|
|                      |     |      |       | A        | A | B | C | C | C | N | P | S | S | T | Z |  |  |  |  |  |  |  |  |  |  |
| ITUNE 180-140396/1   |     |      | 13:38 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| STD1 180-140396/2 IC | 1   |      | 15:49 | X        | X | X | X | X | X | X | X | X | X | X | X |  |  |  |  |  |  |  |  |  |  |
| STD2 180-140396/3 IC | 1   |      | 15:55 | X        | X | X | X | X | X | X | X | X | X | X | X |  |  |  |  |  |  |  |  |  |  |
| STD3 180-140396/4 IC | 1   |      | 16:00 | X        | X | X | X | X | X | X | X | X | X | X | X |  |  |  |  |  |  |  |  |  |  |
| ICV 180-140396/5     | 1   |      | 16:05 | X        | X | X | X | X | X | X | X | X | X | X | X |  |  |  |  |  |  |  |  |  |  |
| ICB 180-140396/6     | 1   |      | 16:14 | X        | X | X | X | X | X | X | X | X | X | X | X |  |  |  |  |  |  |  |  |  |  |
| CRI 180-140396/7     | 1   |      | 16:19 | X        | X | X | X | X | X | X | X | X | X | X | X |  |  |  |  |  |  |  |  |  |  |
| ICSA 180-140396/8    | 1   |      | 16:25 | X        | X | X | X | X | X | X | X | X | X | X | X |  |  |  |  |  |  |  |  |  |  |
| ICSAB 180-140396/9   | 1   |      | 16:30 | X        | X | X | X | X | X | X | X | X | X | X | X |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140396/10    | 1   |      | 16:39 | X        | X | X | X | X | X | X | X | X | X | X | X |  |  |  |  |  |  |  |  |  |  |
| CCB1 180-140396/11   | 1   |      | 16:48 | X        | X | X | X | X | X | X | X | X | X | X | X |  |  |  |  |  |  |  |  |  |  |
| MB 180-139790/1-A    | 1   | T    | 16:53 | X        | X | X | X | X | X | X | X | X | X | X | X |  |  |  |  |  |  |  |  |  |  |
| LCS 180-139790/2-A   | 1   | T    | 16:58 | X        | X | X | X | X | X | X | X | X | X | X | X |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |      | 17:07 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |      | 17:12 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |      | 17:17 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |      | 17:22 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |      | 17:27 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |      | 17:32 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |      | 17:37 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |      | 17:42 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140396/22    | 1   |      | 17:51 | X        | X | X | X | X | X | X | X | X | X | X | X |  |  |  |  |  |  |  |  |  |  |
| CCB2 180-140396/23   | 1   |      | 18:00 | X        | X | X | X | X | X | X | X | X | X | X | X |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |      | 18:05 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |      | 18:10 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| 180-43411-1          | 1   | T    | 18:16 | X        | X | X | X | X | X | X | X | X | X | X | X |  |  |  |  |  |  |  |  |  |  |
| 180-43411-2          | 1   | T    | 18:21 | X        | X | X | X | X | X | X | X | X | X | X | X |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |      | 18:26 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |      | 18:31 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |      | 18:36 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |      | 18:41 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |      | 18:46 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |      | 18:51 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140396/34    | 1   |      | 19:00 | X        | X | X | X | X | X | X | X | X | X | X | X |  |  |  |  |  |  |  |  |  |  |
| CCB3 180-140396/35   | 1   |      | 19:09 | X        | X | X | X | X | X | X | X | X | X | X | X |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |      | 19:14 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |      | 19:19 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |      | 19:24 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |      | 19:34 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |      | 19:39 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |      | 19:44 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ               |     |      | 19:49 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |

13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: X Analysis Method: 6020A  
 Start Date: 05/01/2015 13:38 End Date: 05/02/2015 00:27

| Lab Sample Id      | D/F | Type | Time  | Analytes |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------|-----|------|-------|----------|---|---|---|---|---|---|---|---|---|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|
|                    |     |      |       | A        | A | B | C | C | C | N | P | S | S | T | Z |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 19:54 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 19:59 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 20:04 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140396/46  |     |      | 20:09 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB4 180-140396/47 |     |      | 20:18 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CRI 180-140396/48  | 1   |      | 20:47 | X        | X | X | X | X | X | X | X | X | X | X | X | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 20:52 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 20:57 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 21:02 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 21:07 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 21:13 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 21:18 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 21:23 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 21:28 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140396/57  |     |      | 21:33 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB5 180-140396/58 |     |      | 21:42 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 21:47 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 21:52 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 21:57 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 22:02 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 22:07 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 22:13 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 22:18 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 22:23 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 22:28 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140396/68  |     |      | 22:33 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB6 180-140396/69 |     |      | 22:42 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 22:47 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 22:52 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 22:57 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 23:03 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 23:08 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 23:13 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 23:18 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 23:23 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 23:28 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 23:33 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140396/80  |     |      | 23:43 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB7 180-140396/81 |     |      | 23:52 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |      | 23:57 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CRI 180-140396/83  |     |      | 00:13 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140396/84  |     |      | 00:18 |          |   |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |

13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: X Analysis Method: 6020A

Start Date: 05/01/2015 13:38 End Date: 05/02/2015 00:27

| Lab Sample Id      | D/F | Type | Time  | Analytes |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------|-----|------|-------|----------|---|---|---|---|---|---|---|---|---|---|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|                    |     |      |       | A        | A | B | C | C | C | N | P | S | S | T | Z |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB8 180-140396/85 |     |      | 00:27 |          |   |   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Prep Types: \_\_\_\_\_  
T = Total/NA

13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Pittsburgh

Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: K

Analysis Method: 7471A

Start Date: 05/08/2015 12:13

End Date: 05/08/2015 15:50

| Lab Sample Id       | D/F | Type | Time  | Analytes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---------------------|-----|------|-------|----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|                     |     |      |       | Hg       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IC 180-141017/1-A   |     |      | 12:13 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IC 180-141017/2-A   |     |      | 12:15 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IC 180-141017/3-A   |     |      | 12:17 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IC 180-141017/4-A   |     |      | 12:19 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IC 180-141017/5-A   |     |      | 12:21 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IC 180-141017/6-A   |     |      | 12:23 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ICV 180-141017/7-A  | 1   |      | 12:25 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ICB 180-141017/8-A  | 1   |      | 12:27 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CRA 180-141017/9-A  | 1   |      | 12:29 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-141017/10-A | 1   |      | 12:31 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB 180-141017/11-A | 1   |      | 12:33 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 13:17 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 13:19 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 13:21 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 13:23 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 13:25 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 13:27 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 13:29 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 13:31 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 13:33 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 13:35 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-141017/10-A | 1   |      | 13:38 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB 180-141017/11-A | 1   |      | 13:41 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 13:43 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 13:45 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 13:47 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 13:49 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MB 180-140974/1-A   | 1   | T    | 13:51 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LCS 180-140974/2-A  | 1   | T    | 13:53 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 13:55 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 13:57 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 13:59 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 14:01 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-141017/10-A | 1   |      | 14:03 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB 180-141017/11-A | 1   |      | 14:05 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 14:07 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 14:09 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 14:11 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 14:13 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 14:14 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 14:16 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |      | 14:18 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Pittsburgh

Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: K

Analysis Method: 7471A

Start Date: 05/08/2015 12:13

End Date: 05/08/2015 15:50

| Lab Sample Id       | D/F | T<br>y<br>p<br>e | Time  | Analytes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---------------------|-----|------------------|-------|----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|                     |     |                  |       | H<br>g   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 14:20 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 14:22 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 14:24 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-141017/10-A | 1   |                  | 14:26 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB 180-141017/11-A | 1   |                  | 14:28 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 14:30 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 14:32 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 180-43411-2         | 1   | T                | 14:34 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 14:36 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 14:38 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 14:40 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 14:42 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 14:43 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 14:46 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 14:48 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-141017/10-A | 1   |                  | 14:50 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB 180-141017/11-A | 1   |                  | 14:52 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 14:54 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 14:56 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 14:58 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 15:00 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 15:02 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 15:04 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 15:06 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 15:08 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 15:10 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 15:12 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-141017/10-A |     |                  | 15:14 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB 180-141017/11-A |     |                  | 15:16 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 15:18 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 15:20 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 15:22 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 15:24 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 15:26 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 15:28 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 15:30 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 15:32 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 15:34 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 15:36 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-141017/10-A |     |                  | 15:38 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB 180-141017/11-A |     |                  | 15:40 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 15:43 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

13-IN  
ANALYSIS RUN LOG  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: K Analysis Method: 7471A

Start Date: 05/08/2015 12:13 End Date: 05/08/2015 15:50

| Lab Sample Id       | D/F | T<br>y<br>p<br>e | Time  | Analytes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---------------------|-----|------------------|-------|----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|                     |     |                  |       | H<br>g   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 15:44 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 15:46 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-141017/10-A |     |                  | 15:48 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB 180-141017/11-A |     |                  | 15:50 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-141017/10-A |     |                  | 12:35 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB 180-141017/11-A |     |                  | 12:37 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Prep Types: \_\_\_\_\_  
T = Total/NA

15-IN  
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

ICP-MS Instrument ID: X Start Date: 05/01/2015 End Date: 05/01/2015

| Lab Sample ID       | Time  | Internal Standards %RI For: |   |               |   |                 |   |                   |   |               |   |
|---------------------|-------|-----------------------------|---|---------------|---|-----------------|---|-------------------|---|---------------|---|
|                     |       | Element<br>Li-6             | Q | Element<br>Sc | Q | Element<br>Y-89 | Q | Element<br>Rh-103 | Q | Element<br>In | Q |
| STD1 180-140396/2 I | 15:49 | 100                         |   | 100           |   | 100             |   | 100               |   | 100           |   |
| STD2 180-140396/3 I | 15:55 | 76                          |   | 94            |   | 96              |   | 78                |   | 84            |   |
| STD3 180-140396/4 I | 16:00 | 98                          |   | 111           |   | 109             |   | 105               |   | 104           |   |
| ICV 180-140396/5    | 16:05 | 93                          |   | 111           |   | 115             |   | 97                |   | 98            |   |
| ICB 180-140396/6    | 16:14 | 98                          |   | 108           |   | 104             |   | 101               |   | 102           |   |
| CRI 180-140396/7    | 16:19 | 94                          |   | 110           |   | 107             |   | 99                |   | 100           |   |
| ICSA 180-140396/8   | 16:25 |                             |   | 81            |   | 78              |   | 71                |   | 73            |   |
| ICSAB 180-140396/9  | 16:30 | 73                          |   | 79            |   | 75              |   |                   |   |               |   |
| CCV 180-140396/10   | 16:39 | 79                          |   | 87            |   | 89              |   | 74                |   | 79            |   |
| CCB1 180-140396/11  | 16:48 | 92                          |   | 100           |   | 94              |   | 91                |   | 92            |   |
| MB 180-139790/1-A   | 16:53 | 98                          |   | 100           |   | 93              |   | 89                |   | 91            |   |
| LCS 180-139790/2-A  | 16:58 | 94                          |   | 81            |   | 69              |   | 65                |   | 70            |   |
| CCV 180-140396/22   | 17:51 | 88                          |   | 93            |   | 86              |   | 71                |   | 76            |   |
| CCB2 180-140396/23  | 18:00 | 94                          |   | 105           |   | 92              |   | 86                |   | 87            |   |
| 180-43411-1         | 18:16 | 75                          |   | 66            |   | 78              |   | 48                |   | 56            |   |
| 180-43411-2         | 18:21 | 66                          |   | 62            |   | 72              |   | 45                |   | 53            |   |
| CCV 180-140396/34   | 19:00 | 94                          |   | 92            |   | 79              |   |                   |   | 71            |   |
| CCB3 180-140396/35  | 19:09 | 100                         |   | 110           |   | 90              |   | 86                |   | 85            |   |
| CRI 180-140396/48   | 20:47 | 110                         |   | 116           |   | 106             |   | 97                |   | 98            |   |



15-IN  
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY  
METALS

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

ICP-MS Instrument ID: X Start Date: 05/01/2015 End Date: 05/01/2015

| Lab Sample ID       | Time  | Internal Standards %RI For: |   |            |   |            |   |         |   |         |   |
|---------------------|-------|-----------------------------|---|------------|---|------------|---|---------|---|---------|---|
|                     |       | Element Tb                  | Q | Element Ho | Q | Element Bi | Q | Element | Q | Element | Q |
| STD1 180-140396/2 I | 15:49 | 100                         |   | 100        |   | 100        |   |         |   |         |   |
| STD2 180-140396/3 I | 15:55 | 87                          |   | 85         |   | 66         |   |         |   |         |   |
| STD3 180-140396/4 I | 16:00 | 103                         |   | 102        |   | 99         |   |         |   |         |   |
| ICV 180-140396/5    | 16:05 | 94                          |   | 94         |   | 75         |   |         |   |         |   |
| ICB 180-140396/6    | 16:14 | 102                         |   | 102        |   | 100        |   |         |   |         |   |
| CRI 180-140396/7    | 16:19 | 99                          |   | 98         |   | 96         |   |         |   |         |   |
| ICSA 180-140396/8   | 16:25 | 79                          |   | 78         |   |            |   |         |   |         |   |
| ICSAB 180-140396/9  | 16:30 | 76                          |   | 76         |   |            |   |         |   |         |   |
| CCV 180-140396/10   | 16:39 | 86                          |   | 86         |   | 72         |   |         |   |         |   |
| CCB1 180-140396/11  | 16:48 | 95                          |   | 96         |   | 94         |   |         |   |         |   |
| MB 180-139790/1-A   | 16:53 | 95                          |   | 96         |   | 97         |   |         |   |         |   |
| LCS 180-139790/2-A  | 16:58 | 82                          |   | 83         |   | 62         |   |         |   |         |   |
| CCV 180-140396/22   | 17:51 | 81                          |   | 82         |   |            |   |         |   |         |   |
| CCB2 180-140396/23  | 18:00 | 89                          |   | 89         |   | 87         |   |         |   |         |   |
| 180-43411-1         | 18:16 | 68                          |   | 69         |   | 49         |   |         |   |         |   |
| 180-43411-2         | 18:21 | 61                          |   | 62         |   | 46         |   |         |   |         |   |
| CCV 180-140396/34   | 19:00 | 78                          |   | 79         |   |            |   |         |   |         |   |
| CCB3 180-140396/35  | 19:09 | 90                          |   | 91         |   | 93         |   |         |   |         |   |
| CRI 180-140396/48   | 20:47 | 103                         |   | 104        |   | 110        |   |         |   |         |   |

Sample Name: STD1      Acquired: 5/6/2015 6:56:41      Type: Cal  
Method: PITT-6500ICP-2(v636)      Mode: IR      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1:      Custom ID2:      Custom ID3:  
Comment:

|        |                |               |                |               |               |                |
|--------|----------------|---------------|----------------|---------------|---------------|----------------|
| Elem   | Ag             | Al            | As             | B_            | Ba            | Be             |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478}  | 182.641 {485} | 455.403 { 74} | 313.042 {108}  |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_3710)       |
| Units  | Cts/S          | Cts/S         | Cts/S          | Cts/S         | Cts/S         | Cts/S          |
| Avg    | <b>-.00025</b> | <b>.00047</b> | <b>-.00026</b> | <b>.00030</b> | <b>.00196</b> | <b>-.00127</b> |
| Stddev | .00003         | .00043        | .00010         | .00009        | .00016        | .00028         |
| %RSD   | 11.611         | 90.632        | 38.660         | 31.536        | 7.9988        | 22.145         |

|    |                |               |                |               |               |                |
|----|----------------|---------------|----------------|---------------|---------------|----------------|
| #1 | <b>-.00023</b> | <b>.00041</b> | <b>-.00020</b> | <b>.00037</b> | <b>.00204</b> | <b>-.00135</b> |
| #2 | <b>-.00029</b> | <b>.00093</b> | <b>-.00037</b> | <b>.00019</b> | <b>.00205</b> | <b>-.00095</b> |
| #3 | <b>-.00024</b> | <b>.00008</b> | <b>-.00020</b> | <b>.00033</b> | <b>.00177</b> | <b>-.00149</b> |

|        |               |               |               |               |                |               |
|--------|---------------|---------------|---------------|---------------|----------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu             | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103}  | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)       | (Y_3710)      |
| Units  | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S          | Cts/S         |
| Avg    | <b>.00884</b> | <b>.00061</b> | <b>.00013</b> | <b>.00013</b> | <b>-.01186</b> | <b>.00015</b> |
| Stddev | .00018        | .00015        | .00009        | .00011        | .00116         | .00024        |
| %RSD   | 2.0159        | 25.134        | 75.122        | 85.940        | 9.8097         | 156.00        |

|    |               |               |               |               |                |               |
|----|---------------|---------------|---------------|---------------|----------------|---------------|
| #1 | <b>.00865</b> | <b>.00046</b> | <b>.00002</b> | <b>.00000</b> | <b>-.01052</b> | <b>.00043</b> |
| #2 | <b>.00900</b> | <b>.00077</b> | <b>.00017</b> | <b>.00021</b> | <b>-.01259</b> | <b>.00002</b> |
| #3 | <b>.00888</b> | <b>.00061</b> | <b>.00019</b> | <b>.00018</b> | <b>-.01248</b> | <b>.00001</b> |

|        |                |               |                |               |               |               |
|--------|----------------|---------------|----------------|---------------|---------------|---------------|
| Elem   | K_             | Li            | Mg             | Mn            | Mo            | Na            |
| Line   | 766.490 { 44}  | 670.784 { 50} | 279.079 {121}  | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)       | (Y_3710)      | (Y_3710)       | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | Cts/S          | Cts/S         | Cts/S          | Cts/S         | Cts/S         | Cts/S         |
| Avg    | <b>-.00105</b> | <b>.00724</b> | <b>-.00015</b> | <b>.00104</b> | <b>.00022</b> | <b>.00177</b> |
| Stddev | .00071         | .00121        | .00015         | .00015        | .00007        | .00019        |
| %RSD   | 68.051         | 16.722        | 104.51         | 14.182        | 32.554        | 10.739        |

|    |                |               |                |               |               |               |
|----|----------------|---------------|----------------|---------------|---------------|---------------|
| #1 | <b>-.00044</b> | <b>.00722</b> | <b>-.00029</b> | <b>.00104</b> | <b>.00019</b> | <b>.00161</b> |
| #2 | <b>-.00183</b> | <b>.00847</b> | <b>-.00016</b> | <b>.00118</b> | <b>.00030</b> | <b>.00171</b> |
| #3 | <b>-.00087</b> | <b>.00605</b> | <b>.00001</b>  | <b>.00089</b> | <b>.00016</b> | <b>.00198</b> |

Sample Name: STD1      Acquired: 5/6/2015 6:56:41      Type: Cal  
Method: PITT-6500ICP-2(v636)      Mode: IR      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1:      Custom ID2:      Custom ID3:  
Comment:

| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg    | .00219        | .00023        | -.00005       | -.00007       | .00048        | -.00027       |
| Stddev | .00005        | .00017        | .00019        | .00007        | .00019        | .00009        |
| %RSD   | 2.3607        | 73.493        | 362.61        | 96.368        | 40.094        | 32.373        |

|    |        |        |         |         |        |         |
|----|--------|--------|---------|---------|--------|---------|
| #1 | .00224 | .00041 | -.00006 | -.00004 | .00037 | -.00019 |
| #2 | .00221 | .00010 | -.00024 | -.00002 | .00070 | -.00036 |
| #3 | .00214 | .00016 | .00014  | -.00015 | .00037 | -.00026 |

| Elem   | Sr            | Ti            | Tl            | V_            | Zn            |
|--------|---------------|---------------|---------------|---------------|---------------|
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg    | -.00029       | .00148        | -.00074       | -.00007       | .00188        |
| Stddev | .00051        | .00016        | .00008        | .00002        | .00004        |
| %RSD   | 179.47        | 11.126        | 10.715        | 33.899        | 1.9607        |

|    |         |        |         |         |        |
|----|---------|--------|---------|---------|--------|
| #1 | -.00085 | .00165 | -.00082 | -.00008 | .00192 |
| #2 | -.00015 | .00146 | -.00066 | -.00004 | .00189 |
| #3 | .00015  | .00133 | -.00074 | -.00009 | .00185 |

| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
|-----------|---------------|---------------|---------------|---------------|
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3398.5        | 5621.4        | 82007.        | 11238.        |
| Stddev    | 7.7           | 9.1           | 28.           | 50.           |
| %RSD      | .22778        | .16123        | .03462        | .44677        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3406.1 | 5628.9 | 82024. | 11286. |
| #2 | 3390.6 | 5611.3 | 82023. | 11186. |
| #3 | 3398.9 | 5623.9 | 81974. | 11244. |

Sample Name: STD2A      Acquired: 5/6/2015 7:01:50      Type: Cal  
Method: PITT-6500ICP-2(v636)      Mode: IR      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1:      Custom ID2:      Custom ID3:  
Comment:

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | As            | B_            | Ba            | Be            | Cd            |
| Line   | 328.068 {103} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} | 228.802 {447} |
| IS Ref | (Y_3600)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      | (Y_2243)      |
| Units  | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg    | <b>.53411</b> | <b>.07271</b> | <b>1.1952</b> | <b>15.097</b> | <b>21.609</b> | <b>2.2930</b> |
| Stddev | .00274        | .00013        | .0013         | .058          | .102          | .0048         |
| %RSD   | .51257        | .18557        | .10486        | .38580        | .47282        | .20787        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .53223 | .07275 | 1.1964 | 15.141 | 21.720 | 2.2953 |
| #2 | .53284 | .07256 | 1.1954 | 15.118 | 21.589 | 2.2962 |
| #3 | .53725 | .07282 | 1.1939 | 15.031 | 21.519 | 2.2875 |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Co            | Cr            | Cu            | Li            | Mn            | Mo            |
| Line   | 228.616 {447} | 267.716 {126} | 327.396 {103} | 670.784 { 50} | 257.610 {131} | 202.030 {467} |
| IS Ref | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      |
| Units  | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg    | <b>7.1779</b> | <b>.69884</b> | <b>5.6030</b> | <b>4.6555</b> | <b>31.944</b> | <b>2.8177</b> |
| Stddev | .0132         | .00245        | .0427         | .0142         | .240          | .0029         |
| %RSD   | .18371        | .35102        | .76125        | .30493        | .75142        | .10261        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 7.1929 | .69637 | 5.6471 | 4.6682 | 32.004 | 2.8157 |
| #2 | 7.1682 | .69888 | 5.5619 | 4.6580 | 31.680 | 2.8210 |
| #3 | 7.1725 | .70128 | 5.6002 | 4.6402 | 32.148 | 2.8164 |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg    | <b>3.3714</b> | <b>.43509</b> | <b>.13399</b> | <b>.06577</b> | <b>.15733</b> | <b>.97671</b> |
| Stddev | .0027         | .00072        | .00024        | .00007        | .00060        | .00163        |
| %RSD   | .08028        | .16660        | .17985        | .10589        | .37862        | .16700        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 3.3745 | .43452 | .13410 | .06579 | .15785 | .97817 |
| #2 | 3.3695 | .43591 | .13414 | .06583 | .15747 | .97701 |
| #3 | 3.3701 | .43485 | .13371 | .06569 | .15668 | .97495 |

Sample Name: STD2A      Acquired: 5/6/2015 7:01:50      Type: Cal  
Method: PITT-6500ICP-2(v636)      Mode: IR      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1:      Custom ID2:      Custom ID3:  
Comment:

| Elem      | Sr            | Ti            | Ti            | V_            | Zn            |
|-----------|---------------|---------------|---------------|---------------|---------------|
| Line      | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref    | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>.53662</b> | <b>20.330</b> | <b>.40261</b> | <b>.05620</b> | <b>3.6249</b> |
| Stddev    | .00071        | .138          | .00092        | .00049        | .0029         |
| %RSD      | .13274        | .67783        | .22794        | .88055        | .08014        |
| #1        | .53743        | 20.487        | .40212        | .05568        | 3.6239        |
| #2        | .53629        | 20.232        | .40367        | .05624        | 3.6281        |
| #3        | .53612        | 20.270        | .40204        | .05666        | 3.6226        |
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |               |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |               |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |               |
| Avg       | <b>3152.4</b> | <b>5541.0</b> | <b>80596.</b> | <b>11224.</b> |               |
| Stddev    | 3.7           | 1.1           | 429.          | 39.           |               |
| %RSD      | .11858        | .02040        | .53284        | .34603        |               |
| #1        | 3149.4        | 5539.9        | 81044.        | 11185.        |               |
| #2        | 3156.5        | 5542.1        | 80556.        | 11263.        |               |
| #3        | 3151.1        | 5541.2        | 80188.        | 11226.        |               |

Sample Name: STD3      Acquired: 5/6/2015 7:06:47      Type: Cal  
 Method: PITT-6500ICP-2(v636)      Mode: IR      Corr. Factor: 1.000000  
 User: RRosenbaum      Custom ID1:      Custom ID2:      Custom ID3:  
 Comment:

| Elem      | Al            | Ca            | Fe            | K_            | Mg            | Na            |
|-----------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line      | 308.215 {109} | 317.933 {106} | 259.940 {130} | 766.490 { 44} | 279.079 {121} | 589.592 { 57} |
| IS Ref    | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>.95529</b> | <b>12.511</b> | <b>4.3961</b> | <b>9.8046</b> | <b>1.1389</b> | <b>46.688</b> |
| Stddev    | .00301        | .030          | .0347         | .0273         | .0060         | .579          |
| %RSD      | .31538        | .23699        | .78826        | .27854        | .52815        | 1.2400        |
| #1        | .95463        | 12.489        | 4.3852        | 9.8004        | 1.1383        | 47.265        |
| #2        | .95857        | 12.545        | 4.4349        | 9.8338        | 1.1452        | 46.692        |
| #3        | .95266        | 12.499        | 4.3683        | 9.7797        | 1.1332        | 46.108        |
| Int. Std. | Y_3710        |               |               |               |               |               |
| Line      | 371.030 { 91} |               |               |               |               |               |
| Units     | Cts/S         |               |               |               |               |               |
| Avg       | <b>10929.</b> |               |               |               |               |               |
| Stddev    | 17.           |               |               |               |               |               |
| %RSD      | .15585        |               |               |               |               |               |
| #1        | 10947.        |               |               |               |               |               |
| #2        | 10914.        |               |               |               |               |               |
| #3        | 10924.        |               |               |               |               |               |

Sample Name: ICV 1556739      Acquired: 5/6/2015 7:12:03      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .51629        | 12.824        | .24749        | 1.0329        | .97342        | .96800        |
| Stddev | .00230        | .050          | .00085        | .0062         | .00416        | .00488        |
| %RSD   | .44642        | .39293        | .34545        | .60145        | .42745        | .50381        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .51424 | 12.786 | .24700 | 1.0257 | .97093 | .96239 |
| #2 | .51878 | 12.804 | .24699 | 1.0359 | .97112 | .97127 |
| #3 | .51585 | 12.881 | .24848 | 1.0370 | .97823 | .97034 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 24.709        | .24766        | .98835        | .99778        | .96800        | 12.681        |
| Stddev | .038          | .00102        | .00385        | .00439        | .00305        | .043          |
| %RSD   | .15218        | .40989        | .38923        | .44023        | .31476        | .34205        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 24.751 | .24650 | .98495 | .99272 | .96790 | 12.631 |
| #2 | 24.677 | .24813 | .98758 | 1.0006 | .97109 | 12.707 |
| #3 | 24.700 | .24836 | .99252 | .99997 | .96500 | 12.704 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: ICV 1556739      Acquired: 5/6/2015 7:12:03      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>49.258</b> | <b>.98941</b> | <b>25.121</b> | <b>.96353</b> | <b>.98144</b> | <b>50.082</b> |
| Stddev | .198          | .00552        | .039          | .00333        | .00456        | .185          |
| %RSD   | .40195        | .55808        | .15415        | .34529        | .46423        | .37038        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 49.034 | .98385 | 25.081 | .96311 | .97635 | 49.935 |
| #2 | 49.329 | .98950 | 25.123 | .96705 | .98513 | 50.019 |
| #3 | 49.410 | .99489 | 25.159 | .96044 | .98285 | 50.290 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>1.0105</b> | <b>.24400</b> | <b>.24252</b> | <b>.24467</b> | <b>1.0295</b> | <b>.97661</b> |
| Stddev | .0022         | .00173        | .00413        | .00171        | .0135         | .00398        |
| %RSD   | .21488        | .70867        | 1.7042        | .69933        | 1.3114        | .40703        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.0080 | .24210 | .23779 | .24274 | 1.0201 | .97202 |
| #2 | 1.0120 | .24547 | .24547 | .24527 | 1.0233 | .97906 |
| #3 | 1.0116 | .24443 | .24429 | .24600 | 1.0450 | .97874 |

|         |          |          |          |          |      |          |
|---------|----------|----------|----------|----------|------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass |
| Value   |          |          |          |          |      |          |
| Range   |          |          |          |          |      |          |



Sample Name: ICV 1556739      Acquired: 5/6/2015 7:12:03      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                 |               |               |               |               |
|--------|-----------------|---------------|---------------|---------------|---------------|
| Elem   | Sr              | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97}   | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)        | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm             | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>W .93161</b> | <b>.95904</b> | <b>.48984</b> | <b>1.0191</b> | <b>.99076</b> |
| Stddev | .00410          | .00355        | .00070        | .0041         | .00371        |
| %RSD   | .44009          | .37044        | .14306        | .40341        | .37433        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .93063 | .95920 | .48903 | 1.0189 | .98653 |
| #2 | .92810 | .96251 | .49025 | 1.0150 | .99229 |
| #3 | .93612 | .95541 | .49024 | 1.0233 | .99345 |

|         |                 |                 |                 |                 |                 |
|---------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ? | <b>Chk Warn</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| Value   | 1.0000          |                 |                 |                 |                 |
| Range   | -5.5000%        |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3001.2</b> | <b>5487.8</b> | <b>77692.</b> | <b>11098.</b> |
| Stddev    | 6.6           | 14.2          | 134.          | 39.           |
| %RSD      | .22025        | .25917        | .17242        | .35285        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3008.7 | 5503.3 | 77837. | 11084. |
| #2 | 2998.6 | 5475.4 | 77572. | 11067. |
| #3 | 2996.2 | 5484.6 | 77668. | 11142. |

Sample Name: ICV 1556739      Acquired: 5/6/2015 7:16:51      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .50492        | 13.007        | .25736        | W 1.0683      | 1.0023        | 1.0137        |
| Stddev | .00127        | .032          | .00231        | .0042         | .0024         | .0047         |
| %RSD   | .25113        | .24520        | .89690        | .39380        | .24481        | .46009        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .50482 | 12.972 | .25887 | 1.0688 | 1.0000 | 1.0084 |
| #2 | .50370 | 13.017 | .25851 | 1.0722 | 1.0019 | 1.0160 |
| #3 | .50623 | 13.033 | .25471 | 1.0638 | 1.0049 | 1.0168 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Warn | Chk Pass | Chk Pass |
| Value   |          |          |          | 1.0000   |          |          |
| Range   |          |          |          | 5.5000%  |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 25.124        | .25348        | 1.0143        | .98816        | .95539        | 13.182        |
| Stddev | .078          | .00076        | .0038         | .00306        | .00225        | .099          |
| %RSD   | .30950        | .29923        | .37505        | .30997        | .23559        | .75440        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 25.034 | .25392 | 1.0173 | .98612 | .95516 | 13.069 |
| #2 | 25.170 | .25392 | 1.0156 | .98668 | .95774 | 13.222 |
| #3 | 25.167 | .25261 | 1.0100 | .99168 | .95326 | 13.255 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: ICV 1556739      Acquired: 5/6/2015 7:16:51      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>51.163</b> | <b>1.0064</b> | <b>26.096</b> | <b>.98731</b> | <b>1.0142</b> | <b>51.585</b> |
| Stddev | .151          | .0008         | .138          | .00417        | .0030         | .111          |
| %RSD   | .29572        | .07834        | .52716        | .42198        | .29943        | .21518        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 50.993 | 1.0061 | 25.940 | .98394 | 1.0155 | 51.470 |
| #2 | 51.284 | 1.0058 | 26.201 | .99197 | 1.0165 | 51.592 |
| #3 | 51.211 | 1.0073 | 26.148 | .98603 | 1.0108 | 51.692 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>1.0485</b> | <b>.25118</b> | <b>.25415</b> | <b>.25443</b> | <b>1.0564</b> | <b>1.0046</b> |
| Stddev | .0032         | .00298        | .00128        | .00130        | .0023         | .0033         |
| %RSD   | .30330        | 1.1847        | .50213        | .51141        | .22152        | .33250        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.0511 | .25394 | .25379 | .25520 | 1.0561 | 1.0073 |
| #2 | 1.0496 | .25158 | .25310 | .25293 | 1.0542 | 1.0056 |
| #3 | 1.0450 | .24803 | .25557 | .25516 | 1.0589 | 1.0008 |

|         |          |          |          |          |      |          |
|---------|----------|----------|----------|----------|------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass |
| Value   |          |          |          |          |      |          |
| Range   |          |          |          |          |      |          |

Sample Name: ICV 1556739      Acquired: 5/6/2015 7:16:51      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.97224</b> | <b>.97291</b> | <b>.50958</b> | <b>1.0338</b> | <b>1.0165</b> |
| Stddev | .01275        | .00259        | .00280        | .0103         | .0050         |
| %RSD   | 1.3115        | .26616        | .54858        | .99378        | .49437        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .96063 | .97190 | .51278 | 1.0221 | 1.0213 |
| #2 | .98589 | .97585 | .50764 | 1.0383 | 1.0171 |
| #3 | .97021 | .97098 | .50831 | 1.0411 | 1.0113 |

|         |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |
| Range   |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2935.7</b> | <b>5383.8</b> | <b>77918.</b> | <b>11132.</b> |
| Stddev    | 8.5           | 15.9          | 183.          | 47.           |
| %RSD      | .28823        | .29518        | .23537        | .41991        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2927.4 | 5370.4 | 78130. | 11171. |
| #2 | 2935.3 | 5379.7 | 77822. | 11080. |
| #3 | 2944.3 | 5401.4 | 77803. | 11144. |

Sample Name: ICV 1547740      Acquired: 5/6/2015 7:21:40      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | F .00023      | F .02872      | F .00218      | .98655        | F -.00006     | F .00001      |
| Stddev | .00003        | .01388        | .00062        | .00266        | .00021        | .00002        |
| %RSD   | 10.742        | 48.325        | 28.412        | .26995        | 357.74        | 255.16        |

|    |        |        |        |        |         |         |
|----|--------|--------|--------|--------|---------|---------|
| #1 | .00021 | .04307 | .00150 | .98864 | -.00028 | .00003  |
| #2 | .00023 | .01536 | .00233 | .98746 | .00013  | -.00002 |
| #3 | .00026 | .02774 | .00271 | .98355 | -.00002 | .00002  |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Fail |
| Value   | .50000   | 12.500   | .25000   |          | 1.0000   | 1.0000   |
| Range   | -10.500% | -10.500% | -10.500% |          | -10.500% | -10.500% |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | F -.01012     | F -.00006     | F .00007      | F -.00027     | F .00023      | F .00193      |
| Stddev | .00320        | .00003        | .00021        | .00027        | .00038        | .00169        |
| %RSD   | 31.683        | 55.143        | 294.51        | 101.82        | 166.77        | 87.465        |

|    |         |         |         |         |         |        |
|----|---------|---------|---------|---------|---------|--------|
| #1 | -.01339 | -.00002 | .00030  | -.00002 | .00007  | .00212 |
| #2 | -.00997 | -.00008 | .00004  | -.00023 | .00067  | .00016 |
| #3 | -.00699 | -.00007 | -.00012 | -.00055 | -.00004 | .00351 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail |
| Value   | 25.000   | .25000   | 1.0000   | 1.0000   | 1.0000   | 12.500   |
| Range   | -10.500% | -10.500% | -10.500% | -10.500% | -10.500% | -10.500% |

Sample Name: ICV 1547740      Acquired: 5/6/2015 7:21:40      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | F .15583      | F .00111      | F .01233      | F .00003      | F .00134      | F .01838      |
| Stddev | .04483        | .00088        | .01431        | .00002        | .00020        | .00607        |
| %RSD   | 28.770        | 78.732        | 116.03        | 47.456        | 15.008        | 33.045        |

|    |        |        |         |        |        |        |
|----|--------|--------|---------|--------|--------|--------|
| #1 | .19826 | .00038 | .01870  | .00002 | .00143 | .02411 |
| #2 | .16031 | .00208 | .02234  | .00005 | .00148 | .01903 |
| #3 | .10893 | .00088 | -.00406 | .00003 | .00111 | .01201 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail |
| Value   | 50.000   | 1.0000   | 25.000   | 1.0000   | 1.0000   | 50.000   |
| Range   | -10.500% | -10.500% | -10.500% | -10.500% | -10.500% | -10.500% |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | F -.00006     | F -.00056     | F -.00097     | F -.00188     | .00524        | F .00087      |
| Stddev | .00037        | .00053        | .00137        | .00147        | .00336        | .00047        |
| %RSD   | 613.11        | 94.088        | 141.80        | 78.286        | 64.068        | 54.406        |

|    |         |         |         |         |        |        |
|----|---------|---------|---------|---------|--------|--------|
| #1 | -.00003 | .00001  | .00041  | -.00318 | .00174 | .00065 |
| #2 | .00030  | -.00065 | -.00233 | -.00217 | .00843 | .00142 |
| #3 | -.00044 | -.00104 | -.00099 | -.00028 | .00555 | .00055 |

|         |          |          |          |          |      |          |
|---------|----------|----------|----------|----------|------|----------|
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Fail | None | Chk Fail |
| Value   | 1.0000   | .25000   | .25000   | .25000   |      | 1.0000   |
| Range   | -10.500% | -10.500% | -10.500% | -10.500% |      | -10.500% |

Sample Name: ICV 1547740      Acquired: 5/6/2015 7:21:40      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | F .00170      | F .00027      | F .00080      | F .00280      | F -.00056     |
| Stddev | .00245        | .00005        | .00110        | .00263        | .00016        |
| %RSD   | 144.05        | 18.953        | 138.56        | 94.134        | 28.735        |

|    |         |        |         |         |         |
|----|---------|--------|---------|---------|---------|
| #1 | .00374  | .00027 | .00147  | .00463  | -.00061 |
| #2 | -.00101 | .00021 | -.00048 | .00398  | -.00038 |
| #3 | .00236  | .00032 | .00140  | -.00022 | -.00070 |

|         |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail |
| Value   | 1.0000   | 1.0000   | .50000   | 1.0000   | 1.0000   |
| Range   | -10.500% | -10.500% | -10.500% | -10.500% | -10.500% |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3410.0        | 5703.6        | 82606.        | 11241.        |
| Stddev    | 10.4          | 16.3          | 77.           | 40.           |
| %RSD      | .30425        | .28552        | .09356        | .35555        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3398.4 | 5686.1 | 82692. | 11271. |
| #2 | 3413.1 | 5706.7 | 82584. | 11256. |
| #3 | 3418.5 | 5718.2 | 82542. | 11196. |

Sample Name: ICV 1547740      Acquired: 5/6/2015 7:26:50      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | F -.00005     | F -.00236     | F .00188      | .97345        | F -.00001     | F -.00002     |
| Stddev | .00018        | .00446        | .00092        | .00141        | .00031        | .00001        |
| %RSD   | 335.27        | 188.90        | 48.694        | .14513        | 2044.1        | 48.005        |

|    |         |         |        |        |         |         |
|----|---------|---------|--------|--------|---------|---------|
| #1 | -.00023 | -.00728 | .00200 | .97371 | -.00026 | -.00001 |
| #2 | .00013  | -.00123 | .00091 | .97472 | .00033  | -.00002 |
| #3 | -.00006 | .00143  | .00273 | .97193 | -.00011 | -.00003 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Pass | Chk Fail | Chk Fail |
| Value   | .50000   | 12.500   | .25000   |          | 1.0000   | 1.0000   |
| Range   | -10.500% | -10.500% | -10.500% |          | -10.500% | -10.500% |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | F -.01219     | F -.00002     | F -.00004     | F -.00033     | F .00042      | F .00179      |
| Stddev | .00107        | .00004        | .00006        | .00020        | .00030        | .00092        |
| %RSD   | 8.7469        | 183.27        | 152.61        | 61.466        | 71.776        | 51.396        |

|    |         |         |         |         |        |        |
|----|---------|---------|---------|---------|--------|--------|
| #1 | -.01106 | -.00003 | -.00008 | -.00035 | .00007 | .00275 |
| #2 | -.01318 | -.00006 | .00003  | -.00052 | .00059 | .00170 |
| #3 | -.01231 | .00002  | -.00007 | -.00012 | .00060 | .00092 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail |
| Value   | 25.000   | .25000   | 1.0000   | 1.0000   | 1.0000   | 12.500   |
| Range   | -10.500% | -10.500% | -10.500% | -10.500% | -10.500% | -10.500% |



Sample Name: ICV 1547740      Acquired: 5/6/2015 7:26:50      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | F .06405      | F .00049      | F -.00275     | F -.00004     | F .00031      | F -.00017     |
| Stddev | .02179        | .00151        | .00738        | .00001        | .00020        | .00139        |
| %RSD   | 34.014        | 306.70        | 267.99        | 36.760        | 63.387        | 830.36        |

|    |        |         |         |         |        |         |
|----|--------|---------|---------|---------|--------|---------|
| #1 | .05914 | .00081  | -.01127 | -.00003 | .00044 | .00108  |
| #2 | .08787 | -.00115 | .00177  | -.00006 | .00041 | -.00167 |
| #3 | .04514 | .00182  | .00123  | -.00003 | .00008 | .00009  |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail |
| Value   | 50.000   | 1.0000   | 25.000   | 1.0000   | 1.0000   | 50.000   |
| Range   | -10.500% | -10.500% | -10.500% | -10.500% | -10.500% | -10.500% |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | F .00024      | F -.00038     | F -.00086     | F .00176      | .00433        | F .00115      |
| Stddev | .00058        | .00137        | .00086        | .00191        | .00359        | .00056        |
| %RSD   | 240.70        | 357.13        | 100.30        | 108.06        | 82.890        | 48.782        |

|    |         |         |         |        |        |        |
|----|---------|---------|---------|--------|--------|--------|
| #1 | .00005  | -.00106 | .00007  | .00384 | .00832 | .00081 |
| #2 | .00090  | -.00128 | -.00103 | .00136 | .00134 | .00084 |
| #3 | -.00022 | .00119  | -.00162 | .00009 | .00334 | .00179 |

|         |          |          |          |          |      |          |
|---------|----------|----------|----------|----------|------|----------|
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Fail | None | Chk Fail |
| Value   | 1.0000   | .25000   | .25000   | .25000   |      | 1.0000   |
| Range   | -10.500% | -10.500% | -10.500% | -10.500% |      | -10.500% |

Sample Name: ICV 1547740      Acquired: 5/6/2015 7:26:50      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                  |                 |                 |                 |                  |
|--------|------------------|-----------------|-----------------|-----------------|------------------|
| Elem   | Sr               | Ti              | Ti              | V_              | Zn               |
| Line   | 346.446 { 97}    | 337.280 {100}   | 190.856 {477}   | 290.882 {116}   | 206.200 {463}    |
| IS Ref | (Y_3710)         | (Y_3710)        | (In2306)        | (Y_3600)        | (Y_2243)         |
| Units  | ppm              | ppm             | ppm             | ppm             | ppm              |
| Avg    | <b>F -.00108</b> | <b>F .00012</b> | <b>F .00125</b> | <b>F .00324</b> | <b>F -.00091</b> |
| Stddev | .00502           | .00015          | .00045          | .00109          | .00012           |
| %RSD   | 463.48           | 125.45          | 35.918          | 33.645          | 13.108           |

|    |         |         |        |        |         |
|----|---------|---------|--------|--------|---------|
| #1 | .00170  | .00017  | .00145 | .00257 | -.00099 |
| #2 | -.00687 | -.00005 | .00156 | .00264 | -.00077 |
| #3 | .00193  | .00023  | .00073 | .00450 | -.00097 |

|         |                 |                 |                 |                 |                 |
|---------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ? | <b>Chk Fail</b> | <b>Chk Fail</b> | <b>Chk Fail</b> | <b>Chk Fail</b> | <b>Chk Fail</b> |
| Value   | 1.0000          | 1.0000          | .50000          | 1.0000          | 1.0000          |
| Range   | -10.500%        | -10.500%        | -10.500%        | -10.500%        | -10.500%        |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3450.3</b> | <b>5736.8</b> | <b>82472.</b> | <b>11249.</b> |
| Stddev    | 2.0           | 12.6          | 386.          | 74.           |
| %RSD      | .05867        | .21913        | .46794        | .65683        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3449.8 | 5738.7 | 82896. | 11255. |
| #2 | 3452.6 | 5748.3 | 82380. | 11320. |
| #3 | 3448.7 | 5723.4 | 82141. | 11173. |

Sample Name: ICBIS      Acquired: 5/6/2015 7:32:01      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | F -.00007     | F -.00588     | F .00055      | F .00218      | F -.00009     | F .00003      |
| Stddev | .00024        | .00782        | .00132        | .00015        | .00002        | .00005        |
| %RSD   | 341.48        | 132.99        | 240.25        | 6.9375        | 26.841        | 185.90        |

|    |         |         |         |        |         |         |
|----|---------|---------|---------|--------|---------|---------|
| #1 | .00017  | -.00765 | .00111  | .00203 | -.00007 | -.00002 |
| #2 | -.00030 | -.01267 | -.00096 | .00233 | -.00009 | .00008  |
| #3 | -.00008 | .00267  | .00150  | .00218 | -.00012 | .00002  |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail |
| Value   | .50000   | 12.500   | .25000   | 1.0000   | 1.0000   | 1.0000   |
| Range   | -10.500% | -10.500% | -10.500% | -10.500% | -10.500% | -10.500% |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | F .00034      | F -.00005     | F .00007      | F -.00053     | F .00051      | F .00048      |
| Stddev | .00165        | .00007        | .00014        | .00014        | .00049        | .00077        |
| %RSD   | 484.87        | 139.71        | 211.71        | 26.902        | 96.946        | 161.39        |

|    |         |         |         |         |        |         |
|----|---------|---------|---------|---------|--------|---------|
| #1 | .00124  | -.00008 | -.00009 | -.00065 | .00105 | -.00028 |
| #2 | -.00156 | -.00010 | .00018  | -.00037 | .00009 | .00045  |
| #3 | .00134  | .00003  | .00011  | -.00057 | .00038 | .00126  |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail |
| Value   | 25.000   | .25000   | 1.0000   | 1.0000   | 1.0000   | 12.500   |
| Range   | -10.500% | -10.500% | -10.500% | -10.500% | -10.500% | -10.500% |

Sample Name: ICBIS      Acquired: 5/6/2015 7:32:01      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | F .02982      | F .00077      | F .01051      | F -.00002     | F .00043      | F .00274      |
| Stddev | .01863        | .00115        | .01781        | .00002        | .00002        | .00517        |
| %RSD   | 62.461        | 149.20        | 169.44        | 73.674        | 3.9326        | 188.45        |

|    |        |         |         |         |        |         |
|----|--------|---------|---------|---------|--------|---------|
| #1 | .03847 | -.00052 | .01000  | -.00005 | .00042 | .00843  |
| #2 | .00844 | .00114  | .02858  | -.00001 | .00042 | .00146  |
| #3 | .04255 | .00169  | -.00704 | -.00002 | .00044 | -.00167 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail |
| Value   | 50.000   | 1.0000   | 25.000   | 1.0000   | 1.0000   | 50.000   |
| Range   | -10.500% | -10.500% | -10.500% | -10.500% | -10.500% | -10.500% |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | F .00025      | F .00015      | F -.00085     | F .00110      | -.00316       | F .00082      |
| Stddev | .00043        | .00057        | .00017        | .00035        | .00392        | .00019        |
| %RSD   | 171.71        | 372.25        | 20.100        | 31.476        | 124.10        | 23.007        |

|    |         |         |         |        |         |        |
|----|---------|---------|---------|--------|---------|--------|
| #1 | .00031  | .00052  | -.00087 | .00143 | -.00271 | .00102 |
| #2 | .00064  | -.00050 | -.00067 | .00074 | -.00729 | .00065 |
| #3 | -.00020 | .00044  | -.00100 | .00114 | .00052  | .00078 |

|         |          |          |          |          |      |          |
|---------|----------|----------|----------|----------|------|----------|
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Fail | None | Chk Fail |
| Value   | 1.0000   | .25000   | .25000   | .25000   |      | 1.0000   |
| Range   | -10.500% | -10.500% | -10.500% | -10.500% |      | -10.500% |

Sample Name: ICBIS      Acquired: 5/6/2015 7:32:01      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | F -.00255     | F .00013      | F .00136      | F .00313      | F .00006      |
| Stddev | .00106        | .00011        | .00054        | .00092        | .00010        |
| %RSD   | 41.542        | 84.490        | 39.804        | 29.436        | 167.62        |

|    |         |        |        |        |         |
|----|---------|--------|--------|--------|---------|
| #1 | -.00355 | .00006 | .00165 | .00209 | .00002  |
| #2 | -.00266 | .00008 | .00073 | .00384 | .00017  |
| #3 | -.00144 | .00026 | .00169 | .00346 | -.00002 |

|         |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail |
| Value   | 1.0000   | 1.0000   | .50000   | 1.0000   | 1.0000   |
| Range   | -10.500% | -10.500% | -10.500% | -10.500% | -10.500% |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3374.1        | 5589.9        | 81908.        | 11192.        |
| Stddev    | 8.8           | 11.6          | 432.          | 53.           |
| %RSD      | .25935        | .20675        | .52777        | .46986        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3384.2 | 5602.9 | 82275. | 11172. |
| #2 | 3369.6 | 5580.7 | 81431. | 11252. |
| #3 | 3368.4 | 5586.2 | 82017. | 11153. |

Sample Name: CRI 1550960      Acquired: 5/6/2015 7:37:12      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00534        | .18205        | .01266        | .20126        | .19621        | .00394        |
| Stddev | .00020        | .00185        | .00136        | .00062        | .00044        | .00005        |
| %RSD   | 3.6851        | 1.0182        | 10.773        | .30891        | .22546        | 1.1858        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .00541 | .17991 | .01142 | .20118 | .19582 | .00390 |
| #2 | .00511 | .18303 | .01243 | .20191 | .19611 | .00391 |
| #3 | .00549 | .18321 | .01412 | .20068 | .19669 | .00399 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 5.0963        | .00487        | .04823        | .00455        | .02569        | .11043        |
| Stddev | .0072         | .00011        | .00026        | .00049        | .00028        | .00195        |
| %RSD   | .14167        | 2.1851        | .53620        | 10.840        | 1.0807        | 1.7636        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 5.0907 | .00490 | .04797 | .00421 | .02548 | .10874 |
| #2 | 5.1044 | .00476 | .04849 | .00512 | .02600 | .11256 |
| #3 | 5.0937 | .00497 | .04823 | .00433 | .02557 | .10998 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CRI 1550960      Acquired: 5/6/2015 7:37:12      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>5.1878</b> | <b>.05012</b> | <b>5.2809</b> | <b>.01562</b> | <b>.04014</b> | <b>5.1830</b> |
| Stddev | .0348         | .00073        | .0182         | .00008        | .00010        | .0013         |
| %RSD   | .67013        | 1.4586        | .34544        | .52438        | .23792        | .02538        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 5.1538 | .05093 | 5.2609 | .01554 | .04024 | 5.1834 |
| #2 | 5.2233 | .04952 | 5.2967 | .01570 | .04005 | 5.1841 |
| #3 | 5.1864 | .04990 | 5.2852 | .01561 | .04012 | 5.1815 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.03885</b> | <b>.00886</b> | <b>.00774</b> | <b>.01012</b> | <b>.49463</b> | <b>.10007</b> |
| Stddev | .00025        | .00081        | .00125        | .00138        | .00574        | .00073        |
| %RSD   | .64958        | 9.1909        | 16.116        | 13.609        | 1.1601        | .73074        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .03886 | .00968 | .00914 | .00870 | .49317 | .10059 |
| #2 | .03909 | .00805 | .00730 | .01023 | .50095 | .10038 |
| #3 | .03859 | .00886 | .00677 | .01145 | .48976 | .09923 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CRI 1550960      Acquired: 5/6/2015 7:37:12      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .04690        | .05042        | .01974        | .05080        | .01922        |
| Stddev | .00669        | .00034        | .00003        | .00178        | .00014        |
| %RSD   | 14.274        | .68396        | .13046        | 3.4946        | .72683        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .05036 | .05002 | .01974 | .05078 | .01911 |
| #2 | .05115 | .05062 | .01971 | .04904 | .01938 |
| #3 | .03918 | .05062 | .01976 | .05259 | .01918 |

|         |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |
| Range   |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3276.4        | 5590.7        | 81429.        | 11211.        |
| Stddev    | 2.9           | 3.7           | 181.          | 44.           |
| %RSD      | .08855        | .06537        | .22194        | .39064        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3279.5 | 5586.7 | 81385. | 11252. |
| #2 | 3273.7 | 5591.7 | 81275. | 11164. |
| #3 | 3276.0 | 5593.8 | 81628. | 11216. |



Sample Name: ICSA 1528065      Acquired: 5/6/2015 7:42:21      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | Ag             | Al            | As             | B_            | Ba             | Be             |
|--------|----------------|---------------|----------------|---------------|----------------|----------------|
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478}  | 182.641 {485} | 455.403 { 74}  | 313.042 {108}  |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)       | (Y_2243)      | (Y_3710)       | (Y_3710)       |
| Units  | ppm            | ppm           | ppm            | ppm           | ppm            | ppm            |
| Avg    | <b>-.00054</b> | <b>518.01</b> | <b>-.00357</b> | <b>.00243</b> | <b>.00006</b>  | <b>-.00010</b> |
| Stddev | .00016         | 4.18          | .00329         | .00023        | .00019         | .00006         |
| %RSD   | 28.870         | .80728        | 92.135         | 9.6597        | 321.53         | 56.274         |
| #1     | <b>-.00047</b> | <b>521.70</b> | <b>-.00073</b> | <b>.00265</b> | <b>-.00016</b> | <b>-.00016</b> |
| #2     | <b>-.00043</b> | <b>518.86</b> | <b>-.00280</b> | <b>.00218</b> | <b>.00022</b>  | <b>-.00005</b> |
| #3     | <b>-.00072</b> | <b>513.46</b> | <b>-.00717</b> | <b>.00246</b> | <b>.00012</b>  | <b>-.00009</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ca            | Cd             | Co             | Cr            | Cu            | Fe            |
|--------|---------------|----------------|----------------|---------------|---------------|---------------|
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447}  | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (In2306)       | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm            | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>483.66</b> | <b>-.00030</b> | <b>-.00116</b> | <b>.00216</b> | <b>.00509</b> | <b>193.64</b> |
| Stddev | 3.34          | .00013         | .00025         | .00051        | .00041        | .91           |
| %RSD   | .69079        | 42.263         | 21.112         | 23.762        | 8.0497        | .46833        |
| #1     | <b>486.36</b> | <b>-.00019</b> | <b>-.00123</b> | <b>.00160</b> | <b>.00515</b> | <b>193.90</b> |
| #2     | <b>484.70</b> | <b>-.00027</b> | <b>-.00137</b> | <b>.00228</b> | <b>.00465</b> | <b>194.40</b> |
| #3     | <b>479.92</b> | <b>-.00044</b> | <b>-.00089</b> | <b>.00261</b> | <b>.00546</b> | <b>192.64</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: ICSA 1528065      Acquired: 5/6/2015 7:42:21      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .13046        | .00927        | 526.71        | -.00028       | -.00155       | .02463        |
| Stddev | .02164        | .00083        | 2.54          | .00006        | .00045        | .00087        |
| %RSD   | 16.587        | 8.9611        | .48300        | 22.810        | 29.181        | 3.5250        |

|    |        |        |        |         |         |        |
|----|--------|--------|--------|---------|---------|--------|
| #1 | .11237 | .00843 | 527.76 | -.00024 | -.00206 | .02386 |
| #2 | .12459 | .01009 | 528.55 | -.00025 | -.00137 | .02447 |
| #3 | .15443 | .00930 | 523.81 | -.00036 | -.00121 | .02557 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00593        | .00594        | .00670        | -.00467       | .01192        | -.00008       |
| Stddev | .00052        | .00381        | .00425        | .00134        | .00576        | .00105        |
| %RSD   | 8.8519        | 64.137        | 63.351        | 28.765        | 48.322        | 1298.5        |

|    |        |        |        |         |        |         |
|----|--------|--------|--------|---------|--------|---------|
| #1 | .00539 | .00834 | .01144 | -.00319 | .01118 | .00019  |
| #2 | .00594 | .00794 | .00324 | -.00581 | .00656 | .00080  |
| #3 | .00644 | .00155 | .00542 | -.00503 | .01801 | -.00124 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: ICSA 1528065      Acquired: 5/6/2015 7:42:21      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00473        | -.00066       | -.00474       | .00965        | .00239        |
| Stddev | .00331        | .00010        | .00128        | .00102        | .00018        |
| %RSD   | 69.987        | 15.765        | 26.941        | 10.517        | 7.4883        |

|    |        |         |         |        |        |
|----|--------|---------|---------|--------|--------|
| #1 | .00628 | -.00078 | -.00518 | .01026 | .00244 |
| #2 | .00698 | -.00059 | -.00574 | .01022 | .00253 |
| #3 | .00093 | -.00060 | -.00330 | .00848 | .00219 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2511.0        | 4979.5        | 69262.        | 10469.        |
| Stddev    | 8.9           | 24.3          | 99.           | 71.           |
| %RSD      | .35478        | .48813        | .14244        | .67407        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2507.6 | 4966.7 | 69254. | 10465. |
| #2 | 2521.1 | 5007.6 | 69365. | 10401. |
| #3 | 2504.3 | 4964.3 | 69168. | 10542. |

Sample Name: ICSAB 1528174      Acquired: 5/6/2015 7:47:37      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>1.1145</b> | <b>518.15</b> | <b>.98856</b> | <b>.97932</b> | <b>.49821</b> | <b>.48795</b> |
| Stddev | .0063         | 3.63          | .00834        | .00210        | .00361        | .00273        |
| %RSD   | .56420        | .70051        | .84343        | .21469        | .72387        | .55949        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.1109 | 522.09 | .98189 | .97750 | .50235 | .49103 |
| #2 | 1.1217 | 517.43 | .98588 | .97884 | .49573 | .48699 |
| #3 | 1.1108 | 514.94 | .99791 | .98162 | .49655 | .48583 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>480.14</b> | <b>1.0272</b> | <b>.48932</b> | <b>.47673</b> | <b>.49551</b> | <b>193.26</b> |
| Stddev | 4.50          | .0015         | .00162        | .00123        | .00226        | .87           |
| %RSD   | .93774        | .14649        | .33013        | .25895        | .45618        | .45194        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 485.25 | 1.0259 | .48784 | .47639 | .49509 | 194.13 |
| #2 | 476.75 | 1.0268 | .48908 | .47810 | .49795 | 193.28 |
| #3 | 478.43 | 1.0289 | .49104 | .47570 | .49348 | 192.38 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: ICSAB 1528174      Acquired: 5/6/2015 7:47:37      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>10.890</b> | <b>1.0704</b> | <b>527.76</b> | <b>.44059</b> | <b>.94262</b> | <b>10.921</b> |
| Stddev | .062          | .0074         | 1.69          | .00031        | .00393        | .061          |
| %RSD   | .57311        | .69245        | .32068        | .06975        | .41705        | .55553        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 10.961 | 1.0789 | 529.68 | .44047 | .94111 | 10.991 |
| #2 | 10.843 | 1.0654 | 527.13 | .44035 | .93966 | 10.894 |
| #3 | 10.866 | 1.0670 | 526.47 | .44094 | .94708 | 10.879 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.97088</b> | <b>.95036</b> | <b>1.0100</b> | <b>.97314</b> | <b>1.0070</b> | <b>.87502</b> |
| Stddev | .00515        | .00519        | .0063         | .00396        | .0096         | .00394        |
| %RSD   | .53024        | .54566        | .62117        | .40671        | .94905        | .45052        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .96519 | .94507 | 1.0093 | .96941 | 1.0141 | .87407 |
| #2 | .97223 | .95058 | 1.0042 | .97272 | .99613 | .87164 |
| #3 | .97521 | .95544 | 1.0167 | .97729 | 1.0107 | .87935 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: ICSAB 1528174      Acquired: 5/6/2015 7:47:37      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.92894</b> | <b>.89275</b> | <b>.89754</b> | <b>.53410</b> | <b>.90115</b> |
| Stddev | .00441        | .00092        | .00718        | .00190        | .00226        |
| %RSD   | .47484        | .10322        | .79970        | .35667        | .25041        |

|    |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.93366</b> | <b>.89237</b> | <b>.89021</b> | <b>.53545</b> | <b>.89903</b> |
| #2 | <b>.92823</b> | <b>.89380</b> | <b>.89786</b> | <b>.53492</b> | <b>.90091</b> |
| #3 | <b>.92493</b> | <b>.89208</b> | <b>.90455</b> | <b>.53192</b> | <b>.90352</b> |

|         |                 |                 |                 |                 |                 |
|---------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ? | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| Value   |                 |                 |                 |                 |                 |
| Range   |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2454.3</b> | <b>4872.3</b> | <b>69007.</b> | <b>10432.</b> |
| Stddev    | 6.0           | 4.1           | 86.           | 14.           |
| %RSD      | .24649        | .08395        | .12436        | .13309        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2461.3 | 4876.9 | 69093. | 10431. |
| #2 | 2451.5 | 4870.7 | 68921. | 10418. |
| #3 | 2450.2 | 4869.2 | 69008. | 10446. |

Sample Name: CCV 1551842      Acquired: 5/6/2015 7:52:30      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>1.0254</b> | <b>25.296</b> | <b>.52282</b> | <b>2.0739</b> | <b>2.0083</b> | <b>2.0525</b> |
| Stddev | .0025         | .127          | .00335        | .0071         | .0039         | .0076         |
| %RSD   | .24199        | .50178        | .64088        | .34269        | .19205        | .36912        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.0282 | 25.305 | .52580 | 2.0821 | 2.0095 | 2.0607 |
| #2 | 1.0234 | 25.164 | .51919 | 2.0692 | 2.0040 | 2.0457 |
| #3 | 1.0247 | 25.418 | .52347 | 2.0704 | 2.0115 | 2.0512 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>51.408</b> | <b>.51512</b> | <b>2.0881</b> | <b>1.9762</b> | <b>1.8971</b> | <b>26.571</b> |
| Stddev | .163          | .00162        | .0045         | .0029         | .0241         | .148          |
| %RSD   | .31752        | .31373        | .21439        | .14867        | 1.2686        | .55700        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 51.580 | .51683 | 2.0913 | 1.9729 | 1.9244 | 26.732 |
| #2 | 51.255 | .51362 | 2.0830 | 1.9770 | 1.8882 | 26.441 |
| #3 | 51.389 | .51492 | 2.0900 | 1.9786 | 1.8788 | 26.540 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/6/2015 7:52:30      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>129.75</b> | <b>2.0131</b> | <b>52.533</b> | <b>1.9382</b> | <b>1.9965</b> | <b>129.57</b> |
| Stddev | .62           | .0033         | .383          | .0213         | .0048         | .37           |
| %RSD   | .47537        | .16591        | .72986        | 1.0969        | .23954        | .28833        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 130.45 | 2.0170 | 52.974 | 1.9603 | 2.0008 | 129.99 |
| #2 | 129.45 | 2.0114 | 52.353 | 1.9363 | 1.9913 | 129.29 |
| #3 | 129.33 | 2.0110 | 52.274 | 1.9179 | 1.9975 | 129.42 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>2.0875</b> | <b>.51627</b> | <b>.51050</b> | <b>.51592</b> | <b>2.0556</b> | <b>1.9373</b> |
| Stddev | .0018         | .00247        | .00309        | .00395        | .0027         | .0011         |
| %RSD   | .08608        | .47904        | .60488        | .76657        | .12920        | .05514        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 2.0896 | .51772 | .51304 | .51980 | 2.0528 | 1.9377 |
| #2 | 2.0863 | .51768 | .50707 | .51189 | 2.0581 | 1.9361 |
| #3 | 2.0866 | .51342 | .51140 | .51606 | 2.0559 | 1.9381 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |



Sample Name: CCV 1551842      Acquired: 5/6/2015 7:52:30      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>2.0059</b> | <b>1.9290</b> | <b>.99061</b> | <b>2.1061</b> | <b>2.0128</b> |
| Stddev | .0102         | .0235         | .00200        | .0294         | .0063         |
| %RSD   | .50733        | 1.2180        | .20192        | 1.3954        | .31433        |
| #1     | 2.0173        | 1.9550        | .98833        | 2.0768        | 2.0201        |
| #2     | 1.9978        | 1.9227        | .99147        | 2.1059        | 2.0093        |
| #3     | 2.0025        | 1.9093        | .99204        | 2.1356        | 2.0089        |

|         |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |
| Range   |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2748.2</b> | <b>5260.8</b> | <b>75484.</b> | <b>10943.</b> |
| Stddev    | 2.6           | 13.0          | 326.          | 89.           |
| %RSD      | .09312        | .24768        | .43252        | .81359        |
| #1        | 2745.5        | 5245.9        | 75816.        | 10842.        |
| #2        | 2750.6        | 5269.8        | 75472.        | 10975.        |
| #3        | 2748.5        | 5266.8        | 75163.        | 11011.        |

Sample Name: CCB1      Acquired: 5/6/2015 7:57:17      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00006        | .00871        | .00105        | .00226        | .00025        | .00004        |
| Stddev | .00008        | .00493        | .00109        | .00032        | .00006        | .00003        |
| %RSD   | 151.16        | 56.628        | 104.03        | 13.957        | 25.002        | 61.686        |

|    |         |        |        |        |        |        |
|----|---------|--------|--------|--------|--------|--------|
| #1 | .00015  | .01441 | .00230 | .00260 | .00030 | .00002 |
| #2 | .00002  | .00588 | .00029 | .00221 | .00027 | .00007 |
| #3 | -.00000 | .00585 | .00055 | .00198 | .00018 | .00005 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00495        | -.00011       | .00011        | -.00020       | .00033        | .00276        |
| Stddev | .00648        | .00013        | .00008        | .00037        | .00070        | .00394        |
| %RSD   | 130.83        | 115.59        | 74.601        | 187.66        | 207.95        | 143.03        |

|    |         |         |        |         |         |        |
|----|---------|---------|--------|---------|---------|--------|
| #1 | -.00224 | -.00005 | .00002 | -.00049 | .00060  | .00027 |
| #2 | .01033  | -.00027 | .00014 | -.00033 | .00086  | .00070 |
| #3 | .00677  | -.00003 | .00016 | .00022  | -.00045 | .00730 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB1      Acquired: 5/6/2015 7:57:17      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .10647        | .00080        | .01053        | .00011        | .00219        | .00222        |
| Stddev | .01937        | .00030        | .02143        | .00006        | .00056        | .00492        |
| %RSD   | 18.190        | 37.390        | 203.46        | 52.014        | 25.353        | 221.09        |

|    |        |        |         |        |        |         |
|----|--------|--------|---------|--------|--------|---------|
| #1 | .11699 | .00048 | -.01359 | .00009 | .00269 | .00778  |
| #2 | .11831 | .00107 | .02737  | .00017 | .00228 | -.00158 |
| #3 | .08412 | .00085 | .01783  | .00006 | .00159 | .00048  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00025        | -.00071       | .00046        | .00030        | .00289        | .00087        |
| Stddev | .00024        | .00021        | .00170        | .00185        | .00247        | .00041        |
| %RSD   | 94.648        | 29.162        | 368.90        | 610.74        | 85.355        | 47.362        |

|    |        |         |         |         |        |        |
|----|--------|---------|---------|---------|--------|--------|
| #1 | .00047 | -.00053 | -.00138 | -.00158 | .00371 | .00121 |
| #2 | .00000 | -.00094 | .00198  | .00212  | .00485 | .00041 |
| #3 | .00027 | -.00067 | .00078  | .00037  | .00012 | .00099 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB1      Acquired: 5/6/2015 7:57:17      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00070</b> | <b>.00022</b> | <b>.00136</b> | <b>.00367</b> | <b>.00002</b> |
| Stddev | .00145         | .00008        | .00051        | .00109        | .00005        |
| %RSD   | 206.34         | 35.778        | 37.124        | 29.693        | 190.58        |

|    |         |        |        |        |         |
|----|---------|--------|--------|--------|---------|
| #1 | .00045  | .00018 | .00104 | .00294 | -.00001 |
| #2 | -.00233 | .00032 | .00194 | .00315 | .00001  |
| #3 | -.00023 | .00017 | .00110 | .00493 | .00008  |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3420.6</b> | <b>5684.9</b> | <b>81957.</b> | <b>11194.</b> |
| Stddev    | 3.3           | 1.7           | 54.           | 105.          |
| %RSD      | .09786        | .02918        | .06546        | .93786        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3418.5 | 5683.4 | 81973. | 11293. |
| #2 | 3418.8 | 5686.7 | 82001. | 11084. |
| #3 | 3424.4 | 5684.6 | 81897. | 11205. |

Sample Name: MB 180-140594/1-A      Acquired: 5/6/2015 8:02:27      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00035        | -.00980       | .00205        | .00137        | .00009        | .00004        |
| Stddev | .00025        | .00968        | .00059        | .00025        | .00015        | .00005        |
| %RSD   | 70.942        | 98.782        | 28.502        | 18.268        | 164.01        | 116.36        |

|    |        |         |        |        |         |         |
|----|--------|---------|--------|--------|---------|---------|
| #1 | .00007 | -.01076 | .00164 | .00155 | .00009  | -.00000 |
| #2 | .00054 | .00033  | .00272 | .00109 | -.00006 | .00004  |
| #3 | .00044 | -.01896 | .00180 | .00148 | .00025  | .00009  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00477        | -.00007       | .00032        | -.00036       | .00035        | .00814        |
| Stddev | .00089        | .00011        | .00008        | .00021        | .00054        | .00174        |
| %RSD   | 18.680        | 158.72        | 24.655        | 58.268        | 154.39        | 21.357        |

|    |        |         |        |         |         |        |
|----|--------|---------|--------|---------|---------|--------|
| #1 | .00392 | .00006  | .00026 | -.00037 | .00008  | .00996 |
| #2 | .00469 | -.00011 | .00041 | -.00014 | .00098  | .00650 |
| #3 | .00570 | -.00016 | .00030 | -.00056 | -.00001 | .00795 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: MB 180-140594/1-A      Acquired: 5/6/2015 8:02:27      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .02443        | -.00017       | .00036        | .00011        | .00060        | -.00228       |
| Stddev | .03173        | .00063        | .00925        | .00003        | .00011        | .00762        |
| %RSD   | 129.86        | 377.48        | 2536.9        | 26.474        | 18.035        | 334.09        |

|    |        |         |         |        |        |         |
|----|--------|---------|---------|--------|--------|---------|
| #1 | .06049 | .00055  | -.01026 | .00014 | .00072 | .00635  |
| #2 | .01198 | -.00044 | .00667  | .00009 | .00056 | -.00512 |
| #3 | .00081 | -.00061 | .00469  | .00010 | .00052 | -.00807 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00006        | .00012        | .00007        | .00050        | .00409        | .00025        |
| Stddev | .00021        | .00073        | .00171        | .00186        | .00183        | .00017        |
| %RSD   | 363.82        | 631.48        | 2353.5        | 370.15        | 44.618        | 68.595        |

|    |         |         |         |         |        |        |
|----|---------|---------|---------|---------|--------|--------|
| #1 | .00028  | -.00028 | .00154  | -.00038 | .00611 | .00034 |
| #2 | .00003  | .00096  | -.00180 | -.00075 | .00362 | .00036 |
| #3 | -.00014 | -.00034 | .00048  | .00264  | .00255 | .00005 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: MB 180-140594/1-A      Acquired: 5/6/2015 8:02:27      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00530</b> | <b>.00015</b> | <b>.00222</b> | <b>.00211</b> | <b>.00116</b> |
| Stddev | .00215         | .00001        | .00041        | .00036        | .00009        |
| %RSD   | 40.557         | 7.2999        | 18.534        | 17.021        | 7.9376        |

|    |                |               |               |               |               |
|----|----------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00317</b> | <b>.00016</b> | <b>.00232</b> | <b>.00211</b> | <b>.00127</b> |
| #2 | <b>-.00525</b> | <b>.00014</b> | <b>.00258</b> | <b>.00176</b> | <b>.00109</b> |
| #3 | <b>-.00747</b> | <b>.00015</b> | <b>.00177</b> | <b>.00247</b> | <b>.00112</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3434.1</b> | <b>5683.3</b> | <b>82757.</b> | <b>11467.</b> |
| Stddev    | 5.9           | 18.2          | 275.          | 64.           |
| %RSD      | .17236        | .31973        | .33181        | .55667        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3438.6 | 5699.3 | 83024. | 11431. |
| #2 | 3436.2 | 5687.1 | 82772. | 11540. |
| #3 | 3427.4 | 5663.6 | 82475. | 11429. |

Sample Name: LCS 180-140594/2-A      Acquired: 5/6/2015 8:07:35      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05063        | 1.9747        | .51537        | 1.0604        | 1.9703        | .05004        |
| Stddev | .00046        | .0301         | .00307        | .0023         | .0029         | .00002        |
| %RSD   | .90233        | 1.5256        | .59647        | .21305        | .14716        | .03698        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .05111 | 1.9431 | .51810 | 1.0613 | 1.9715 | .05005 |
| #2 | .05056 | 2.0031 | .51204 | 1.0621 | 1.9724 | .05002 |
| #3 | .05021 | 1.9780 | .51598 | 1.0579 | 1.9670 | .05005 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 50.483        | .04970        | .50130        | .19419        | .24093        | 1.0491        |
| Stddev | .022          | .00014        | .00042        | .00021        | .00054        | .0027         |
| %RSD   | .04354        | .28906        | .08429        | .10994        | .22473        | .25625        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 50.486 | .04987 | .50136 | .19442 | .24139 | 1.0481 |
| #2 | 50.503 | .04963 | .50084 | .19399 | .24033 | 1.0470 |
| #3 | 50.459 | .04962 | .50168 | .19415 | .24106 | 1.0521 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: LCS 180-140594/2-A      Acquired: 5/6/2015 8:07:35      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>51.502</b> | <b>1.0005</b> | <b>51.779</b> | <b>.48170</b> | <b>1.0228</b> | <b>51.949</b> |
| Stddev | .125          | .0014         | .013          | .00118        | .0008         | .040          |
| %RSD   | .24323        | .13860        | .02564        | .24566        | .07627        | .07704        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>51.403</b> | <b>.99999</b> | <b>51.794</b> | <b>.48218</b> | <b>1.0237</b> | <b>51.937</b> |
| #2 | <b>51.643</b> | <b>1.0021</b> | <b>51.776</b> | <b>.48035</b> | <b>1.0224</b> | <b>51.993</b> |
| #3 | <b>51.461</b> | <b>.99952</b> | <b>51.768</b> | <b>.48256</b> | <b>1.0223</b> | <b>51.915</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.50397</b> | <b>.49853</b> | <b>.52253</b> | <b>.51874</b> | <b>10.011</b> | <b>1.9782</b> |
| Stddev | .00061        | .00033        | .00173        | .00209        | .017          | .0017         |
| %RSD   | .12065        | .06695        | .33185        | .40266        | .17050        | .08496        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.50359</b> | <b>.49816</b> | <b>.52392</b> | <b>.52047</b> | <b>10.020</b> | <b>1.9800</b> |
| #2 | <b>.50468</b> | <b>.49881</b> | <b>.52309</b> | <b>.51934</b> | <b>10.022</b> | <b>1.9768</b> |
| #3 | <b>.50366</b> | <b>.49862</b> | <b>.52059</b> | <b>.51642</b> | <b>9.9917</b> | <b>1.9777</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

Sample Name: LCS 180-140594/2-A      Acquired: 5/6/2015 8:07:35      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.97767</b> | <b>.97366</b> | <b>.49155</b> | <b>.51584</b> | <b>.49792</b> |
| Stddev | .00547        | .00224        | .00330        | .00393        | .00133        |
| %RSD   | .55996        | .23036        | .67191        | .76217        | .26629        |

|    |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.97216</b> | <b>.97613</b> | <b>.49536</b> | <b>.51813</b> | <b>.49813</b> |
| #2 | <b>.97775</b> | <b>.97174</b> | <b>.48988</b> | <b>.51130</b> | <b>.49650</b> |
| #3 | <b>.98311</b> | <b>.97312</b> | <b>.48942</b> | <b>.51809</b> | <b>.49913</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2886.8</b> | <b>5279.8</b> | <b>77029.</b> | <b>11139.</b> |
| Stddev    | 1.6           | 3.6           | 111.          | 12.           |
| %RSD      | .05520        | .06876        | .14457        | .10715        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>2887.6</b> | <b>5277.5</b> | <b>77157.</b> | <b>11153.</b> |
| #2 | <b>2885.0</b> | <b>5278.0</b> | <b>76981.</b> | <b>11135.</b> |
| #3 | <b>2887.8</b> | <b>5284.0</b> | <b>76950.</b> | <b>11130.</b> |

Sample Name: 180-43635-C-1-A      Acquired: 5/6/2015 8:12:22      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |                |
|--------|----------------|---------------|---------------|---------------|---------------|----------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be             |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108}  |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)       |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm            |
| Avg    | <b>-.00027</b> | <b>.01170</b> | <b>.00472</b> | <b>3.6607</b> | <b>.02072</b> | <b>-.00002</b> |
| Stddev | .00059         | .02933        | .00196        | .0099         | .00023        | .00005         |
| %RSD   | 214.74         | 250.61        | 41.562        | .26959        | 1.1233        | 266.84         |

|    |                |                |               |               |               |                |
|----|----------------|----------------|---------------|---------------|---------------|----------------|
| #1 | <b>-.00036</b> | <b>-.00606</b> | <b>.00624</b> | <b>3.6688</b> | <b>.02052</b> | <b>.00003</b>  |
| #2 | <b>-.00081</b> | <b>.04556</b>  | <b>.00541</b> | <b>3.6635</b> | <b>.02097</b> | <b>-.00002</b> |
| #3 | <b>.00035</b>  | <b>-.00439</b> | <b>.00251</b> | <b>3.6497</b> | <b>.02065</b> | <b>-.00007</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>280.49</b> | <b>.00010</b> | <b>.00489</b> | <b>.00038</b> | <b>.00760</b> | <b>.04554</b> |
| Stddev | 1.28          | .00003        | .00029        | .00030        | .00057        | .00485        |
| %RSD   | .45796        | 24.037        | 5.9372        | 78.445        | 7.4948        | 10.650        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>279.30</b> | <b>.00009</b> | <b>.00466</b> | <b>.00017</b> | <b>.00697</b> | <b>.05076</b> |
| #2 | <b>280.31</b> | <b>.00009</b> | <b>.00522</b> | <b>.00073</b> | <b>.00776</b> | <b>.04472</b> |
| #3 | <b>281.85</b> | <b>.00013</b> | <b>.00480</b> | <b>.00025</b> | <b>.00807</b> | <b>.04116</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43635-C-1-A      Acquired: 5/6/2015 8:12:22      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |                 |               |               |                 |
|--------|---------------|---------------|-----------------|---------------|---------------|-----------------|
| Elem   | K_            | Li            | Mg              | Mn            | Mo            | Na              |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121}   | 257.610 {131} | 202.030 {467} | 589.592 { 57}   |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)        | (Y_3710)      | (Y_2243)      | (Y_3710)        |
| Units  | ppm           | ppm           | ppm             | ppm           | ppm           | ppm             |
| Avg    | <b>305.54</b> | <b>.16349</b> | <b>F 926.22</b> | <b>.34934</b> | <b>.03462</b> | <b>F 1999.6</b> |
| Stddev | 1.09          | .00191        | 3.93            | .00122        | .00031        | 34.1            |
| %RSD   | .35690        | 1.1694        | .42379          | .35034        | .88788        | 1.7034          |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>305.96</b> | <b>.16137</b> | <b>925.30</b> | <b>.34846</b> | <b>.03432</b> | <b>2021.4</b> |
| #2 | <b>306.37</b> | <b>.16507</b> | <b>930.52</b> | <b>.35074</b> | <b>.03494</b> | <b>2017.0</b> |
| #3 | <b>304.31</b> | <b>.16403</b> | <b>922.83</b> | <b>.34882</b> | <b>.03460</b> | <b>1960.3</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Fail</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Fail</b> |
| High Limit |                 |                 | <b>600.00</b>   |                 |                 | <b>500.00</b>   |
| Low Limit  |                 |                 | <b>-5.0000</b>  |                 |                 | <b>-5.0000</b>  |

|        |               |               |                |               |               |                |
|--------|---------------|---------------|----------------|---------------|---------------|----------------|
| Elem   | Ni            | Pb            | Sb             | Se            | Si            | Sn             |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455}  | 196.090 {472} | 251.611 {134} | 189.989 {477}  |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_2243)       |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           | ppm            |
| Avg    | <b>.16081</b> | <b>.00123</b> | <b>-.00320</b> | <b>.00002</b> | <b>1.1599</b> | <b>-.00056</b> |
| Stddev | .00067        | .00280        | .00035         | .00184        | .0065         | .00042         |
| %RSD   | .41551        | 227.51        | 10.939         | 7866.1        | .56375        | 74.619         |

|    |               |                |                |                |               |                |
|----|---------------|----------------|----------------|----------------|---------------|----------------|
| #1 | <b>.16145</b> | <b>-.00147</b> | <b>-.00289</b> | <b>-.00186</b> | <b>1.1600</b> | <b>-.00103</b> |
| #2 | <b>.16087</b> | <b>.00413</b>  | <b>-.00358</b> | <b>.00182</b>  | <b>1.1664</b> | <b>-.00022</b> |
| #3 | <b>.16012</b> | <b>.00104</b>  | <b>-.00313</b> | <b>.00011</b>  | <b>1.1533</b> | <b>-.00043</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

Sample Name: 180-43635-C-1-A      Acquired: 5/6/2015 8:12:22      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 5.0046        | -0.00043      | .00053        | .00026        | .13974        |
| Stddev | .0152         | .00022        | .00045        | .00493        | .00044        |
| %RSD   | .30441        | 51.185        | 85.940        | 1897.2        | .31686        |

|    |        |          |        |         |        |
|----|--------|----------|--------|---------|--------|
| #1 | 5.0034 | -0.00030 | .00094 | .00083  | .13996 |
| #2 | 5.0204 | -0.00031 | .00004 | .00488  | .14003 |
| #3 | 4.9900 | -0.00069 | .00060 | -.00493 | .13923 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 1798.9        | 3857.8        | 53476.        | 10038.        |
| Stddev    | 4.5           | 6.7           | 128.          | 27.           |
| %RSD      | .25268        | .17425        | .23933        | .27301        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 1797.3 | 3852.6 | 53489. | 10068. |
| #2 | 1795.4 | 3855.4 | 53342. | 10013. |
| #3 | 1804.0 | 3865.4 | 53597. | 10034. |

Sample Name: 180-43635-C-1-A SD@5      Acquired: 5/6/2015 8:17:41      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00028        | .00318        | .00312        | .68849        | .00395        | .00001        |
| Stddev | .00033        | .01379        | .00252        | .00401        | .00020        | .00005        |
| %RSD   | 116.48        | 433.84        | 80.613        | .58284        | 4.9753        | 927.73        |

|    |        |         |        |        |        |         |
|----|--------|---------|--------|--------|--------|---------|
| #1 | .00015 | -.00580 | .00120 | .68621 | .00400 | -.00003 |
| #2 | .00004 | -.00373 | .00220 | .68613 | .00411 | .00006  |
| #3 | .00065 | .01906  | .00597 | .69312 | .00373 | -.00002 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 59.129        | -.00013       | .00180        | -.00003       | .00065        | .03238        |
| Stddev | .413          | .00009        | .00009        | .00049        | .00017        | .00119        |
| %RSD   | .69774        | 68.990        | 5.1410        | 1424.0        | 25.943        | 3.6643        |

|    |        |         |        |         |        |        |
|----|--------|---------|--------|---------|--------|--------|
| #1 | 58.751 | -.00003 | .00172 | .00045  | .00072 | .03263 |
| #2 | 59.569 | -.00020 | .00191 | -.00054 | .00076 | .03109 |
| #3 | 59.066 | -.00016 | .00178 | -.00001 | .00045 | .03342 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43635-C-1-A SD@5      Acquired: 5/6/2015 8:17:41      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 57.529        | .03554        | 182.67        | .08181        | .00729        | F 1126.8      |
| Stddev | .193          | .00110        | 1.01          | .00102        | .00015        | 3.8           |
| %RSD   | .33633        | 3.1064        | .55316        | 1.2501        | 2.1129        | .33790        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 57.432 | .03427 | 181.96 | .08117 | .00742 | 1122.6 |
| #2 | 57.752 | .03620 | 183.83 | .08299 | .00712 | 1129.9 |
| #3 | 57.404 | .03616 | 182.23 | .08128 | .00733 | 1128.0 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit |          |          |          |          |          | 500.00   |
| Low Limit  |          |          |          |          |          | -5.0000  |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .03254        | .00088        | -.00146       | .00007        | .23099        | -.00039       |
| Stddev | .00088        | .00158        | .00065        | .00247        | .00494        | .00057        |
| %RSD   | 2.7112        | 179.22        | 44.737        | 3505.1        | 2.1381        | 145.47        |

|    |        |         |         |         |        |         |
|----|--------|---------|---------|---------|--------|---------|
| #1 | .03168 | .00091  | -.00128 | .00131  | .23400 | -.00032 |
| #2 | .03345 | .00245  | -.00218 | .00167  | .22529 | -.00099 |
| #3 | .03250 | -.00071 | -.00091 | -.00277 | .23367 | .00014  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43635-C-1-A SD@5      Acquired: 5/6/2015 8:17:41      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.0200        | .00007        | -.00133       | .00273        | .03058        |
| Stddev | .0038         | .00010        | .00081        | .00070        | .00022        |
| %RSD   | .37643        | 137.20        | 61.302        | 25.648        | .71663        |

|    |        |         |         |        |        |
|----|--------|---------|---------|--------|--------|
| #1 | 1.0200 | .00010  | -.00054 | .00344 | .03050 |
| #2 | 1.0238 | -.00004 | -.00216 | .00270 | .03041 |
| #3 | 1.0161 | .00015  | -.00128 | .00204 | .03083 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2404.9        | 4742.9        | 65854.        | 10804.        |
| Stddev    | 7.5           | 21.0          | 139.          | 81.           |
| %RSD      | .31265        | .44376        | .21137        | .74935        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2413.5 | 4765.6 | 65709. | 10850. |
| #2 | 2401.9 | 4739.0 | 65987. | 10711. |
| #3 | 2399.4 | 4724.1 | 65867. | 10851. |



Sample Name: MB 180-140166/1-A      Acquired: 5/6/2015 8:22:55      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00000        | .01028        | .00145        | .00218        | .00009        | .00006        |
| Stddev | .00032        | .02183        | .00060        | .00028        | .00008        | .00001        |
| %RSD   | 7370.0        | 212.49        | 41.021        | 12.602        | 95.130        | 23.846        |

|    |         |         |        |        |        |        |
|----|---------|---------|--------|--------|--------|--------|
| #1 | .00010  | -.01394 | .00102 | .00249 | .00018 | .00005 |
| #2 | -.00036 | .02847  | .00121 | .00211 | .00005 | .00006 |
| #3 | .00027  | .01629  | .00214 | .00195 | .00003 | .00008 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .02494        | -.00007       | .00020        | -.00048       | .00069        | .02519        |
| Stddev | .00321        | .00005        | .00005        | .00032        | .00034        | .00160        |
| %RSD   | 12.864        | 70.447        | 24.523        | 66.587        | 50.232        | 6.3539        |

|    |        |         |        |         |        |        |
|----|--------|---------|--------|---------|--------|--------|
| #1 | .02124 | -.00008 | .00015 | -.00076 | .00059 | .02692 |
| #2 | .02701 | -.00012 | .00020 | -.00013 | .00107 | .02376 |
| #3 | .02656 | -.00002 | .00024 | -.00056 | .00040 | .02490 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: MB 180-140166/1-A      Acquired: 5/6/2015 8:22:55      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .24579        | .00192        | .05563        | .00005        | .00021        | .72086        |
| Stddev | .02861        | .00142        | .00574        | .00001        | .00010        | .04991        |
| %RSD   | 11.641        | 74.269        | 10.313        | 24.936        | 47.151        | 6.9232        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .24949 | .00152 | .05860 | .00004 | .00010 | .74015 |
| #2 | .27237 | .00350 | .05928 | .00004 | .00024 | .75824 |
| #3 | .21551 | .00073 | .04902 | .00007 | .00030 | .66419 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00021       | .00052        | -.00167       | .00091        | -.00091       | .00059        |
| Stddev | .00028        | .00049        | .00035        | .00046        | .00393        | .00018        |
| %RSD   | 130.72        | 94.226        | 21.214        | 51.100        | 433.20        | 30.771        |

|    |         |        |         |        |         |        |
|----|---------|--------|---------|--------|---------|--------|
| #1 | -.00047 | .00022 | -.00145 | .00144 | .00354  | .00064 |
| #2 | -.00024 | .00025 | -.00208 | .00065 | -.00235 | .00075 |
| #3 | .00008  | .00108 | -.00149 | .00063 | -.00392 | .00039 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: MB 180-140166/1-A      Acquired: 5/6/2015 8:22:55      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |                |               |               |               |
|--------|----------------|----------------|---------------|---------------|---------------|
| Elem   | Sr             | Ti             | Ti            | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100}  | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)       | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>-.00028</b> | <b>-.00004</b> | <b>.00174</b> | <b>.00225</b> | <b>.00157</b> |
| Stddev | .00443         | .00007         | .00036        | .00192        | .00006        |
| %RSD   | 1579.7         | 174.35         | 20.901        | 85.208        | 3.7601        |

|    |                |                |               |               |               |
|----|----------------|----------------|---------------|---------------|---------------|
| #1 | <b>-.00204</b> | <b>-.00012</b> | <b>.00215</b> | <b>.00100</b> | <b>.00159</b> |
| #2 | <b>-.00357</b> | <b>-.00002</b> | <b>.00160</b> | <b>.00446</b> | <b>.00162</b> |
| #3 | <b>.00476</b>  | <b>.00001</b>  | <b>.00147</b> | <b>.00130</b> | <b>.00151</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3367.9</b> | <b>5621.4</b> | <b>83167.</b> | <b>11423.</b> |
| Stddev    | 5.9           | 2.6           | 318.          | 11.           |
| %RSD      | .17438        | .04578        | .38265        | .09960        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3364.1 | 5621.6 | 82881. | 11411. |
| #2 | 3365.0 | 5618.7 | 83510. | 11424. |
| #3 | 3374.7 | 5623.9 | 83110. | 11434. |

Sample Name: LCS 180-140166/2-A      Acquired: 5/6/2015 8:28:04      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05276        | 2.0052        | .51540        | 1.0838        | 1.9801        | .04975        |
| Stddev | .00029        | .0226         | .00360        | .0033         | .0024         | .00021        |
| %RSD   | .54473        | 1.1274        | .69884        | .30844        | .12251        | .41555        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .05297 | 1.9891 | .51654 | 1.0828 | 1.9826 | .04956 |
| #2 | .05243 | 2.0310 | .51830 | 1.0876 | 1.9799 | .04997 |
| #3 | .05288 | 1.9954 | .51137 | 1.0811 | 1.9777 | .04970 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 50.154        | .04990        | .50878        | .20020        | .24335        | 1.0620        |
| Stddev | .109          | .00012        | .00139        | .00019        | .00021        | .0008         |
| %RSD   | .21812        | .24911        | .27303        | .09593        | .08639        | .08027        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 50.047 | .04981 | .50874 | .20034 | .24319 | 1.0629 |
| #2 | 50.266 | .05004 | .51019 | .20028 | .24359 | 1.0619 |
| #3 | 50.149 | .04984 | .50741 | .19998 | .24327 | 1.0612 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: LCS 180-140166/2-A      Acquired: 5/6/2015 8:28:04      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>50.742</b> | <b>1.0078</b> | <b>51.006</b> | <b>.48180</b> | <b>1.0233</b> | <b>51.202</b> |
| Stddev | .092          | .0019         | .354          | .00147        | .0020         | .024          |
| %RSD   | .18213        | .19288        | .69421        | .30602        | .19530        | .04680        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 50.733 | 1.0059 | 50.798 | .48018 | 1.0246 | 51.223 |
| #2 | 50.839 | 1.0098 | 51.415 | .48306 | 1.0244 | 51.208 |
| #3 | 50.655 | 1.0079 | 50.806 | .48217 | 1.0210 | 51.176 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.50416</b> | <b>.49863</b> | <b>.52837</b> | <b>.51876</b> | <b>10.206</b> | <b>2.0039</b> |
| Stddev | .00154        | .00187        | .00219        | .00056        | .042          | .0058         |
| %RSD   | .30460        | .37590        | .41447        | .10787        | .40793        | .28998        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .50418 | .49657 | .53007 | .51913 | 10.180 | 2.0075 |
| #2 | .50568 | .49911 | .52914 | .51812 | 10.254 | 2.0072 |
| #3 | .50261 | .50023 | .52590 | .51903 | 10.184 | 1.9972 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: LCS 180-140166/2-A      Acquired: 5/6/2015 8:28:04      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.96973</b> | <b>.98640</b> | <b>.49599</b> | <b>.52282</b> | <b>.50378</b> |
| Stddev | .00609        | .00301        | .00113        | .00476        | .00221        |
| %RSD   | .62752        | .30518        | .22684        | .91060        | .43954        |

|    |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.96837</b> | <b>.98293</b> | <b>.49719</b> | <b>.52689</b> | <b>.50405</b> |
| #2 | <b>.97638</b> | <b>.98831</b> | <b>.49581</b> | <b>.51758</b> | <b>.50584</b> |
| #3 | <b>.96444</b> | <b>.98796</b> | <b>.49496</b> | <b>.52398</b> | <b>.50144</b> |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2915.2</b> | <b>5373.6</b> | <b>77181.</b> | <b>11230.</b> |
| Stddev    | 5.6           | 15.5          | 101.          | 33.           |
| %RSD      | .19154        | .28800        | .13088        | .29027        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2914.8 | 5377.1 | 77107. | 11261. |
| #2 | 2909.8 | 5356.6 | 77141. | 11196. |
| #3 | 2921.0 | 5387.0 | 77296. | 11233. |

Sample Name: 180-43500-E-2-A      Acquired: 5/6/2015 8:32:52      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00016        | .01795        | .00422        | .13116        | .01995        | -.00000       |
| Stddev | .00035        | .00877        | .00157        | .00042        | .00018        | .00003        |
| %RSD   | 220.56        | 48.874        | 37.130        | .31766        | .91031        | 819.80        |

|    |         |        |        |        |        |         |
|----|---------|--------|--------|--------|--------|---------|
| #1 | .00054  | .01968 | .00557 | .13118 | .02006 | -.00001 |
| #2 | .00006  | .00844 | .00459 | .13073 | .01974 | -.00003 |
| #3 | -.00013 | .02572 | .00250 | .13157 | .02004 | .00003  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 14.125        | -.00008       | .00027        | .00018        | .01705        | .07214        |
| Stddev | .031          | .00002        | .00019        | .00004        | .00007        | .00093        |
| %RSD   | .22149        | 27.000        | 70.951        | 23.812        | .38783        | 1.2872        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | 14.161 | -.00006 | .00006 | .00016 | .01703 | .07192 |
| #2 | 14.102 | -.00008 | .00031 | .00015 | .01700 | .07316 |
| #3 | 14.112 | -.00010 | .00043 | .00022 | .01712 | .07135 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43500-E-2-A      Acquired: 5/6/2015 8:32:52      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>6.3288</b> | <b>.01456</b> | <b>.52725</b> | <b>.00481</b> | <b>.00183</b> | <b>7.1848</b> |
| Stddev | .0327         | .00032        | .01249        | .00007        | .00013        | .0140         |
| %RSD   | .51726        | 2.1996        | 2.3689        | 1.4921        | 6.9238        | .19539        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>6.3665</b> | <b>.01425</b> | <b>.54159</b> | <b>.00488</b> | <b>.00190</b> | <b>7.2010</b> |
| #2 | <b>6.3120</b> | <b>.01489</b> | <b>.51876</b> | <b>.00474</b> | <b>.00191</b> | <b>7.1764</b> |
| #3 | <b>6.3078</b> | <b>.01455</b> | <b>.52140</b> | <b>.00479</b> | <b>.00169</b> | <b>7.1769</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.00014</b> | <b>.00194</b> | <b>.02030</b> | <b>.00272</b> | <b>8.0766</b> | <b>.00160</b> |
| Stddev | .00014        | .00084        | .00176        | .00232        | .0279         | .00026        |
| %RSD   | 102.72        | 43.163        | 8.6685        | 85.149        | .34499        | 16.003        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.00007</b> | <b>.00231</b> | <b>.02233</b> | <b>.00011</b> | <b>8.0946</b> | <b>.00148</b> |
| #2 | <b>.00004</b> | <b>.00253</b> | <b>.01931</b> | <b>.00452</b> | <b>8.0445</b> | <b>.00142</b> |
| #3 | <b>.00030</b> | <b>.00098</b> | <b>.01925</b> | <b>.00354</b> | <b>8.0906</b> | <b>.00189</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43500-E-2-A      Acquired: 5/6/2015 8:32:52      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.16181</b> | <b>.00271</b> | <b>.00092</b> | <b>.00313</b> | <b>.55984</b> |
| Stddev | .00277        | .00014        | .00174        | .00171        | .00433        |
| %RSD   | 1.7108        | 5.2585        | 190.23        | 54.659        | .77273        |

|    |        |        |         |        |        |
|----|--------|--------|---------|--------|--------|
| #1 | .16422 | .00287 | .00130  | .00126 | .55685 |
| #2 | .15879 | .00259 | -.00099 | .00462 | .55787 |
| #3 | .16243 | .00269 | .00244  | .00353 | .56480 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3311.0</b> | <b>5602.6</b> | <b>81235.</b> | <b>11458.</b> |
| Stddev    | 21.1          | 31.9          | 275.          | 74.           |
| %RSD      | .63602        | .56939        | .33871        | .64746        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3330.7 | 5631.7 | 81470. | 11397. |
| #2 | 3313.4 | 5607.7 | 80932. | 11541. |
| #3 | 3288.8 | 5568.5 | 81303. | 11438. |

Sample Name: 180-43500-E-2-A SD@5      Acquired: 5/6/2015 8:37:58      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |                |               |               |               |               |
|--------|----------------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Ag             | Al             | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103}  | 308.215 {109}  | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)       | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00010</b> | <b>-.00130</b> | <b>.00286</b> | <b>.02657</b> | <b>.00391</b> | <b>.00001</b> |
| Stddev | .00036         | .00887         | .00042        | .00046        | .00008        | .00001        |
| %RSD   | 361.75         | 683.62         | 14.669        | 1.7265        | 2.1624        | 111.27        |

|    |                |                |               |               |               |                |
|----|----------------|----------------|---------------|---------------|---------------|----------------|
| #1 | .00024         | .00485         | .00244        | .02613        | .00381        | .00002         |
| #2 | <b>-.00048</b> | <b>-.01147</b> | <b>.00286</b> | <b>.02652</b> | <b>.00396</b> | <b>.00002</b>  |
| #3 | <b>-.00006</b> | <b>.00272</b>  | <b>.00328</b> | <b>.02705</b> | <b>.00396</b> | <b>-.00000</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |                |                |                |               |               |
|--------|---------------|----------------|----------------|----------------|---------------|---------------|
| Elem   | Ca            | Cd             | Co             | Cr             | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447}  | 267.716 {126}  | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (In2306)       | (Y_3600)       | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm            | ppm            | ppm            | ppm           | ppm           |
| Avg    | <b>2.8906</b> | <b>-.00008</b> | <b>-.00007</b> | <b>-.00015</b> | <b>.00397</b> | <b>.01485</b> |
| Stddev | .0060         | .00007         | .00019         | .00039         | .00071        | .00022        |
| %RSD   | .20661        | 81.193         | 256.45         | 252.69         | 17.922        | 1.4541        |

|    |        |         |         |         |        |        |
|----|--------|---------|---------|---------|--------|--------|
| #1 | 2.8837 | -.00013 | -.00021 | -.00057 | .00436 | .01482 |
| #2 | 2.8941 | -.00001 | -.00015 | .00019  | .00315 | .01465 |
| #3 | 2.8941 | -.00011 | .00014  | -.00008 | .00441 | .01508 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43500-E-2-A SD@5      Acquired: 5/6/2015 8:37:58      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.3796        | .00345        | .09818        | .00097        | .00049        | 1.5937        |
| Stddev | .0252         | .00045        | .00830        | .00003        | .00006        | .0060         |
| %RSD   | 1.8252        | 12.917        | 8.4558        | 3.4483        | 11.629        | .37864        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.3505 | .00330 | .09025 | .00099 | .00055 | 1.5868 |
| #2 | 1.3932 | .00311 | .09747 | .00098 | .00045 | 1.5962 |
| #3 | 1.3950 | .00396 | .10681 | .00093 | .00046 | 1.5981 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00008       | .00072        | .00341        | -.00100       | 1.6600        | .00050        |
| Stddev | .00011        | .00088        | .00152        | .00139        | .0118         | .00054        |
| %RSD   | 135.37        | 121.87        | 44.519        | 139.41        | .71034        | 109.24        |

|    |         |         |        |         |        |         |
|----|---------|---------|--------|---------|--------|---------|
| #1 | -.00001 | .00052  | .00492 | -.00096 | 1.6542 | .00048  |
| #2 | -.00020 | .00168  | .00341 | -.00241 | 1.6522 | .00105  |
| #3 | -.00002 | -.00004 | .00189 | .00037  | 1.6735 | -.00004 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43500-E-2-A SD@5      Acquired: 5/6/2015 8:37:58      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .02951        | .00054        | .00100        | .00128        | .11414        |
| Stddev | .00154        | .00013        | .00053        | .00151        | .00022        |
| %RSD   | 5.2104        | 24.051        | 53.021        | 117.39        | .19211        |

|    |        |        |        |         |        |
|----|--------|--------|--------|---------|--------|
| #1 | .02932 | .00039 | .00085 | .00275  | .11436 |
| #2 | .02808 | .00062 | .00057 | .00136  | .11393 |
| #3 | .03114 | .00060 | .00160 | -.00026 | .11413 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3341.4        | 5577.7        | 81551.        | 11343.        |
| Stddev    | 10.2          | 14.5          | 152.          | 29.           |
| %RSD      | .30502        | .26005        | .18616        | .25632        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3329.8 | 5564.5 | 81723. | 11368. |
| #2 | 3349.0 | 5575.5 | 81435. | 11349. |
| #3 | 3345.4 | 5593.2 | 81496. | 11311. |

Sample Name: 180-43635-C-1-A@10      Acquired: 5/6/2015 8:43:06      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |                |
|--------|----------------|---------------|---------------|---------------|---------------|----------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be             |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108}  |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)       |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm            |
| Avg    | <b>-.00004</b> | <b>.00693</b> | <b>.00075</b> | <b>.34565</b> | <b>.00221</b> | <b>-.00003</b> |
| Stddev | .00057         | .02334        | .00114        | .00143        | .00001        | .00006         |
| %RSD   | 1501.4         | 336.96        | 152.63        | .41504        | .60085        | 233.04         |

|    |         |         |         |        |        |         |
|----|---------|---------|---------|--------|--------|---------|
| #1 | .00051  | .03358  | .00135  | .34664 | .00220 | .00004  |
| #2 | -.00001 | -.00989 | .00147  | .34630 | .00221 | -.00008 |
| #3 | -.00062 | -.00291 | -.00057 | .34400 | .00223 | -.00005 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |                |               |                |               |               |
|--------|---------------|----------------|---------------|----------------|---------------|---------------|
| Elem   | Ca            | Cd             | Co            | Cr             | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447} | 267.716 {126}  | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (In2306)      | (Y_3600)       | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm            | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>30.697</b> | <b>-.00009</b> | <b>.00107</b> | <b>-.00013</b> | <b>.00053</b> | <b>.00756</b> |
| Stddev | .127          | .00006         | .00018        | .00025         | .00058        | .00066        |
| %RSD   | .41370        | 72.240         | 17.235        | 196.20         | 110.47        | 8.6587        |

|    |        |         |        |         |         |        |
|----|--------|---------|--------|---------|---------|--------|
| #1 | 30.589 | -.00008 | .00105 | .00008  | .00107  | .00781 |
| #2 | 30.837 | -.00015 | .00090 | -.00040 | -.00009 | .00806 |
| #3 | 30.666 | -.00003 | .00126 | -.00006 | .00061  | .00682 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43635-C-1-A@10      Acquired: 5/6/2015 8:43:06      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 29.791        | .01429        | 95.590        | .04445        | .00362        | F 688.36      |
| Stddev | .016          | .00103        | .599          | .00046        | .00017        | 4.85          |
| %RSD   | .05359        | 7.1950        | .62644        | 1.0322        | 4.5906        | .70393        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 29.777 | .01543 | 95.079 | .04404 | .00381 | 684.45 |
| #2 | 29.788 | .01404 | 96.249 | .04495 | .00354 | 693.78 |
| #3 | 29.809 | .01341 | 95.443 | .04438 | .00352 | 686.86 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit |          |          |          |          |          | 500.00   |
| Low Limit  |          |          |          |          |          | -5.0000  |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .01712        | .00016        | -.00074       | .00022        | .11677        | -.00011       |
| Stddev | .00030        | .00090        | .00146        | .00134        | .00215        | .00012        |
| %RSD   | 1.7760        | 553.34        | 197.39        | 614.69        | 1.8422        | 112.04        |

|    |        |         |         |         |        |         |
|----|--------|---------|---------|---------|--------|---------|
| #1 | .01714 | -.00057 | -.00045 | .00163  | .11915 | -.00012 |
| #2 | .01741 | -.00011 | -.00233 | .00007  | .11496 | -.00022 |
| #3 | .01680 | .00117  | .00056  | -.00105 | .11619 | .00002  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43635-C-1-A@10      Acquired: 5/6/2015 8:43:06      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.53644</b> | <b>.00015</b> | <b>.00001</b> | <b>.00170</b> | <b>.01623</b> |
| Stddev | .00559        | .00002        | .00042        | .00344        | .00018        |
| %RSD   | 1.0425        | 14.821        | 5753.4        | 202.42        | 1.1206        |

|    |               |               |                |                |               |
|----|---------------|---------------|----------------|----------------|---------------|
| #1 | <b>.53202</b> | <b>.00014</b> | <b>-.00038</b> | <b>.00419</b>  | <b>.01644</b> |
| #2 | <b>.54273</b> | <b>.00017</b> | <b>.00045</b>  | <b>.00312</b>  | <b>.01610</b> |
| #3 | <b>.53457</b> | <b>.00013</b> | <b>-.00004</b> | <b>-.00222</b> | <b>.01615</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2577.3</b> | <b>4967.2</b> | <b>69323.</b> | <b>10785.</b> |
| Stddev    | 2.9           | 7.4           | 70.           | 117.          |
| %RSD      | .11245        | .14910        | .10156        | 1.0836        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>2574.0</b> | <b>4958.8</b> | <b>69375.</b> | <b>10902.</b> |
| #2 | <b>2579.1</b> | <b>4969.9</b> | <b>69350.</b> | <b>10668.</b> |
| #3 | <b>2578.8</b> | <b>4972.8</b> | <b>69242.</b> | <b>10785.</b> |

Sample Name: 180-43635-C-1-ASD@50      Acquired: 5/6/2015 8:48:22      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00015        | .00345        | .00150        | .06680        | .00044        | .00002        |
| Stddev | .00037        | .01273        | .00287        | .00033        | .00020        | .00003        |
| %RSD   | 245.82        | 369.12        | 191.29        | .49790        | 45.711        | 200.53        |
| #1     | -.00023       | .00321        | .00461        | .06711        | .00039        | .00004        |
| #2     | .00051        | -.00916       | .00096        | .06645        | .00067        | .00002        |
| #3     | .00017        | .01630        | -.00106       | .06684        | .00027        | -.00002       |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 6.1105        | -.00013       | .00033        | -.00049       | -.00018       | .00207        |
| Stddev | .0051         | .00008        | .00019        | .00024        | .00005        | .00134        |
| %RSD   | .08399        | 58.579        | 56.374        | 48.719        | 28.988        | 64.847        |
| #1     | 6.1045        | -.00018       | .00054        | -.00034       | -.00014       | .00305        |
| #2     | 6.1136        | -.00004       | .00027        | -.00077       | -.00016       | .00261        |
| #3     | 6.1133        | -.00018       | .00018        | -.00037       | -.00024       | .00054        |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43635-C-1-ASD@50      Acquired: 5/6/2015 8:48:22      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>5.6322</b> | <b>.00271</b> | <b>18.060</b> | <b>.00916</b> | <b>.00053</b> | <b>149.52</b> |
| Stddev | .0066         | .00108        | .052          | .00001        | .00012        | .07           |
| %RSD   | .11688        | 40.048        | .28685        | .15201        | 22.787        | .04987        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 5.6246 | .00179 | 18.011 | .00915 | .00064 | 149.53 |
| #2 | 5.6365 | .00390 | 18.114 | .00915 | .00040 | 149.58 |
| #3 | 5.6354 | .00243 | 18.055 | .00918 | .00055 | 149.44 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |                |                |               |               |               |
|--------|---------------|----------------|----------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb             | Sb             | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453}  | 217.581 {455}  | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)       | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm            | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>.00327</b> | <b>-.00050</b> | <b>-.00126</b> | <b>.00044</b> | <b>.02489</b> | <b>.00103</b> |
| Stddev | .00032        | .00161         | .00034         | .00168        | .00439        | .00024        |
| %RSD   | 9.8669        | 321.76         | 26.766         | 380.50        | 17.648        | 23.185        |

|    |        |         |         |         |        |        |
|----|--------|---------|---------|---------|--------|--------|
| #1 | .00355 | -.00236 | -.00145 | .00000  | .02888 | .00114 |
| #2 | .00292 | .00040  | -.00087 | -.00098 | .02018 | .00118 |
| #3 | .00335 | .00046  | -.00147 | .00230  | .02560 | .00075 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43635-C-1-ASD@50      Acquired: 5/6/2015 8:48:22      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .09694        | .00016        | .00038        | .00144        | .00361        |
| Stddev | .00057        | .00004        | .00167        | .00195        | .00007        |
| %RSD   | .58868        | 23.390        | 437.78        | 135.89        | 1.9747        |

|    |        |        |         |         |        |
|----|--------|--------|---------|---------|--------|
| #1 | .09729 | .00013 | .00184  | .00361  | .00369 |
| #2 | .09629 | .00014 | .00074  | .00087  | .00358 |
| #3 | .09726 | .00020 | -.00144 | -.00017 | .00356 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2981.6        | 5385.6        | 76004.        | 11132.        |
| Stddev    | 5.3           | 3.8           | 33.           | 47.           |
| %RSD      | .17835        | .07050        | .04398        | .42664        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2975.5 | 5381.7 | 75999. | 11185. |
| #2 | 2985.1 | 5389.3 | 75974. | 11118. |
| #3 | 2984.2 | 5385.9 | 76040. | 11093. |

Sample Name: CCV 1551842      Acquired: 5/6/2015 8:53:31      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>1.0492</b> | <b>25.521</b> | <b>.52885</b> | <b>2.0913</b> | <b>2.0053</b> | <b>2.0232</b> |
| Stddev | .0065         | .058          | .00054        | .0043         | .0026         | .0056         |
| %RSD   | .62288        | .22610        | .10174        | .20764        | .12773        | .27503        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.0497 | 25.454 | .52823 | 2.0872 | 2.0049 | 2.0168 |
| #2 | 1.0555 | 25.552 | .52919 | 2.0908 | 2.0030 | 2.0269 |
| #3 | 1.0424 | 25.556 | .52912 | 2.0959 | 2.0081 | 2.0259 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>51.493</b> | <b>.52062</b> | <b>2.0866</b> | <b>2.0083</b> | <b>1.9321</b> | <b>26.088</b> |
| Stddev | .229          | .00073        | .0047         | .0013         | .0149         | .055          |
| %RSD   | .44508        | .14025        | .22765        | .06284        | .77255        | .21224        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 51.382 | .52039 | 2.0816 | 2.0089 | 1.9201 | 26.043 |
| #2 | 51.340 | .52003 | 2.0872 | 2.0090 | 1.9274 | 26.150 |
| #3 | 51.757 | .52143 | 2.0911 | 2.0068 | 1.9488 | 26.071 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/6/2015 8:53:31      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>128.40</b> | <b>2.0306</b> | <b>51.712</b> | <b>1.9307</b> | <b>2.0164</b> | <b>129.02</b> |
| Stddev | .26           | .0012         | .293          | .0270         | .0013         | .28           |
| %RSD   | .20197        | .05645        | .56678        | 1.3975        | .06667        | .21992        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 128.10 | 2.0299 | 51.463 | 1.9106 | 2.0162 | 128.74 |
| #2 | 128.56 | 2.0319 | 51.637 | 1.9201 | 2.0152 | 129.01 |
| #3 | 128.54 | 2.0300 | 52.035 | 1.9614 | 2.0179 | 129.31 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>2.0867</b> | <b>.51623</b> | <b>.51622</b> | <b>.52291</b> | <b>2.0337</b> | <b>1.9527</b> |
| Stddev | .0049         | .00450        | .00154        | .00372        | .0104         | .0008         |
| %RSD   | .23227        | .87103        | .29913        | .71053        | .50993        | .04247        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 2.0821 | .51133 | .51468 | .52157 | 2.0220 | 1.9525 |
| #2 | 2.0863 | .51718 | .51621 | .52004 | 2.0376 | 1.9536 |
| #3 | 2.0918 | .52017 | .51777 | .52711 | 2.0416 | 1.9519 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/6/2015 8:53:31      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.9695        | 1.9372        | .98867        | 2.1275        | 2.0218        |
| Stddev | .0045         | .0225         | .00589        | .0323         | .0055         |
| %RSD   | .22637        | 1.1603        | .59528        | 1.5198        | .26942        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | 1.9662 | 1.9207 | .98457 | 2.1549 | 2.0164 |
| #2 | 1.9678 | 1.9281 | .98602 | 2.1358 | 2.0216 |
| #3 | 1.9746 | 1.9628 | .99541 | 2.0918 | 2.0273 |

|         |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |
| Range   |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2746.4        | 5227.7        | 74926.        | 10901.        |
| Stddev    | 7.2           | 9.0           | 173.          | 110.          |
| %RSD      | .26334        | .17180        | .23097        | 1.0136        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2752.7 | 5233.8 | 74811. | 10979. |
| #2 | 2748.1 | 5231.9 | 74842. | 10949. |
| #3 | 2738.5 | 5217.4 | 75125. | 10774. |

Sample Name: CCB2      Acquired: 5/6/2015 8:58:17      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00052        | .01078        | .00212        | .00233        | .00010        | .00012        |
| Stddev | .00019        | .02017        | .00082        | .00037        | .00013        | .00006        |
| %RSD   | 35.834        | 187.07        | 38.725        | 16.051        | 139.54        | 48.149        |

|    |        |         |        |        |         |        |
|----|--------|---------|--------|--------|---------|--------|
| #1 | .00046 | .01673  | .00121 | .00245 | -.00005 | .00008 |
| #2 | .00037 | .02731  | .00236 | .00262 | .00012  | .00019 |
| #3 | .00073 | -.01169 | .00280 | .00191 | .00022  | .00011 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00452        | .00002        | .00003        | -.00037       | .00083        | .00413        |
| Stddev | .00260        | .00001        | .00011        | .00010        | .00022        | .00073        |
| %RSD   | 57.526        | 46.668        | 380.88        | 27.248        | 26.437        | 17.576        |

|    |        |        |         |         |        |        |
|----|--------|--------|---------|---------|--------|--------|
| #1 | .00152 | .00002 | -.00010 | -.00026 | .00099 | .00452 |
| #2 | .00616 | .00001 | .00008  | -.00041 | .00058 | .00329 |
| #3 | .00587 | .00002 | .00011  | -.00044 | .00091 | .00457 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB2      Acquired: 5/6/2015 8:58:17      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |                |               |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg             | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121}  | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)       | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>.13102</b> | <b>.00076</b> | <b>-.00392</b> | <b>.00010</b> | <b>.00190</b> | <b>.12178</b> |
| Stddev | .03399        | .00094        | .01462         | .00002        | .00032        | .00201        |
| %RSD   | 25.944        | 123.91        | 373.19         | 22.244        | 16.799        | 1.6492        |

|    |               |               |                |               |               |               |
|----|---------------|---------------|----------------|---------------|---------------|---------------|
| #1 | <b>.12458</b> | <b>.00043</b> | <b>.01261</b>  | <b>.00010</b> | <b>.00220</b> | <b>.11946</b> |
| #2 | <b>.16778</b> | <b>.00182</b> | <b>-.01514</b> | <b>.00012</b> | <b>.00194</b> | <b>.12288</b> |
| #3 | <b>.10071</b> | <b>.00002</b> | <b>-.00922</b> | <b>.00008</b> | <b>.00156</b> | <b>.12300</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |                |                |               |                |               |
|--------|---------------|----------------|----------------|---------------|----------------|---------------|
| Elem   | Ni            | Pb             | Sb             | Se            | Si             | Sn            |
| Line   | 231.604 {446} | 220.353 {453}  | 217.581 {455}  | 196.090 {472} | 251.611 {134}  | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)       | (Y_2243)       | (Y_2243)      | (Y_3710)       | (Y_2243)      |
| Units  | ppm           | ppm            | ppm            | ppm           | ppm            | ppm           |
| Avg    | <b>.00018</b> | <b>-.00010</b> | <b>-.00126</b> | <b>.00023</b> | <b>-.00002</b> | <b>.00086</b> |
| Stddev | .00027        | .00093         | .00081         | .00137        | .00310         | .00057        |
| %RSD   | 147.72        | 891.51         | 64.591         | 584.50        | 14969.         | 66.385        |

|    |                |                |                |                |                |               |
|----|----------------|----------------|----------------|----------------|----------------|---------------|
| #1 | <b>.00042</b>  | <b>.00077</b>  | <b>-.00099</b> | <b>.00023</b>  | <b>.00351</b>  | <b>.00147</b> |
| #2 | <b>-.00011</b> | <b>-.00108</b> | <b>-.00217</b> | <b>-.00113</b> | <b>-.00229</b> | <b>.00078</b> |
| #3 | <b>.00023</b>  | <b>-.00000</b> | <b>-.00061</b> | <b>.00160</b>  | <b>-.00128</b> | <b>.00033</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB2      Acquired: 5/6/2015 8:58:17      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00308</b> | <b>.00036</b> | <b>.00190</b> | <b>.00431</b> | <b>.00000</b> |
| Stddev | .00166         | .00003        | .00039        | .00157        | .00009        |
| %RSD   | 53.987         | 8.7046        | 20.747        | 36.460        | 5728.7        |

|    |                |               |               |               |                |
|----|----------------|---------------|---------------|---------------|----------------|
| #1 | <b>-.00238</b> | <b>.00037</b> | <b>.00214</b> | <b>.00506</b> | <b>-.00010</b> |
| #2 | <b>-.00497</b> | <b>.00033</b> | <b>.00212</b> | <b>.00250</b> | <b>.00009</b>  |
| #3 | <b>-.00187</b> | <b>.00039</b> | <b>.00144</b> | <b>.00536</b> | <b>.00001</b>  |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3376.9</b> | <b>5636.5</b> | <b>81763.</b> | <b>11145.</b> |
| Stddev    | 7.6           | 11.7          | 133.          | 87.           |
| %RSD      | .22385        | .20739        | .16236        | .77621        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>3372.3</b> | <b>5629.8</b> | <b>81628.</b> | <b>11109.</b> |
| #2 | <b>3372.9</b> | <b>5629.8</b> | <b>81769.</b> | <b>11083.</b> |
| #3 | <b>3385.7</b> | <b>5650.0</b> | <b>81893.</b> | <b>11244.</b> |



Sample Name: 180-43635-C-1-A@20      Acquired: 5/6/2015 9:03:28      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00021</b> | <b>.01207</b> | <b>.00315</b> | <b>.16682</b> | <b>.00109</b> | <b>.00003</b> |
| Stddev | .00015         | .00768        | .00107        | .00102        | .00015        | .00010        |
| %RSD   | 74.288         | 63.661        | 34.050        | .61378        | 13.694        | 282.30        |

|    |                |               |               |               |               |                |
|----|----------------|---------------|---------------|---------------|---------------|----------------|
| #1 | <b>-.00037</b> | <b>.00494</b> | <b>.00198</b> | <b>.16568</b> | <b>.00093</b> | <b>-.00007</b> |
| #2 | <b>-.00006</b> | <b>.02020</b> | <b>.00409</b> | <b>.16765</b> | <b>.00110</b> | <b>.00011</b>  |
| #3 | <b>-.00018</b> | <b>.01105</b> | <b>.00338</b> | <b>.16714</b> | <b>.00123</b> | <b>.00007</b>  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |                |               |                |                |               |
|--------|---------------|----------------|---------------|----------------|----------------|---------------|
| Elem   | Ca            | Cd             | Co            | Cr             | Cu             | Fe            |
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447} | 267.716 {126}  | 327.396 {103}  | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (In2306)      | (Y_3600)       | (Y_3710)       | (Y_3710)      |
| Units  | ppm           | ppm            | ppm           | ppm            | ppm            | ppm           |
| Avg    | <b>15.074</b> | <b>-.00008</b> | <b>.00079</b> | <b>-.00021</b> | <b>-.00001</b> | <b>.00518</b> |
| Stddev | .037          | .00006         | .00009        | .00049         | .00026         | .00137        |
| %RSD   | .24241        | 75.546         | 11.863        | 229.02         | 2029.3         | 26.521        |

|    |               |                |               |                |                |               |
|----|---------------|----------------|---------------|----------------|----------------|---------------|
| #1 | <b>15.103</b> | <b>-.00014</b> | <b>.00070</b> | <b>-.00016</b> | <b>-.00030</b> | <b>.00543</b> |
| #2 | <b>15.086</b> | <b>-.00003</b> | <b>.00077</b> | <b>.00025</b>  | <b>.00008</b>  | <b>.00370</b> |
| #3 | <b>15.033</b> | <b>-.00006</b> | <b>.00088</b> | <b>-.00072</b> | <b>.00018</b>  | <b>.00642</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43635-C-1-A@20      Acquired: 5/6/2015 9:03:28      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 14.217        | .00658        | 45.723        | .02226        | .00209        | 360.48        |
| Stddev | .070          | .00165        | .267          | .00014        | .00004        | 5.03          |
| %RSD   | .49144        | 25.068        | .58457        | .65078        | 1.7387        | 1.3967        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 14.295 | .00682 | 46.027 | .02236 | .00206 | 365.47 |
| #2 | 14.197 | .00810 | 45.615 | .02233 | .00213 | 360.58 |
| #3 | 14.160 | .00482 | 45.526 | .02209 | .00209 | 355.40 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00841        | .00012        | -.00269       | .00031        | .05970        | .00035        |
| Stddev | .00012        | .00059        | .00089        | .00127        | .00352        | .00049        |
| %RSD   | 1.4334        | 478.60        | 33.256        | 405.59        | 5.8916        | 141.05        |

|    |        |         |         |         |        |         |
|----|--------|---------|---------|---------|--------|---------|
| #1 | .00848 | -.00048 | -.00221 | .00177  | .06243 | -.00014 |
| #2 | .00827 | .00014  | -.00372 | -.00032 | .06093 | .00084  |
| #3 | .00847 | .00071  | -.00214 | -.00052 | .05573 | .00034  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43635-C-1-A@20      Acquired: 5/6/2015 9:03:28      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .25815        | .00015        | .00095        | -.00034       | .00840        |
| Stddev | .00313        | .00014        | .00078        | .00245        | .00012        |
| %RSD   | 1.2108        | 90.275        | 81.698        | 728.77        | 1.3915        |

|    |        |        |        |         |        |
|----|--------|--------|--------|---------|--------|
| #1 | .25899 | .00016 | .00083 | .00164  | .00852 |
| #2 | .26077 | .00001 | .00024 | -.00307 | .00828 |
| #3 | .25469 | .00028 | .00178 | .00042  | .00839 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2780.9        | 5198.7        | 72705.        | 10944.        |
| Stddev    | 2.2           | 8.0           | 230.          | 71.           |
| %RSD      | .07775        | .15367        | .31665        | .64748        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2783.1 | 5203.5 | 72502. | 10901. |
| #2 | 2780.9 | 5203.0 | 72955. | 10905. |
| #3 | 2778.8 | 5189.5 | 72657. | 11026. |

Sample Name: 180-43635-C-1ASD@100      Acquired: 5/6/2015 9:08:43      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00031        | .00006        | .00228        | .03497        | .00019        | .00000        |
| Stddev | .00028        | .01014        | .00194        | .00030        | .00007        | .00008        |
| %RSD   | 92.098        | 17129.        | 85.301        | .85539        | 37.310        | 19221.        |

|    |         |         |        |        |        |         |
|----|---------|---------|--------|--------|--------|---------|
| #1 | -.00002 | .01143  | .00363 | .03516 | .00012 | .00009  |
| #2 | .00049  | -.00318 | .00315 | .03463 | .00018 | -.00002 |
| #3 | .00045  | -.00807 | .00005 | .03512 | .00026 | -.00006 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 3.1379        | -.00007       | .00020        | -.00063       | .00064        | .00406        |
| Stddev | .0100         | .00005        | .00011        | .00028        | .00050        | .00193        |
| %RSD   | .31984        | 70.440        | 53.386        | 43.731        | 77.890        | 47.411        |

|    |        |         |        |         |        |        |
|----|--------|---------|--------|---------|--------|--------|
| #1 | 3.1263 | -.00010 | .00020 | -.00032 | .00111 | .00608 |
| #2 | 3.1430 | -.00009 | .00030 | -.00083 | .00011 | .00387 |
| #3 | 3.1443 | -.00001 | .00009 | -.00075 | .00071 | .00224 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43635-C-1ASD@100      Acquired: 5/6/2015 9:08:43      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 2.8927        | .00132        | 9.3293        | .00474        | .00059        | 78.128        |
| Stddev | .0143         | .00060        | .0164         | .00001        | .00022        | .081          |
| %RSD   | .49304        | 45.395        | .17548        | .21784        | 38.033        | .10409        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 2.8769 | .00197 | 9.3482 | .00475 | .00033 | 78.075 |
| #2 | 2.8965 | .00079 | 9.3190 | .00473 | .00071 | 78.222 |
| #3 | 2.9046 | .00119 | 9.3208 | .00473 | .00073 | 78.088 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00191        | -.00041       | -.00062       | -.00020       | .01232        | .00036        |
| Stddev | .00021        | .00044        | .00136        | .00164        | .00399        | .00064        |
| %RSD   | 11.107        | 108.30        | 220.98        | 825.36        | 32.398        | 180.81        |

|    |        |         |         |         |        |         |
|----|--------|---------|---------|---------|--------|---------|
| #1 | .00179 | .00004  | .00090  | -.00181 | .00774 | .00061  |
| #2 | .00215 | -.00043 | -.00103 | .00147  | .01501 | -.00038 |
| #3 | .00178 | -.00084 | -.00172 | -.00026 | .01422 | .00083  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43635-C-1ASD@100      Acquired: 5/6/2015 9:08:43      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05609        | .00013        | .00132        | .00167        | .00251        |
| Stddev | .00233        | .00004        | .00065        | .00210        | .00016        |
| %RSD   | 4.1608        | 31.388        | 49.001        | 125.56        | 6.5062        |

|    |        |        |        |         |        |
|----|--------|--------|--------|---------|--------|
| #1 | .05381 | .00012 | .00064 | .00199  | .00241 |
| #2 | .05848 | .00010 | .00193 | -.00057 | .00243 |
| #3 | .05598 | .00017 | .00140 | .00360  | .00270 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3054.1        | 5391.5        | 77513.        | 11145.        |
| Stddev    | 8.9           | 15.4          | 158.          | 34.           |
| %RSD      | .29025        | .28647        | .20404        | .30490        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3062.9 | 5408.7 | 77416. | 11117. |
| #2 | 3054.3 | 5387.1 | 77427. | 11183. |
| #3 | 3045.2 | 5378.9 | 77696. | 11135. |

Sample Name: CCV 1551842      Acquired: 5/6/2015 9:13:52      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>1.0299</b> | <b>25.224</b> | <b>.52513</b> | <b>2.0871</b> | <b>2.0151</b> | <b>2.0552</b> |
| Stddev | .0052         | .089          | .00169        | .0014         | .0035         | .0094         |
| %RSD   | .50578        | .35173        | .32099        | .06919        | .17551        | .45821        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.0302 | 25.319 | .52414 | 2.0857 | 2.0189 | 2.0658 |
| #2 | 1.0245 | 25.143 | .52417 | 2.0870 | 2.0119 | 2.0520 |
| #3 | 1.0349 | 25.209 | .52708 | 2.0886 | 2.0143 | 2.0478 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>51.436</b> | <b>.51599</b> | <b>2.0962</b> | <b>1.9784</b> | <b>1.8823</b> | <b>26.534</b> |
| Stddev | .093          | .00065        | .0039         | .0028         | .0067         | .194          |
| %RSD   | .18040        | .12550        | .18560        | .14303        | .35517        | .73045        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 51.539 | .51544 | 2.0934 | 1.9796 | 1.8831 | 26.748 |
| #2 | 51.358 | .51670 | 2.0945 | 1.9752 | 1.8753 | 26.484 |
| #3 | 51.412 | .51584 | 2.1006 | 1.9804 | 1.8886 | 26.371 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/6/2015 9:13:52      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>129.85</b> | <b>2.0138</b> | <b>52.486</b> | <b>1.9202</b> | <b>2.0073</b> | <b>129.38</b> |
| Stddev | .57           | .0053         | .274          | .0092         | .0045         | .48           |
| %RSD   | .44216        | .26544        | .52221        | .47941        | .22316        | .36924        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 130.49 | 2.0193 | 52.800 | 1.9309 | 2.0029 | 129.93 |
| #2 | 129.71 | 2.0136 | 52.362 | 1.9149 | 2.0119 | 129.09 |
| #3 | 129.37 | 2.0086 | 52.295 | 1.9150 | 2.0072 | 129.12 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>2.0986</b> | <b>.51760</b> | <b>.51455</b> | <b>.52182</b> | <b>2.0619</b> | <b>1.9503</b> |
| Stddev | .0023         | .00282        | .00012        | .00494        | .0060         | .0072         |
| %RSD   | .10922        | .54464        | .02393        | .94744        | .29275        | .36767        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 2.1006 | .51997 | .51461 | .52687 | 2.0671 | 1.9426 |
| #2 | 2.0992 | .51835 | .51463 | .52158 | 2.0552 | 1.9568 |
| #3 | 2.0961 | .51448 | .51441 | .51700 | 2.0633 | 1.9517 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |



Sample Name: CCV 1551842      Acquired: 5/6/2015 9:13:52      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>2.0002</b> | <b>1.9159</b> | <b>.99279</b> | <b>2.1354</b> | <b>2.0167</b> |
| Stddev | .0096         | .0060         | .00207        | .0061         | .0031         |
| %RSD   | .47910        | .31498        | .20884        | .28449        | .15309        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | 2.0112 | 1.9218 | .99049 | 2.1391 | 2.0143 |
| #2 | 1.9950 | 1.9097 | .99336 | 2.1388 | 2.0155 |
| #3 | 1.9942 | 1.9162 | .99452 | 2.1284 | 2.0202 |

|         |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |
| Range   |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2742.6</b> | <b>5254.6</b> | <b>75200.</b> | <b>11019.</b> |
| Stddev    | 1.1           | 2.9           | 82.           | 42.           |
| %RSD      | .03950        | .05486        | .10878        | .38076        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2743.3 | 5252.0 | 75120. | 10971. |
| #2 | 2743.1 | 5254.1 | 75284. | 11051. |
| #3 | 2741.3 | 5257.7 | 75196. | 11034. |

Sample Name: CCB3      Acquired: 5/6/2015 9:18:39      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00024        | .00054        | .00288        | .00217        | .00030        | .00014        |
| Stddev | .00011        | .02006        | .00112        | .00051        | .00002        | .00006        |
| %RSD   | 45.153        | 3715.5        | 38.953        | 23.671        | 7.7428        | 42.296        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | .00027 | .00689  | .00159 | .00269 | .00029 | .00008 |
| #2 | .00032 | .01666  | .00353 | .00167 | .00028 | .00015 |
| #3 | .00012 | -.02193 | .00354 | .00215 | .00032 | .00019 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00780        | .00006        | .00006        | -.00017       | .00105        | .00526        |
| Stddev | .00120        | .00015        | .00021        | .00011        | .00008        | .00194        |
| %RSD   | 15.405        | 264.92        | 319.14        | 64.018        | 7.3206        | 36.827        |

|    |        |         |         |         |        |        |
|----|--------|---------|---------|---------|--------|--------|
| #1 | .00731 | .00023  | .00010  | -.00010 | .00113 | .00726 |
| #2 | .00692 | -.00002 | -.00016 | -.00012 | .00097 | .00511 |
| #3 | .00917 | -.00004 | .00025  | -.00030 | .00105 | .00340 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB3      Acquired: 5/6/2015 9:18:39      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .15976        | .00003        | .00913        | .00019        | .00216        | .12323        |
| Stddev | .01119        | .00069        | .02217        | .00002        | .00032        | .00620        |
| %RSD   | 7.0027        | 2455.9        | 242.91        | 12.658        | 14.698        | 5.0295        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | .15990 | -.00061 | -.01443 | .00016 | .00247 | .12632 |
| #2 | .14851 | .00076  | .02959  | .00020 | .00218 | .11610 |
| #3 | .17088 | -.00006 | .01222  | .00021 | .00183 | .12728 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00020        | -.00035       | -.00141       | -.00001       | .00316        | .00096        |
| Stddev | .00029        | .00065        | .00171        | .00063        | .00474        | .00045        |
| %RSD   | 146.80        | 184.73        | 120.81        | 6772.5        | 149.79        | 46.785        |

|    |         |         |         |         |         |        |
|----|---------|---------|---------|---------|---------|--------|
| #1 | .00022  | -.00087 | -.00037 | .00067  | .00809  | .00129 |
| #2 | .00048  | -.00056 | -.00338 | -.00058 | .00275  | .00113 |
| #3 | -.00010 | .00038  | -.00048 | -.00012 | -.00136 | .00045 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB3      Acquired: 5/6/2015 9:18:39      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |                |               |               |
|--------|----------------|---------------|----------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti             | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>-.00223</b> | <b>.00041</b> | <b>-.00002</b> | <b>.00221</b> | <b>.00005</b> |
| Stddev | .00122         | .00006        | .00054         | .00266        | .00013        |
| %RSD   | 54.637         | 13.779        | 2989.7         | 120.25        | 243.03        |

|    |                |               |                |               |                |
|----|----------------|---------------|----------------|---------------|----------------|
| #1 | <b>-.00091</b> | <b>.00042</b> | <b>.00031</b>  | <b>.00020</b> | <b>.00012</b>  |
| #2 | <b>-.00246</b> | <b>.00034</b> | <b>.00028</b>  | <b>.00523</b> | <b>.00014</b>  |
| #3 | <b>-.00332</b> | <b>.00045</b> | <b>-.00064</b> | <b>.00120</b> | <b>-.00010</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3410.2</b> | <b>5673.8</b> | <b>81853.</b> | <b>11194.</b> |
| Stddev    | 5.5           | 6.8           | 135.          | 83.           |
| %RSD      | .16070        | .12034        | .16507        | .73829        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3409.6 | 5681.3 | 81718. | 11107. |
| #2 | 3405.1 | 5667.9 | 81853. | 11271. |
| #3 | 3416.0 | 5672.2 | 81989. | 11204. |

Sample Name: CRI 1550960      Acquired: 5/6/2015 9:23:51      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00517        | .21149        | .01248        | .20053        | .19371        | .00391        |
| Stddev | .00005        | .02029        | .00106        | .00088        | .00023        | .00004        |
| %RSD   | .92290        | 9.5922        | 8.4759        | .44053        | .11661        | .95346        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .00512 | .21495 | .01221 | .19957 | .19349 | .00394 |
| #2 | .00518 | .22982 | .01364 | .20130 | .19368 | .00392 |
| #3 | .00521 | .18969 | .01158 | .20072 | .19394 | .00387 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 5.0613        | .00492        | .04780        | .00479        | .02558        | .10538        |
| Stddev | .0089         | .00003        | .00018        | .00030        | .00040        | .00121        |
| %RSD   | .17606        | .68928        | .38256        | 6.1639        | 1.5771        | 1.1507        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 5.0576 | .00494 | .04801 | .00513 | .02585 | .10556 |
| #2 | 5.0715 | .00494 | .04767 | .00461 | .02576 | .10649 |
| #3 | 5.0548 | .00488 | .04772 | .00462 | .02511 | .10409 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CRI 1550960      Acquired: 5/6/2015 9:23:51      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>5.0016</b> | <b>.04994</b> | <b>5.0855</b> | <b>.01534</b> | <b>.04071</b> | <b>5.2056</b> |
| Stddev | .0225         | .00110        | .0220         | .00013        | .00017        | .0088         |
| %RSD   | .45066        | 2.2126        | .43200        | .86092        | .41091        | .16970        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 5.0108 | .04886 | 5.0644 | .01547 | .04052 | 5.1971 |
| #2 | 4.9759 | .04988 | 5.1082 | .01535 | .04083 | 5.2148 |
| #3 | 5.0181 | .05107 | 5.0839 | .01520 | .04077 | 5.2050 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.03806</b> | <b>.00883</b> | <b>.00888</b> | <b>.00875</b> | <b>.48115</b> | <b>.10006</b> |
| Stddev | .00051        | .00057        | .00154        | .00094        | .00251        | .00099        |
| %RSD   | 1.3291        | 6.4730        | 17.369        | 10.791        | .52112        | .98830        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .03863 | .00820 | .00716 | .00983 | .47979 | .09972 |
| #2 | .03766 | .00931 | .00935 | .00808 | .47961 | .09928 |
| #3 | .03790 | .00898 | .01014 | .00833 | .48404 | .10117 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CRI 1550960      Acquired: 5/6/2015 9:23:51      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.04712</b> | <b>.05018</b> | <b>.02105</b> | <b>.05384</b> | <b>.01912</b> |
| Stddev | .00365        | .00014        | .00065        | .00125        | .00011        |
| %RSD   | 7.7377        | .28222        | 3.0977        | 2.3182        | .59952        |

|    |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.04910</b> | <b>.05010</b> | <b>.02033</b> | <b>.05260</b> | <b>.01912</b> |
| #2 | <b>.04292</b> | <b>.05034</b> | <b>.02160</b> | <b>.05510</b> | <b>.01900</b> |
| #3 | <b>.04936</b> | <b>.05009</b> | <b>.02122</b> | <b>.05381</b> | <b>.01923</b> |

|         |                 |                 |                 |                 |                 |
|---------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ? | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| Value   |                 |                 |                 |                 |                 |
| Range   |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3296.1</b> | <b>5587.3</b> | <b>80460.</b> | <b>11176.</b> |
| Stddev    | 5.6           | 8.4           | 38.           | 62.           |
| %RSD      | .17084        | .15117        | .04661        | .55518        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>3297.4</b> | <b>5596.1</b> | <b>80421.</b> | <b>11159.</b> |
| #2 | <b>3300.9</b> | <b>5586.4</b> | <b>80496.</b> | <b>11124.</b> |
| #3 | <b>3289.9</b> | <b>5579.3</b> | <b>80461.</b> | <b>11245.</b> |

Sample Name: MB 180-140612/1-A      Acquired: 5/6/2015 9:28:59      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00018        | .00527        | .00101        | .00140        | .00010        | .00002        |
| Stddev | .00019        | .01455        | .00034        | .00035        | .00008        | .00005        |
| %RSD   | 105.08        | 276.32        | 33.744        | 24.713        | 76.459        | 277.58        |

|    |         |         |        |        |        |         |
|----|---------|---------|--------|--------|--------|---------|
| #1 | -.00001 | .00428  | .00070 | .00180 | .00018 | .00005  |
| #2 | .00036  | -.00877 | .00138 | .00118 | .00005 | .00005  |
| #3 | .00019  | .02029  | .00096 | .00122 | .00006 | -.00004 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (ln2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00070       | .00011        | -.00007       | .00024        | .00088        | .07221        |
| Stddev | .00119        | .00015        | .00008        | .00014        | .00047        | .00205        |
| %RSD   | 169.63        | 134.71        | 111.20        | 56.651        | 53.921        | 2.8416        |

|    |         |         |         |        |        |        |
|----|---------|---------|---------|--------|--------|--------|
| #1 | -.00202 | .00027  | -.00006 | .00035 | .00042 | .07157 |
| #2 | .00030  | -.00003 | -.00016 | .00009 | .00084 | .07055 |
| #3 | -.00039 | .00010  | -.00000 | .00029 | .00137 | .07450 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: MB 180-140612/1-A      Acquired: 5/6/2015 9:28:59      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .08248        | -.00009       | -.00376       | .00042        | .00052        | .10727        |
| Stddev | .02501        | .00098        | .00870        | .00003        | .00010        | .00363        |
| %RSD   | 30.316        | 1088.4        | 231.58        | 6.6654        | 19.012        | 3.3822        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | .06724 | -.00078 | -.01324 | .00039 | .00045 | .10351 |
| #2 | .06887 | -.00052 | -.00186 | .00043 | .00049 | .11075 |
| #3 | .11134 | .00103  | .00384  | .00045 | .00064 | .10755 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00014        | .00025        | -.00060       | -.00049       | .00816        | .03114        |
| Stddev | .00032        | .00047        | .00102        | .00183        | .00540        | .00044        |
| %RSD   | 229.02        | 186.33        | 169.86        | 370.13        | 66.156        | 1.4166        |

|    |         |         |         |         |        |        |
|----|---------|---------|---------|---------|--------|--------|
| #1 | .00035  | .00066  | -.00035 | .00081  | .00283 | .03152 |
| #2 | .00029  | .00034  | -.00173 | .00030  | .00803 | .03066 |
| #3 | -.00023 | -.00026 | .00027  | -.00259 | .01363 | .03124 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: MB 180-140612/1-A      Acquired: 5/6/2015 9:28:59      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00102</b> | <b>.00037</b> | <b>.00040</b> | <b>.00281</b> | <b>.00193</b> |
| Stddev | .00403         | .00012        | .00036        | .00148        | .00008        |
| %RSD   | 395.50         | 31.988        | 88.452        | 52.692        | 4.0284        |

|    |                |               |               |               |               |
|----|----------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00061</b> | <b>.00027</b> | <b>.00081</b> | <b>.00148</b> | <b>.00194</b> |
| #2 | <b>-.00524</b> | <b>.00033</b> | <b>.00016</b> | <b>.00254</b> | <b>.00200</b> |
| #3 | <b>.00279</b>  | <b>.00050</b> | <b>.00023</b> | <b>.00441</b> | <b>.00185</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3333.3</b> | <b>5551.0</b> | <b>81974.</b> | <b>11123.</b> |
| Stddev    | 10.2          | 17.1          | 521.          | 19.           |
| %RSD      | .30692        | .30795        | .63616        | .17332        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3322.5 | 5531.3 | 81483. | 11129. |
| #2 | 3342.9 | 5562.1 | 81918. | 11102. |
| #3 | 3334.5 | 5559.6 | 82521. | 11138. |

Sample Name: LCS 180-140612/2-A      Acquired: 5/6/2015 9:34:10      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .04927        | 1.9642        | .48453        | .97137        | 1.9429        | .04864        |
| Stddev | .00045        | .0206         | .00279        | .00131        | .0092         | .00014        |
| %RSD   | .92172        | 1.0498        | .57482        | .13444        | .47447        | .29061        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .04915 | 1.9880 | .48133 | .97122 | 1.9455 | .04858 |
| #2 | .04889 | 1.9535 | .48587 | .97015 | 1.9506 | .04881 |
| #3 | .04977 | 1.9511 | .48640 | .97275 | 1.9327 | .04855 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 49.649        | .04748        | .49067        | .19699        | .24220        | 1.0438        |
| Stddev | .135          | .00022        | .00058        | .00086        | .00181        | .0035         |
| %RSD   | .27115        | .46599        | .11741        | .43742        | .74782        | .33223        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 49.559 | .04739 | .49036 | .19640 | .24055 | 1.0398 |
| #2 | 49.804 | .04773 | .49133 | .19660 | .24191 | 1.0461 |
| #3 | 49.585 | .04732 | .49031 | .19798 | .24414 | 1.0455 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: LCS 180-140612/2-A      Acquired: 5/6/2015 9:34:10      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>49.755</b> | <b>.98738</b> | <b>50.249</b> | <b>.48534</b> | <b>.99660</b> | <b>50.505</b> |
| Stddev | .199          | .00295        | .362          | .00144        | .00036        | .160          |
| %RSD   | .39929        | .29870        | .72102        | .29585        | .03627        | .31771        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 49.555 | .98804 | 49.833 | .48369 | .99624 | 50.453 |
| #2 | 49.953 | .98994 | 50.418 | .48628 | .99658 | 50.686 |
| #3 | 49.756 | .98416 | 50.495 | .48606 | .99697 | 50.378 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ni            | Pb            | Sb            | Se            | Si              | Sn            |
|--------|---------------|---------------|---------------|---------------|-----------------|---------------|
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134}   | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)        | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm             | ppm           |
| Avg    | <b>.48542</b> | <b>.47475</b> | <b>.48187</b> | <b>.47321</b> | <b>F 7.8894</b> | <b>1.9256</b> |
| Stddev | .00055        | .00109        | .00019        | .00293        | .0544           | .0024         |
| %RSD   | .11276        | .22970        | .03933        | .61985        | .68949          | .12196        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .48523 | .47601 | .48167 | .47010 | 7.8430 | 1.9230 |
| #2 | .48604 | .47426 | .48205 | .47359 | 7.9493 | 1.9275 |
| #3 | .48500 | .47400 | .48188 | .47593 | 7.8760 | 1.9262 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit |          |          |          |          | 12.000   |          |
| Low Limit  |          |          |          |          | 8.0000   |          |

Sample Name: LCS 180-140612/2-A      Acquired: 5/6/2015 9:34:10      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.95858</b> | <b>.97307</b> | <b>.46402</b> | <b>.50653</b> | <b>.48938</b> |
| Stddev | .00634        | .00504        | .00122        | .00422        | .00027        |
| %RSD   | .66124        | .51804        | .26354        | .83303        | .05570        |

|    |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.95181</b> | <b>.96734</b> | <b>.46308</b> | <b>.51097</b> | <b>.48907</b> |
| #2 | <b>.96438</b> | <b>.97500</b> | <b>.46540</b> | <b>.50605</b> | <b>.48957</b> |
| #3 | <b>.95953</b> | <b>.97685</b> | <b>.46357</b> | <b>.50257</b> | <b>.48952</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2922.0</b> | <b>5327.3</b> | <b>76839.</b> | <b>10894.</b> |
| Stddev    | 3.7           | 11.9          | 206.          | 54.           |
| %RSD      | .12677        | .22387        | .26825        | .49804        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>2921.3</b> | <b>5329.4</b> | <b>76970.</b> | <b>10954.</b> |
| #2 | <b>2926.1</b> | <b>5338.0</b> | <b>76946.</b> | <b>10878.</b> |
| #3 | <b>2918.8</b> | <b>5314.5</b> | <b>76602.</b> | <b>10849.</b> |

Sample Name: 180-43722-A-1-A      Acquired: 5/6/2015 9:38:59      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | Ag             | Al            | As            | B_            | Ba            | Be            |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00170</b> | <b>77.934</b> | <b>.02274</b> | <b>.20517</b> | <b>2.7401</b> | <b>.01124</b> |
| Stddev | .00033         | .122          | .00095        | .00058        | .0043         | .00003        |
| %RSD   | 19.197         | .15601        | 4.1692        | .28367        | .15677        | .28586        |

|    |                |               |               |               |               |               |
|----|----------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00152</b> | <b>77.955</b> | <b>.02165</b> | <b>.20582</b> | <b>2.7352</b> | <b>.01121</b> |
| #2 | <b>-.00149</b> | <b>78.045</b> | <b>.02327</b> | <b>.20470</b> | <b>2.7416</b> | <b>.01128</b> |
| #3 | <b>-.00207</b> | <b>77.804</b> | <b>.02331</b> | <b>.20498</b> | <b>2.7434</b> | <b>.01124</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ca            | Cd             | Co            | Cr            | Cu            | Fe            |
|--------|---------------|----------------|---------------|---------------|---------------|---------------|
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (ln2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>82.976</b> | <b>-.00027</b> | <b>.11829</b> | <b>.08280</b> | <b>.09850</b> | <b>74.133</b> |
| Stddev | .104          | .00012         | .00007        | .00037        | .00018        | .140          |
| %RSD   | .12513        | 44.395         | .05656        | .44497        | .17773        | .18926        |

|    |               |                |               |               |               |               |
|----|---------------|----------------|---------------|---------------|---------------|---------------|
| #1 | <b>82.908</b> | <b>-.00014</b> | <b>.11823</b> | <b>.08259</b> | <b>.09861</b> | <b>74.049</b> |
| #2 | <b>83.096</b> | <b>-.00029</b> | <b>.11836</b> | <b>.08259</b> | <b>.09859</b> | <b>74.295</b> |
| #3 | <b>82.925</b> | <b>-.00037</b> | <b>.11828</b> | <b>.08323</b> | <b>.09830</b> | <b>74.056</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43722-A-1-A      Acquired: 5/6/2015 9:38:59      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>5.7663</b> | <b>.05895</b> | <b>18.628</b> | <b>.77380</b> | <b>.00605</b> | <b>10.713</b> |
| Stddev | .0128         | .00053        | .064          | .00215        | .00026        | .028          |
| %RSD   | .22130        | .90705        | .34239        | .27781        | 4.3418        | .26562        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 5.7524 | .05875 | 18.690 | .77255 | .00619 | 10.684 |
| #2 | 5.7688 | .05854 | 18.632 | .77628 | .00621 | 10.741 |
| #3 | 5.7776 | .05956 | 18.563 | .77256 | .00575 | 10.715 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.12140</b> | <b>.00669</b> | <b>.00041</b> | <b>.00372</b> | <b>3.1369</b> | <b>.02347</b> |
| Stddev | .00034        | .00055        | .00090        | .00089        | .0082         | .00056        |
| %RSD   | .28187        | 8.1981        | 217.92        | 24.039        | .26173        | 2.3767        |

|    |        |        |         |        |        |        |
|----|--------|--------|---------|--------|--------|--------|
| #1 | .12106 | .00715 | .00105  | .00375 | 3.1283 | .02284 |
| #2 | .12140 | .00684 | .00081  | .00460 | 3.1446 | .02387 |
| #3 | .12175 | .00609 | -.00062 | .00281 | 3.1379 | .02371 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43722-A-1-A      Acquired: 5/6/2015 9:38:59      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |                |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti             | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>1.9378</b> | <b>1.8375</b> | <b>-.00291</b> | <b>.14667</b> | <b>.03527</b> |
| Stddev | .0003         | .0066         | .00114         | .00123        | .00019        |
| %RSD   | .01364        | .36066        | 39.180         | .84026        | .53010        |

|    |        |        |         |        |        |
|----|--------|--------|---------|--------|--------|
| #1 | 1.9378 | 1.8366 | -.00160 | .14760 | .03513 |
| #2 | 1.9375 | 1.8446 | -.00367 | .14527 | .03521 |
| #3 | 1.9381 | 1.8314 | -.00346 | .14714 | .03548 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3017.5</b> | <b>6006.8</b> | <b>85172.</b> | <b>12151.</b> |
| Stddev    | 11.0          | 17.6          | 240.          | 26.           |
| %RSD      | .36503        | .29328        | .28175        | .21364        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3020.9 | 6013.4 | 84963. | 12132. |
| #2 | 3026.3 | 6020.2 | 85434. | 12139. |
| #3 | 3005.1 | 5986.9 | 85120. | 12180. |



Sample Name: 180-43722-A-1-A SD@5      Acquired: 5/6/2015 9:44:00      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | Ag             | Al            | As            | B_            | Ba            | Be            |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00036</b> | <b>16.882</b> | <b>.00582</b> | <b>.04594</b> | <b>.59535</b> | <b>.00250</b> |
| Stddev | .00031         | .004          | .00119        | .00016        | .00195        | .00009        |
| %RSD   | 84.924         | .02131        | 20.484        | .34730        | .32830        | 3.7742        |

|    |                |               |               |               |               |               |
|----|----------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00001</b> | <b>16.886</b> | <b>.00581</b> | <b>.04608</b> | <b>.59633</b> | <b>.00240</b> |
| #2 | <b>-.00049</b> | <b>16.879</b> | <b>.00701</b> | <b>.04596</b> | <b>.59310</b> | <b>.00258</b> |
| #3 | <b>-.00058</b> | <b>16.881</b> | <b>.00463</b> | <b>.04576</b> | <b>.59661</b> | <b>.00254</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>18.151</b> | <b>.00001</b> | <b>.02391</b> | <b>.01761</b> | <b>.02210</b> | <b>16.790</b> |
| Stddev | .072          | .00011        | .00022        | .00007        | .00017        | .052          |
| %RSD   | .39398        | 1591.7        | .92583        | .39302        | .75105        | .31138        |

|    |               |                |               |               |               |               |
|----|---------------|----------------|---------------|---------------|---------------|---------------|
| #1 | <b>18.162</b> | <b>-.00003</b> | <b>.02401</b> | <b>.01767</b> | <b>.02192</b> | <b>16.778</b> |
| #2 | <b>18.217</b> | <b>-.00008</b> | <b>.02366</b> | <b>.01753</b> | <b>.02223</b> | <b>16.847</b> |
| #3 | <b>18.075</b> | <b>.00013</b>  | <b>.02407</b> | <b>.01763</b> | <b>.02217</b> | <b>16.744</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43722-A-1-A SD@5      Acquired: 5/6/2015 9:44:00      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>1.2783</b> | <b>.01247</b> | <b>4.1768</b> | <b>.17877</b> | <b>.00147</b> | <b>2.4069</b> |
| Stddev | .0243         | .00074        | .0174         | .00202        | .00025        | .0137         |
| %RSD   | 1.8991        | 5.8983        | .41533        | 1.1292        | 17.038        | .56939        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.2609 | .01221 | 4.1807 | .17906 | .00172 | 2.4216 |
| #2 | 1.3061 | .01330 | 4.1919 | .18062 | .00148 | 2.3945 |
| #3 | 1.2680 | .01190 | 4.1579 | .17662 | .00122 | 2.4045 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.02435</b> | <b>.00208</b> | <b>.00066</b> | <b>.00085</b> | <b>.69148</b> | <b>.00597</b> |
| Stddev | .00058        | .00120        | .00236        | .00300        | .00423        | .00052        |
| %RSD   | 2.3767        | 57.796        | 357.00        | 354.32        | .61154        | 8.7511        |

|    |        |        |         |         |        |        |
|----|--------|--------|---------|---------|--------|--------|
| #1 | .02415 | .00310 | .00012  | .00397  | .69631 | .00647 |
| #2 | .02390 | .00075 | .00324  | -.00200 | .68842 | .00543 |
| #3 | .02500 | .00238 | -.00138 | .00057  | .68973 | .00602 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43722-A-1-A SD@5      Acquired: 5/6/2015 9:44:00      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |                |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti             | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>.43816</b> | <b>.41691</b> | <b>-.00060</b> | <b>.03233</b> | <b>.00857</b> |
| Stddev | .00575        | .00402        | .00082         | .00197        | .00003        |
| %RSD   | 1.3122        | .96398        | 136.46         | 6.0972        | .40410        |

|    |               |               |                |               |               |
|----|---------------|---------------|----------------|---------------|---------------|
| #1 | <b>.43605</b> | <b>.41747</b> | <b>-.00042</b> | <b>.03376</b> | <b>.00853</b> |
| #2 | <b>.44467</b> | <b>.42062</b> | <b>-.00149</b> | <b>.03009</b> | <b>.00860</b> |
| #3 | <b>.43376</b> | <b>.41264</b> | <b>.00012</b>  | <b>.03316</b> | <b>.00858</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3204.0</b> | <b>5668.5</b> | <b>82340.</b> | <b>11335.</b> |
| Stddev    | 7.2           | 9.1           | 214.          | 93.           |
| %RSD      | .22618        | .15996        | .25963        | .81897        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>3203.1</b> | <b>5658.5</b> | <b>82574.</b> | <b>11360.</b> |
| #2 | <b>3211.7</b> | <b>5676.1</b> | <b>82292.</b> | <b>11232.</b> |
| #3 | <b>3197.3</b> | <b>5670.9</b> | <b>82155.</b> | <b>11412.</b> |

Sample Name: 180-43722-A-1-B MS      Acquired: 5/6/2015 9:49:05      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .03932        | 107.91        | .41536        | .98502        | 4.5633        | .05493        |
| Stddev | .00031        | .25           | .00248        | .00650        | .0058         | .00018        |
| %RSD   | .79397        | .22901        | .59729        | .65994        | .12730        | .33087        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .03905 | 107.70 | .41810 | .99058 | 4.5603 | .05501 |
| #2 | .03966 | 108.18 | .41327 | .98660 | 4.5700 | .05472 |
| #3 | .03924 | 107.85 | .41472 | .97787 | 4.5596 | .05505 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 140.20        | .03793        | .62893        | .28242        | .30878        | 99.949        |
| Stddev | .39           | .00042        | .00521        | .00424        | .00155        | .231          |
| %RSD   | .27937        | 1.1172        | .82805        | 1.5000        | .50121        | .23098        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 139.88 | .03831 | .63288 | .27852 | .30990 | 100.21 |
| #2 | 140.64 | .03802 | .63089 | .28182 | .30943 | 99.838 |
| #3 | 140.09 | .03747 | .62303 | .28693 | .30701 | 99.794 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43722-A-1-B MS      Acquired: 5/6/2015 9:49:05      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>49.608</b> | <b>.89753</b> | <b>65.912</b> | <b>1.3905</b> | <b>.66910</b> | <b>55.726</b> |
| Stddev | .048          | .00197        | .141          | .0034         | .00496        | .095          |
| %RSD   | .09594        | .21929        | .21450        | .24682        | .74105        | .17025        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 49.653 | .89527 | 66.060 | 1.3886 | .67388 | 55.697 |
| #2 | 49.613 | .89842 | 65.778 | 1.3945 | .66944 | 55.831 |
| #3 | 49.558 | .89889 | 65.896 | 1.3885 | .66398 | 55.648 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.61403</b> | <b>.42634</b> | <b>.17474</b> | <b>.38260</b> | <b>9.2236</b> | <b>1.2662</b> |
| Stddev | .00592        | .00158        | .00138        | .00621        | .0167         | .0092         |
| %RSD   | .96416        | .37020        | .79245        | 1.6224        | .18126        | .72930        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .61963 | .42773 | .17612 | .38818 | 9.2423 | 1.2752 |
| #2 | .61462 | .42463 | .17474 | .38369 | 9.2186 | 1.2667 |
| #3 | .60783 | .42666 | .17335 | .37591 | 9.2100 | 1.2568 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43722-A-1-B MS      Acquired: 5/6/2015 9:49:05      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>2.9049</b> | <b>2.9188</b> | <b>.32769</b> | <b>.62066</b> | <b>.41605</b> |
| Stddev | .0111         | .0075         | .00149        | .00916        | .00297        |
| %RSD   | .38238        | .25554        | .45512        | 1.4753        | .71297        |

|    |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>2.9171</b> | <b>2.9187</b> | <b>.32796</b> | <b>.61274</b> | <b>.41798</b> |
| #2 | <b>2.9025</b> | <b>2.9263</b> | <b>.32903</b> | <b>.61856</b> | <b>.41753</b> |
| #3 | <b>2.8953</b> | <b>2.9113</b> | <b>.32608</b> | <b>.63068</b> | <b>.41263</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2722.3</b> | <b>5794.3</b> | <b>82042.</b> | <b>12108.</b> |
| Stddev    | 18.9          | 36.5          | 821.          | 15.           |
| %RSD      | .69512        | .62989        | 1.0011        | .12782        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>2707.5</b> | <b>5767.0</b> | <b>82651.</b> | <b>12091.</b> |
| #2 | <b>2715.8</b> | <b>5780.1</b> | <b>82368.</b> | <b>12114.</b> |
| #3 | <b>2743.6</b> | <b>5835.8</b> | <b>81108.</b> | <b>12120.</b> |

Sample Name: 180-43722-A-1-C MSD      Acquired: 5/6/2015 9:53:58      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .03891        | 105.34        | .39416        | .93027        | 4.5374        | .05173        |
| Stddev | .00027        | .06           | .00150        | .00134        | .0048         | .00020        |
| %RSD   | .69830        | .05315        | .38131        | .14352        | .10648        | .38021        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .03860 | 105.32 | .39324 | .93084 | 4.5347 | .05184 |
| #2 | .03906 | 105.41 | .39335 | .92874 | 4.5345 | .05150 |
| #3 | .03908 | 105.30 | .39590 | .93122 | 4.5430 | .05185 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 136.32        | .03673        | .59781        | .27701        | .30114        | 96.518        |
| Stddev | .28           | .00016        | .00042        | .00050        | .00225        | .155          |
| %RSD   | .20793        | .44296        | .07089        | .17974        | .74835        | .16082        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 136.15 | .03657 | .59804 | .27755 | .30373 | 96.649 |
| #2 | 136.16 | .03690 | .59732 | .27657 | .30002 | 96.559 |
| #3 | 136.65 | .03671 | .59807 | .27689 | .29966 | 96.347 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43722-A-1-C MSD      Acquired: 5/6/2015 9:53:58      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>48.082</b> | <b>.87797</b> | <b>63.147</b> | <b>1.3359</b> | <b>.64377</b> | <b>54.219</b> |
| Stddev | .066          | .00106        | .121          | .0019         | .00051        | .069          |
| %RSD   | .13818        | .12053        | .19200        | .13961        | .07890        | .12817        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 48.157 | .87878 | 63.246 | 1.3380 | .64350 | 54.280 |
| #2 | 48.034 | .87677 | 63.183 | 1.3344 | .64346 | 54.143 |
| #3 | 48.054 | .87837 | 63.011 | 1.3354 | .64436 | 54.235 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.57645</b> | <b>.41003</b> | <b>.16836</b> | <b>.37149</b> | <b>9.0797</b> | <b>1.2157</b> |
| Stddev | .00052        | .00190        | .00179        | .00265        | .0185         | .0019         |
| %RSD   | .09028        | .46317        | 1.0612        | .71312        | .20350        | .15504        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .57598 | .40939 | .16646 | .37094 | 9.0995 | 1.2176 |
| #2 | .57701 | .40854 | .17000 | .36915 | 9.0766 | 1.2139 |
| #3 | .57635 | .41217 | .16861 | .37437 | 9.0630 | 1.2154 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43722-A-1-C MSD      Acquired: 5/6/2015 9:53:58      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>2.8232</b> | <b>2.8899</b> | <b>.31591</b> | <b>.59519</b> | <b>.39799</b> |
| Stddev | .0081         | .0096         | .00162        | .00456        | .00031        |
| %RSD   | .28828        | .33075        | .51234        | .76533        | .07746        |

|    |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>2.8300</b> | <b>2.9009</b> | <b>.31740</b> | <b>.59046</b> | <b>.39823</b> |
| #2 | <b>2.8253</b> | <b>2.8839</b> | <b>.31614</b> | <b>.59955</b> | <b>.39764</b> |
| #3 | <b>2.8142</b> | <b>2.8849</b> | <b>.31418</b> | <b>.59555</b> | <b>.39809</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2750.0</b> | <b>5793.2</b> | <b>81314.</b> | <b>11953.</b> |
| Stddev    | .7            | 3.9           | 233.          | 7.            |
| %RSD      | .02714        | .06813        | .28705        | .05842        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>2750.7</b> | <b>5797.0</b> | <b>81579.</b> | <b>11948.</b> |
| #2 | <b>2750.0</b> | <b>5793.4</b> | <b>81140.</b> | <b>11949.</b> |
| #3 | <b>2749.2</b> | <b>5789.1</b> | <b>81222.</b> | <b>11961.</b> |

Sample Name: 180-43722-A-2-A      Acquired: 5/6/2015 9:58:51      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | Ag             | Al            | As            | B_            | Ba            | Be            |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00028</b> | <b>34.973</b> | <b>.01052</b> | <b>.01802</b> | <b>.88546</b> | <b>.00343</b> |
| Stddev | .00020         | .056          | .00014        | .00061        | .00378        | .00011        |
| %RSD   | 71.106         | .16008        | 1.3475        | 3.3840        | .42705        | 3.1008        |

|    |                |               |               |               |               |               |
|----|----------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00046</b> | <b>35.008</b> | <b>.01036</b> | <b>.01871</b> | <b>.88110</b> | <b>.00333</b> |
| #2 | <b>-.00032</b> | <b>35.002</b> | <b>.01063</b> | <b>.01754</b> | <b>.88779</b> | <b>.00354</b> |
| #3 | <b>-.00006</b> | <b>34.908</b> | <b>.01057</b> | <b>.01782</b> | <b>.88749</b> | <b>.00342</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ca            | Cd             | Co            | Cr            | Cu            | Fe            |
|--------|---------------|----------------|---------------|---------------|---------------|---------------|
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>43.428</b> | <b>-.00014</b> | <b>.01589</b> | <b>.03163</b> | <b>.02587</b> | <b>49.330</b> |
| Stddev | .058          | .00024         | .00026        | .00039        | .00044        | .051          |
| %RSD   | .13450        | 166.60         | 1.6497        | 1.2340        | 1.7125        | .10279        |

|    |               |                |               |               |               |               |
|----|---------------|----------------|---------------|---------------|---------------|---------------|
| #1 | <b>43.481</b> | <b>-.00018</b> | <b>.01568</b> | <b>.03122</b> | <b>.02626</b> | <b>49.306</b> |
| #2 | <b>43.365</b> | <b>.00011</b>  | <b>.01580</b> | <b>.03167</b> | <b>.02539</b> | <b>49.388</b> |
| #3 | <b>43.439</b> | <b>-.00036</b> | <b>.01618</b> | <b>.03199</b> | <b>.02597</b> | <b>49.295</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43722-A-2-A      Acquired: 5/6/2015 9:58:51      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>1.8090</b> | <b>.02439</b> | <b>11.077</b> | <b>.51418</b> | <b>.00311</b> | <b>17.799</b> |
| Stddev | .0152         | .00070        | .033          | .00107        | .00020        | .039          |
| %RSD   | .84253        | 2.8817        | .29993        | .20751        | 6.4545        | .21865        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>1.8111</b> | <b>.02370</b> | <b>11.100</b> | <b>.51524</b> | <b>.00305</b> | <b>17.757</b> |
| #2 | <b>1.8231</b> | <b>.02511</b> | <b>11.039</b> | <b>.51311</b> | <b>.00333</b> | <b>17.833</b> |
| #3 | <b>1.7928</b> | <b>.02437</b> | <b>11.092</b> | <b>.51420</b> | <b>.00294</b> | <b>17.807</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.03392</b> | <b>.00411</b> | <b>.00156</b> | <b>.01864</b> | <b>3.8706</b> | <b>.03266</b> |
| Stddev | .00020        | .00045        | .00058        | .00175        | .0100         | .00030        |
| %RSD   | .57720        | 11.039        | 37.186        | 9.3646        | .25714        | .91873        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.03371</b> | <b>.00463</b> | <b>.00177</b> | <b>.01776</b> | <b>3.8724</b> | <b>.03270</b> |
| #2 | <b>.03396</b> | <b>.00393</b> | <b>.00201</b> | <b>.02065</b> | <b>3.8795</b> | <b>.03235</b> |
| #3 | <b>.03409</b> | <b>.00379</b> | <b>.00091</b> | <b>.01750</b> | <b>3.8598</b> | <b>.03294</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43722-A-2-A      Acquired: 5/6/2015 9:58:51      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .66294        | .86070        | -.00122       | .04813        | .02883        |
| Stddev | .00190        | .00453        | .00046        | .00413        | .00007        |
| %RSD   | .28658        | .52689        | 38.018        | 8.5905        | .24426        |

|    |        |        |         |        |        |
|----|--------|--------|---------|--------|--------|
| #1 | .66513 | .86572 | -.00128 | .04872 | .02875 |
| #2 | .66195 | .85947 | -.00165 | .04374 | .02885 |
| #3 | .66174 | .85691 | -.00073 | .05195 | .02889 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3029.6        | 5536.3        | 80068.        | 11329.        |
| Stddev    | 2.9           | 9.1           | 223.          | 66.           |
| %RSD      | .09449        | .16421        | .27905        | .57936        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3031.4 | 5546.4 | 80240. | 11262. |
| #2 | 3031.1 | 5533.7 | 79815. | 11333. |
| #3 | 3026.3 | 5528.8 | 80149. | 11393. |

Sample Name: 180-43722-A-3-A      Acquired: 5/6/2015 10:03:54      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | Ag             | Al            | As            | B_            | Ba            | Be            |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00014</b> | <b>42.638</b> | <b>.01009</b> | <b>.02142</b> | <b>.97989</b> | <b>.00394</b> |
| Stddev | .00031         | .072          | .00102        | .00020        | .00111        | .00002        |
| %RSD   | 218.56         | .16906        | 10.152        | .94219        | .11322        | .55696        |

|    |         |        |        |        |        |        |
|----|---------|--------|--------|--------|--------|--------|
| #1 | .00021  | 42.695 | .00940 | .02122 | .98082 | .00394 |
| #2 | -.00029 | 42.557 | .00960 | .02162 | .97866 | .00392 |
| #3 | -.00035 | 42.662 | .01127 | .02142 | .98018 | .00397 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ca            | Cd             | Co            | Cr            | Cu            | Fe            |
|--------|---------------|----------------|---------------|---------------|---------------|---------------|
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>48.407</b> | <b>-.00006</b> | <b>.01891</b> | <b>.03426</b> | <b>.03119</b> | <b>59.895</b> |
| Stddev | .112          | .00010         | .00018        | .00033        | .00050        | .215          |
| %RSD   | .23071        | 156.53         | .92927        | .95877        | 1.6035        | .35881        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | 48.422 | -.00007 | .01905 | .03452 | .03103 | 59.933 |
| #2 | 48.289 | .00004  | .01871 | .03389 | .03175 | 59.664 |
| #3 | 48.511 | -.00016 | .01896 | .03437 | .03080 | 60.089 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43722-A-3-A      Acquired: 5/6/2015 10:03:54      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.9351        | .03026        | 12.769        | .60740        | .00244        | 19.631        |
| Stddev | .0259         | .00016        | .085          | .00181        | .00016        | .050          |
| %RSD   | 1.3357        | .52729        | .66663        | .29859        | 6.5614        | .25339        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.9597 | .03014 | 12.694 | .60615 | .00229 | 19.637 |
| #2 | 1.9082 | .03044 | 12.751 | .60658 | .00261 | 19.578 |
| #3 | 1.9372 | .03020 | 12.862 | .60948 | .00242 | 19.677 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .03752        | .00529        | .00083        | .01549        | 4.8557        | .03516        |
| Stddev | .00065        | .00127        | .00106        | .00332        | .0251         | .00047        |
| %RSD   | 1.7278        | 24.078        | 128.27        | 21.407        | .51686        | 1.3232        |

|    |        |        |         |        |        |        |
|----|--------|--------|---------|--------|--------|--------|
| #1 | .03826 | .00408 | .00187  | .01341 | 4.8590 | .03556 |
| #2 | .03706 | .00662 | .00086  | .01931 | 4.8291 | .03465 |
| #3 | .03725 | .00518 | -.00025 | .01375 | 4.8790 | .03526 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43722-A-3-A      Acquired: 5/6/2015 10:03:54      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |                |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti             | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>.78373</b> | <b>.95663</b> | <b>-.00178</b> | <b>.05657</b> | <b>.02516</b> |
| Stddev | .00555        | .00403        | .00059         | .00206        | .00007        |
| %RSD   | .70780        | .42175        | 32.979         | 3.6335        | .27735        |

|    |               |               |                |               |               |
|----|---------------|---------------|----------------|---------------|---------------|
| #1 | <b>.77894</b> | <b>.95518</b> | <b>-.00118</b> | <b>.05746</b> | <b>.02508</b> |
| #2 | <b>.78243</b> | <b>.95352</b> | <b>-.00235</b> | <b>.05422</b> | <b>.02521</b> |
| #3 | <b>.78981</b> | <b>.96119</b> | <b>-.00182</b> | <b>.05803</b> | <b>.02519</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2999.8</b> | <b>5555.6</b> | <b>80505.</b> | <b>11394.</b> |
| Stddev    | 12.6          | 18.3          | 143.          | 61.           |
| %RSD      | .42105        | .32951        | .17760        | .53563        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>2989.1</b> | <b>5537.5</b> | <b>80476.</b> | <b>11421.</b> |
| #2 | <b>2996.5</b> | <b>5555.2</b> | <b>80660.</b> | <b>11437.</b> |
| #3 | <b>3013.8</b> | <b>5574.1</b> | <b>80378.</b> | <b>11324.</b> |

Sample Name: 180-43722-A-4-A      Acquired: 5/6/2015 10:08:57      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00021</b> | <b>4.2764</b> | <b>.02456</b> | <b>.06893</b> | <b>1.9883</b> | <b>.01206</b> |
| Stddev | .00042         | .0088         | .00030        | .00019        | .0031         | .00009        |
| %RSD   | 198.84         | .20507        | 1.2330        | .28044        | .15554        | .77067        |

|    |                |               |               |               |               |               |
|----|----------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00059</b> | <b>4.2851</b> | <b>.02431</b> | <b>.06915</b> | <b>1.9919</b> | <b>.01208</b> |
| #2 | <b>-.00029</b> | <b>4.2765</b> | <b>.02490</b> | <b>.06883</b> | <b>1.9870</b> | <b>.01215</b> |
| #3 | <b>.00024</b>  | <b>4.2675</b> | <b>.02447</b> | <b>.06881</b> | <b>1.9862</b> | <b>.01196</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>43.658</b> | <b>.00063</b> | <b>.03747</b> | <b>.04765</b> | <b>.32108</b> | <b>9.0870</b> |
| Stddev | .036          | .00008        | .00028        | .00016        | .00081        | .0272         |
| %RSD   | .08333        | 13.471        | .74851        | .33892        | .25189        | .29945        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>43.653</b> | <b>.00071</b> | <b>.03721</b> | <b>.04778</b> | <b>.32197</b> | <b>9.1184</b> |
| #2 | <b>43.624</b> | <b>.00054</b> | <b>.03743</b> | <b>.04771</b> | <b>.32089</b> | <b>9.0718</b> |
| #3 | <b>43.696</b> | <b>.00064</b> | <b>.03776</b> | <b>.04747</b> | <b>.32039</b> | <b>9.0709</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43722-A-4-A      Acquired: 5/6/2015 10:08:57      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .66634        | .00262        | 4.1614        | .94940        | .00515        | 1.0776        |
| Stddev | .01962        | .00037        | .0255         | .00300        | .00011        | .0026         |
| %RSD   | 2.9444        | 14.184        | .61197        | .31564        | 2.1265        | .24397        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .66903 | .00254 | 4.1571 | .94617 | .00505 | 1.0805 |
| #2 | .68447 | .00303 | 4.1383 | .94994 | .00513 | 1.0769 |
| #3 | .64551 | .00230 | 4.1887 | .95209 | .00527 | 1.0754 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .06538        | .00115        | .00059        | .01282        | .82738        | .02899        |
| Stddev | .00036        | .00122        | .00063        | .00046        | .01510        | .00012        |
| %RSD   | .55707        | 105.86        | 107.12        | 3.6248        | 1.8251        | .42549        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | .06514 | -.00014 | .00108  | .01236 | .84319 | .02888 |
| #2 | .06519 | .00130  | .00081  | .01329 | .82582 | .02912 |
| #3 | .06579 | .00229  | -.00012 | .01281 | .81311 | .02896 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43722-A-4-A      Acquired: 5/6/2015 10:08:57      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |                |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti             | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>.56339</b> | <b>1.3064</b> | <b>-.00143</b> | <b>.16885</b> | <b>.13744</b> |
| Stddev | .00722        | .0028         | .00011         | .00242        | .00026        |
| %RSD   | 1.2810        | .21253        | 7.9435         | 1.4358        | .18673        |

|    |        |        |         |        |        |
|----|--------|--------|---------|--------|--------|
| #1 | .56202 | 1.3035 | -.00138 | .17153 | .13725 |
| #2 | .55696 | 1.3067 | -.00156 | .16680 | .13734 |
| #3 | .57120 | 1.3090 | -.00135 | .16821 | .13773 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3173.9</b> | <b>5837.6</b> | <b>84237.</b> | <b>11969.</b> |
| Stddev    | 2.8           | 3.1           | 211.          | 42.           |
| %RSD      | .08922        | .05357        | .25087        | .34904        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3172.0 | 5836.0 | 84245. | 11996. |
| #2 | 3177.2 | 5841.2 | 84443. | 11990. |
| #3 | 3172.5 | 5835.6 | 84021. | 11921. |

Sample Name: CCV 1551842      Acquired: 5/6/2015 10:14:02      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.0715        | 25.580        | .52508        | 2.0908        | 1.9976        | 1.9914        |
| Stddev | .0020         | .116          | .00286        | .0132         | .0005         | .0066         |
| %RSD   | .19047        | .45254        | .54555        | .63315        | .02507        | .33045        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.0692 | 25.698 | .52471 | 2.0791 | 1.9978 | 1.9946 |
| #2 | 1.0729 | 25.574 | .52242 | 2.0881 | 1.9970 | 1.9958 |
| #3 | 1.0725 | 25.467 | .52811 | 2.1051 | 1.9980 | 1.9838 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 51.365        | .52235        | 2.0948        | 2.0423        | 1.9375        | 25.874        |
| Stddev | .066          | .00290        | .0135         | .0054         | .0068         | .103          |
| %RSD   | .12865        | .55571        | .64319        | .26323        | .35102        | .39779        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 51.386 | .52016 | 2.0813 | 2.0386 | 1.9386 | 25.928 |
| #2 | 51.418 | .52124 | 2.0950 | 2.0398 | 1.9436 | 25.938 |
| #3 | 51.291 | .52564 | 2.1082 | 2.0485 | 1.9301 | 25.755 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/6/2015 10:14:02      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>127.03</b> | <b>2.0296</b> | <b>50.803</b> | <b>1.9071</b> | <b>2.0052</b> | <b>128.75</b> |
| Stddev | .37           | .0022         | .257          | .0081         | .0166         | .27           |
| %RSD   | .28803        | .10803        | .50607        | .42362        | .82658        | .21016        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 127.22 | 2.0320 | 50.837 | 1.9071 | 1.9920 | 128.93 |
| #2 | 127.27 | 2.0290 | 51.042 | 1.9151 | 1.9998 | 128.88 |
| #3 | 126.61 | 2.0278 | 50.531 | 1.8990 | 2.0238 | 128.44 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>2.0733</b> | <b>.51219</b> | <b>.51434</b> | <b>.52042</b> | <b>2.0258</b> | <b>1.9419</b> |
| Stddev | .0143         | .00573        | .00328        | .00455        | .0113         | .0172         |
| %RSD   | .68945        | 1.1196        | .63684        | .87501        | .55885        | .88483        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 2.0592 | .50783 | .51321 | .51776 | 2.0388 | 1.9280 |
| #2 | 2.0728 | .51004 | .51178 | .51781 | 2.0202 | 1.9366 |
| #3 | 2.0878 | .51868 | .51803 | .52568 | 2.0183 | 1.9611 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/6/2015 10:14:02      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
|--------|---------------|---------------|---------------|---------------|---------------|
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>1.9297</b> | <b>1.9174</b> | <b>.98074</b> | <b>2.1510</b> | <b>2.0170</b> |
| Stddev | .0070         | .0070         | .00750        | .0141         | .0129         |
| %RSD   | .36372        | .36668        | .76521        | .65801        | .63919        |
| #1     | 1.9325        | 1.9175        | .97538        | 2.1559        | 2.0042        |
| #2     | 1.9348        | 1.9244        | .97753        | 2.1351        | 2.0169        |
| #3     | 1.9217        | 1.9104        | .98932        | 2.1621        | 2.0299        |

|         |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |
| Range   |          |          |          |          |          |

| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
|-----------|---------------|---------------|---------------|---------------|
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2733.5</b> | <b>5197.1</b> | <b>73977.</b> | <b>10884.</b> |
| Stddev    | 14.9          | 24.8          | 186.          | 44.           |
| %RSD      | .54356        | .47706        | .25121        | .40645        |
| #1        | 2748.7        | 5217.9        | 74185.        | 10893.        |
| #2        | 2732.8        | 5203.6        | 73922.        | 10836.        |
| #3        | 2719.0        | 5169.6        | 73826.        | 10924.        |

Sample Name: CCB4      Acquired: 5/6/2015 10:18:49      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00015        | .00887        | .00200        | .00232        | .00007        | .00018        |
| Stddev | .00020        | .01340        | .00023        | .00033        | .00012        | .00007        |
| %RSD   | 135.54        | 151.09        | 11.425        | 14.255        | 179.76        | 39.137        |

|    |        |         |        |        |         |        |
|----|--------|---------|--------|--------|---------|--------|
| #1 | .00004 | .01981  | .00206 | .00258 | .00011  | .00010 |
| #2 | .00038 | -.00608 | .00219 | .00195 | -.00007 | .00021 |
| #3 | .00002 | .01287  | .00175 | .00244 | .00016  | .00024 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00742        | .00002        | .00025        | -.00004       | .00065        | .00615        |
| Stddev | .00258        | .00004        | .00022        | .00003        | .00073        | .00160        |
| %RSD   | 34.699        | 253.92        | 88.007        | 77.953        | 112.07        | 25.966        |

|    |        |         |        |         |         |        |
|----|--------|---------|--------|---------|---------|--------|
| #1 | .01036 | .00002  | .00048 | -.00000 | -.00001 | .00799 |
| #2 | .00558 | -.00003 | .00022 | -.00006 | .00053  | .00536 |
| #3 | .00632 | .00006  | .00004 | -.00006 | .00143  | .00510 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB4      Acquired: 5/6/2015 10:18:49      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |                |               |               |               |               |
|--------|---------------|----------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li             | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50}  | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)       | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.12836</b> | <b>-.00004</b> | <b>.02051</b> | <b>.00026</b> | <b>.00212</b> | <b>.09036</b> |
| Stddev | .01590        | .00047         | .00998        | .00010        | .00021        | .00389        |
| %RSD   | 12.384        | 1090.8         | 48.661        | 39.301        | 9.8939        | 4.3009        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | .13546 | -.00019 | .01050 | .00016 | .00232 | .09131 |
| #2 | .11016 | -.00043 | .02056 | .00027 | .00215 | .09369 |
| #3 | .13947 | .00049  | .03046 | .00036 | .00190 | .08609 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |                |                |               |               |
|--------|---------------|---------------|----------------|----------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb             | Se             | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455}  | 196.090 {472}  | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)       | (Y_2243)       | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm            | ppm           | ppm           |
| Avg    | <b>.00057</b> | <b>.00013</b> | <b>-.00120</b> | <b>-.00148</b> | <b>.00428</b> | <b>.00075</b> |
| Stddev | .00037        | .00117        | .00105         | .00120         | .00311        | .00032        |
| %RSD   | 64.798        | 875.63        | 87.720         | 80.638         | 72.688        | 42.532        |

|    |        |         |         |         |        |        |
|----|--------|---------|---------|---------|--------|--------|
| #1 | .00028 | -.00104 | -.00235 | -.00247 | .00185 | .00097 |
| #2 | .00045 | .00129  | -.00028 | -.00183 | .00321 | .00038 |
| #3 | .00099 | .00015  | -.00098 | -.00015 | .00779 | .00088 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB4      Acquired: 5/6/2015 10:18:49      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00152</b> | <b>.00046</b> | <b>.00105</b> | <b>.00265</b> | <b>.00010</b> |
| Stddev | .00431         | .00013        | .00063        | .00259        | .00013        |
| %RSD   | 282.52         | 28.393        | 59.648        | 97.482        | 139.32        |

|    |                |               |               |                |                |
|----|----------------|---------------|---------------|----------------|----------------|
| #1 | <b>.00136</b>  | <b>.00048</b> | <b>.00135</b> | <b>-.00005</b> | <b>.00016</b>  |
| #2 | <b>-.00647</b> | <b>.00032</b> | <b>.00148</b> | <b>.00291</b>  | <b>-.00006</b> |
| #3 | <b>.00055</b>  | <b>.00057</b> | <b>.00033</b> | <b>.00510</b>  | <b>.00019</b>  |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3316.8</b> | <b>5511.8</b> | <b>81099.</b> | <b>11046.</b> |
| Stddev    | 5.9           | 5.0           | 39.           | 25.           |
| %RSD      | .17753        | .09132        | .04763        | .22398        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>3323.5</b> | <b>5517.2</b> | <b>81068.</b> | <b>11072.</b> |
| #2 | <b>3312.5</b> | <b>5507.3</b> | <b>81142.</b> | <b>11022.</b> |
| #3 | <b>3314.3</b> | <b>5511.0</b> | <b>81086.</b> | <b>11045.</b> |



Sample Name: 180-43722-A-5-A      Acquired: 5/6/2015 10:24:01      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00044</b> | <b>4.3707</b> | <b>.02592</b> | <b>.06847</b> | <b>1.9458</b> | <b>.01180</b> |
| Stddev | .00028         | .0320         | .00141        | .00025        | .0038         | .00010        |
| %RSD   | 64.035         | .73286        | 5.4348        | .35789        | .19722        | .84615        |

|    |                |               |               |               |               |               |
|----|----------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00056</b> | <b>4.3386</b> | <b>.02471</b> | <b>.06819</b> | <b>1.9419</b> | <b>.01188</b> |
| #2 | <b>-.00064</b> | <b>4.3709</b> | <b>.02747</b> | <b>.06861</b> | <b>1.9459</b> | <b>.01183</b> |
| #3 | <b>-.00012</b> | <b>4.4027</b> | <b>.02558</b> | <b>.06861</b> | <b>1.9495</b> | <b>.01169</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>42.795</b> | <b>.00056</b> | <b>.03738</b> | <b>.04733</b> | <b>.32377</b> | <b>9.9549</b> |
| Stddev | .113          | .00008        | .00023        | .00010        | .00427        | .0480         |
| %RSD   | .26475        | 14.622        | .62458        | .20495        | 1.3184        | .48234        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>42.665</b> | <b>.00054</b> | <b>.03744</b> | <b>.04743</b> | <b>.32114</b> | <b>9.9301</b> |
| #2 | <b>42.875</b> | <b>.00050</b> | <b>.03759</b> | <b>.04733</b> | <b>.32870</b> | <b>10.010</b> |
| #3 | <b>42.843</b> | <b>.00066</b> | <b>.03713</b> | <b>.04724</b> | <b>.32148</b> | <b>9.9243</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43722-A-5-A      Acquired: 5/6/2015 10:24:01      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.70869</b> | <b>.00298</b> | <b>4.1257</b> | <b>.99912</b> | <b>.00571</b> | <b>1.0488</b> |
| Stddev | .03557        | .00102        | .0543         | .00738        | .00013        | .0079         |
| %RSD   | 5.0187        | 34.139        | 1.3167        | .73874        | 2.2403        | .75601        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .69072 | .00390 | 4.1131 | .99634 | .00582 | 1.0576 |
| #2 | .68571 | .00189 | 4.1852 | 1.0075 | .00572 | 1.0467 |
| #3 | .74966 | .00315 | 4.0788 | .99354 | .00557 | 1.0422 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.06428</b> | <b>.00159</b> | <b>.00220</b> | <b>.01156</b> | <b>.86357</b> | <b>.02825</b> |
| Stddev | .00052        | .00118        | .00162        | .00088        | .00630        | .00035        |
| %RSD   | .80420        | 73.968        | 73.680        | 7.5741        | .72925        | 1.2348        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .06433 | .00202 | .00282 | .01176 | .86402 | .02811 |
| #2 | .06375 | .00026 | .00341 | .01061 | .86963 | .02864 |
| #3 | .06478 | .00249 | .00036 | .01233 | .85706 | .02799 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43722-A-5-A      Acquired: 5/6/2015 10:24:01      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |                |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti             | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>.55002</b> | <b>1.2861</b> | <b>-.00126</b> | <b>.16357</b> | <b>.13622</b> |
| Stddev | .00384        | .0121         | .00062         | .00055        | .00022        |
| %RSD   | .69813        | .94149        | 49.627         | .33697        | .16153        |

|    |        |        |         |        |        |
|----|--------|--------|---------|--------|--------|
| #1 | .55107 | 1.2804 | -.00101 | .16297 | .13613 |
| #2 | .55322 | 1.3000 | -.00197 | .16369 | .13647 |
| #3 | .54576 | 1.2779 | -.00079 | .16405 | .13606 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3156.7</b> | <b>5814.5</b> | <b>84378.</b> | <b>11925.</b> |
| Stddev    | .9            | 2.4           | 191.          | 105.          |
| %RSD      | .02753        | .04133        | .22691        | .87681        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3157.4 | 5814.5 | 84530. | 11991. |
| #2 | 3155.7 | 5816.8 | 84441. | 11804. |
| #3 | 3157.0 | 5812.0 | 84163. | 11979. |

Sample Name: MB 180-140575/1-A      Acquired: 5/6/2015 10:29:04      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00003        | .00155        | .00042        | .00081        | .00021        | -.00006       |
| Stddev | .00023        | .01320        | .00180        | .00033        | .00003        | .00006        |
| %RSD   | 832.04        | 852.12        | 431.80        | 40.906        | 12.116        | 104.88        |

|    |         |         |         |        |        |         |
|----|---------|---------|---------|--------|--------|---------|
| #1 | .00001  | .01006  | -.00161 | .00066 | .00022 | -.00006 |
| #2 | -.00020 | -.01366 | .00184  | .00119 | .00023 | -.00012 |
| #3 | .00027  | .00825  | .00102  | .00057 | .00018 | .00000  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00599       | -.00000       | -.00007       | -.00033       | .00010        | .00148        |
| Stddev | .00158        | .00018        | .00008        | .00060        | .00037        | .00156        |
| %RSD   | 26.443        | 10134.        | 116.80        | 184.04        | 381.81        | 105.54        |

|    |         |         |         |         |         |         |
|----|---------|---------|---------|---------|---------|---------|
| #1 | -.00503 | .00013  | -.00003 | .00026  | .00031  | -.00031 |
| #2 | -.00512 | -.00020 | -.00002 | -.00094 | .00030  | .00256  |
| #3 | -.00782 | .00007  | -.00017 | -.00029 | -.00033 | .00218  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: MB 180-140575/1-A      Acquired: 5/6/2015 10:29:04      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .04272        | .00050        | -.00340       | .00002        | -.00004       | .06798        |
| Stddev | .04081        | .00121        | .00823        | .00002        | .00015        | .00218        |
| %RSD   | 95.534        | 241.31        | 242.21        | 108.66        | 394.25        | 3.2100        |

|    |         |         |         |        |         |        |
|----|---------|---------|---------|--------|---------|--------|
| #1 | .05097  | -.00088 | .00284  | .00004 | -.00008 | .07049 |
| #2 | -.00159 | .00104  | -.01272 | .00000 | -.00016 | .06651 |
| #3 | .07878  | .00135  | -.00031 | .00001 | .00013  | .06694 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00013        | -.00034       | -.00056       | .00043        | .01564        | .00065        |
| Stddev | .00046        | .00080        | .00023        | .00164        | .00095        | .00020        |
| %RSD   | 357.96        | 234.88        | 41.752        | 378.47        | 6.0814        | 31.036        |

|    |         |         |         |         |        |        |
|----|---------|---------|---------|---------|--------|--------|
| #1 | -.00016 | -.00016 | -.00060 | -.00063 | .01463 | .00055 |
| #2 | .00066  | -.00122 | -.00077 | .00232  | .01579 | .00088 |
| #3 | -.00011 | .00036  | -.00031 | -.00039 | .01652 | .00051 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: MB 180-140575/1-A      Acquired: 5/6/2015 10:29:04      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |                |               |                |
|--------|----------------|---------------|----------------|---------------|----------------|
| Elem   | Sr             | Ti            | Ti             | V_            | Zn             |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463}  |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)       |
| Units  | ppm            | ppm           | ppm            | ppm           | ppm            |
| Avg    | <b>-.00342</b> | <b>.00028</b> | <b>-.00099</b> | <b>.00192</b> | <b>-.00011</b> |
| Stddev | .00418         | .00015        | .00076         | .00049        | .00006         |
| %RSD   | 122.19         | 54.242        | 76.866         | 25.395        | 54.607         |

|    |                |               |                |               |                |
|----|----------------|---------------|----------------|---------------|----------------|
| #1 | <b>-.00788</b> | <b>.00010</b> | <b>-.00136</b> | <b>.00170</b> | <b>-.00004</b> |
| #2 | <b>-.00278</b> | <b>.00037</b> | <b>-.00151</b> | <b>.00249</b> | <b>-.00016</b> |
| #3 | <b>.00040</b>  | <b>.00037</b> | <b>-.00012</b> | <b>.00159</b> | <b>-.00013</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3357.1</b> | <b>5577.8</b> | <b>81151.</b> | <b>11152.</b> |
| Stddev    | 6.0           | 7.2           | 243.          | 90.           |
| %RSD      | .18002        | .12936        | .29987        | .80675        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3354.8 | 5579.0 | 81326. | 11216. |
| #2 | 3363.9 | 5584.3 | 81254. | 11049. |
| #3 | 3352.5 | 5570.0 | 80873. | 11191. |

Sample Name: LB 180-140483/2-B      Acquired: 5/6/2015 10:34:14      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |                |               |               |               |                |
|--------|----------------|----------------|---------------|---------------|---------------|----------------|
| Elem   | Ag             | Al             | As            | B_            | Ba            | Be             |
| Line   | 328.068 {103}  | 308.215 {109}  | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108}  |
| IS Ref | (Y_3600)       | (Y_3710)       | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)       |
| Units  | ppm            | ppm            | ppm           | ppm           | ppm           | ppm            |
| Avg    | <b>-.00016</b> | <b>-.00095</b> | <b>.00150</b> | <b>.05529</b> | <b>.00087</b> | <b>-.00000</b> |
| Stddev | .00011         | .00401         | .00214        | .00041        | .00011        | .00002         |
| %RSD   | 70.174         | 421.98         | 143.13        | .74410        | 12.108        | 739.31         |

|    |                |                |                |               |               |                |
|----|----------------|----------------|----------------|---------------|---------------|----------------|
| #1 | <b>-.00028</b> | <b>-.00063</b> | <b>.00382</b>  | <b>.05500</b> | <b>.00099</b> | <b>-.00002</b> |
| #2 | <b>-.00012</b> | <b>.00289</b>  | <b>.00109</b>  | <b>.05510</b> | <b>.00081</b> | <b>.00002</b>  |
| #3 | <b>-.00007</b> | <b>-.00511</b> | <b>-.00041</b> | <b>.05576</b> | <b>.00081</b> | <b>-.00001</b> |

|            |                 |      |                 |      |                 |      |
|------------|-----------------|------|-----------------|------|-----------------|------|
| Check ?    | <b>Chk Pass</b> | None | <b>Chk Pass</b> | None | <b>Chk Pass</b> | None |
| High Limit |                 |      |                 |      |                 |      |
| Low Limit  |                 |      |                 |      |                 |      |

|        |               |                |               |                |                |               |
|--------|---------------|----------------|---------------|----------------|----------------|---------------|
| Elem   | Ca            | Cd             | Co            | Cr             | Cu             | Fe            |
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447} | 267.716 {126}  | 327.396 {103}  | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (In2306)      | (Y_3600)       | (Y_3710)       | (Y_3710)      |
| Units  | ppm           | ppm            | ppm           | ppm            | ppm            | ppm           |
| Avg    | <b>.31697</b> | <b>-.00007</b> | <b>.00001</b> | <b>-.00011</b> | <b>-.00034</b> | <b>.00429</b> |
| Stddev | .01397        | .00020         | .00022        | .00003         | .00117         | .00197        |
| %RSD   | 4.4058        | 288.59         | 1583.6        | 29.891         | 344.18         | 45.830        |

|    |               |                |                |                |                |               |
|----|---------------|----------------|----------------|----------------|----------------|---------------|
| #1 | <b>.33307</b> | <b>-.00029</b> | <b>-.00022</b> | <b>-.00008</b> | <b>-.00129</b> | <b>.00505</b> |
| #2 | <b>.30817</b> | <b>.00010</b>  | <b>.00023</b>  | <b>-.00014</b> | <b>.00096</b>  | <b>.00577</b> |
| #3 | <b>.30967</b> | <b>-.00002</b> | <b>.00003</b>  | <b>-.00010</b> | <b>-.00068</b> | <b>.00206</b> |

|            |      |                 |      |                 |      |      |
|------------|------|-----------------|------|-----------------|------|------|
| Check ?    | None | <b>Chk Pass</b> | None | <b>Chk Pass</b> | None | None |
| High Limit |      |                 |      |                 |      |      |
| Low Limit  |      |                 |      |                 |      |      |

Sample Name: LB 180-140483/2-B      Acquired: 5/6/2015 10:34:14      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .11767        | -.00092       | .07700        | .00010        | -.00005       | 149.60        |
| Stddev | .03770        | .00046        | .01975        | .00001        | .00017        | 5.71          |
| %RSD   | 32.036        | 50.089        | 25.647        | 13.560        | 304.66        | 3.8165        |

|    |        |         |        |        |         |        |
|----|--------|---------|--------|--------|---------|--------|
| #1 | .15580 | -.00142 | .06226 | .00011 | .00000  | 156.19 |
| #2 | .08041 | -.00051 | .09944 | .00008 | -.00024 | 146.32 |
| #3 | .11681 | -.00083 | .06930 | .00010 | .00007  | 146.28 |

|            |      |      |      |      |      |      |
|------------|------|------|------|------|------|------|
| Check ?    | None | None | None | None | None | None |
| High Limit |      |      |      |      |      |      |
| Low Limit  |      |      |      |      |      |      |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00018        | .00013        | -.00071       | .00130        | .05841        | .00043        |
| Stddev | .00021        | .00054        | .00111        | .00070        | .00383        | .00065        |
| %RSD   | 117.44        | 405.15        | 155.79        | 53.689        | 6.5509        | 150.89        |

|    |         |         |         |        |        |        |
|----|---------|---------|---------|--------|--------|--------|
| #1 | .00031  | -.00047 | .00015  | .00077 | .06283 | .00003 |
| #2 | .00029  | .00058  | -.00196 | .00104 | .05643 | .00008 |
| #3 | -.00006 | .00030  | -.00032 | .00209 | .05599 | .00118 |

|            |      |          |      |          |      |      |
|------------|------|----------|------|----------|------|------|
| Check ?    | None | Chk Pass | None | Chk Pass | None | None |
| High Limit |      |          |      |          |      |      |
| Low Limit  |      |          |      |          |      |      |



Sample Name: LB 180-140483/2-B      Acquired: 5/6/2015 10:34:14      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |                |               |               |
|--------|----------------|---------------|----------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti             | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>-.00029</b> | <b>.00020</b> | <b>-.00057</b> | <b>.00341</b> | <b>.00174</b> |
| Stddev | .00538         | .00004        | .00101         | .00278        | .00004        |
| %RSD   | 1861.2         | 21.727        | 178.16         | 81.443        | 2.5190        |

|    |                |               |                |               |               |
|----|----------------|---------------|----------------|---------------|---------------|
| #1 | <b>-.00338</b> | <b>.00017</b> | <b>-.00119</b> | <b>.00662</b> | <b>.00169</b> |
| #2 | <b>-.00341</b> | <b>.00018</b> | <b>-.00110</b> | <b>.00194</b> | <b>.00175</b> |
| #3 | <b>.00592</b>  | <b>.00025</b> | <b>.00060</b>  | <b>.00168</b> | <b>.00177</b> |

|            |      |      |      |      |      |
|------------|------|------|------|------|------|
| Check ?    | None | None | None | None | None |
| High Limit |      |      |      |      |      |
| Low Limit  |      |      |      |      |      |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2919.6</b> | <b>5215.5</b> | <b>75296.</b> | <b>10720.</b> |
| Stddev    | 5.8           | 3.8           | 134.          | 335.          |
| %RSD      | .19876        | .07279        | .17853        | 3.1268        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>2925.6</b> | <b>5212.5</b> | <b>75285.</b> | <b>10337.</b> |
| #2 | <b>2914.1</b> | <b>5219.7</b> | <b>75167.</b> | <b>10961.</b> |
| #3 | <b>2919.0</b> | <b>5214.3</b> | <b>75435.</b> | <b>10861.</b> |

Sample Name: LCS 180-140575/2-A      Acquired: 5/6/2015 10:39:23      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05169        | 2.0007        | .51149        | 1.0517        | 1.9977        | .05001        |
| Stddev | .00018        | .0153         | .00197        | .0017         | .0065         | .00006        |
| %RSD   | .34664        | .76541        | .38462        | .16350        | .32503        | .12326        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .05187 | 1.9929 | .51328 | 1.0532 | 2.0023 | .05007 |
| #2 | .05167 | 2.0183 | .51181 | 1.0521 | 1.9902 | .04995 |
| #3 | .05152 | 1.9908 | .50938 | 1.0498 | 2.0005 | .05001 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 50.864        | .04960        | .50787        | .20045        | .24095        | F 1.2803      |
| Stddev | .044          | .00017        | .00049        | .00030        | .00065        | .0041         |
| %RSD   | .08620        | .33820        | .09638        | .14996        | .26833        | .31683        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 50.911 | .04947 | .50798 | .20014 | .24094 | 1.2778 |
| #2 | 50.825 | .04956 | .50733 | .20075 | .24160 | 1.2781 |
| #3 | 50.856 | .04979 | .50829 | .20045 | .24031 | 1.2850 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit |          |          |          |          |          | 1.2000   |
| Low Limit  |          |          |          |          |          | .80000   |

Sample Name: LCS 180-140575/2-A      Acquired: 5/6/2015 10:39:23      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>51.833</b> | <b>1.0142</b> | <b>51.533</b> | <b>.48421</b> | <b>1.0161</b> | <b>52.303</b> |
| Stddev | .084          | .0017         | .072          | .00099        | .0012         | .152          |
| %RSD   | .16191        | .16941        | .13933        | .20442        | .12231        | .29031        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 51.826 | 1.0151 | 51.453 | .48455 | 1.0176 | 52.391 |
| #2 | 51.752 | 1.0122 | 51.552 | .48309 | 1.0156 | 52.128 |
| #3 | 51.920 | 1.0153 | 51.593 | .48498 | 1.0152 | 52.391 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.50514</b> | <b>.49451</b> | <b>.51803</b> | <b>.50550</b> | <b>10.075</b> | <b>1.9602</b> |
| Stddev | .00114        | .00184        | .00325        | .00410        | .006          | .0027         |
| %RSD   | .22490        | .37271        | .62761        | .81197        | .05526        | .13582        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .50617 | .49633 | .52178 | .50808 | 10.072 | 1.9622 |
| #2 | .50392 | .49264 | .51620 | .50766 | 10.072 | 1.9612 |
| #3 | .50532 | .49456 | .51610 | .50077 | 10.081 | 1.9572 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: LCS 180-140575/2-A      Acquired: 5/6/2015 10:39:23      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.97570</b> | <b>.96952</b> | <b>.48697</b> | <b>.52894</b> | <b>.50258</b> |
| Stddev | .01125        | .00038        | .00114        | .00241        | .00137        |
| %RSD   | 1.1531        | .03959        | .23406        | .45477        | .27266        |

|    |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.98422</b> | <b>.96973</b> | <b>.48823</b> | <b>.52938</b> | <b>.50301</b> |
| #2 | <b>.96294</b> | <b>.96908</b> | <b>.48667</b> | <b>.53109</b> | <b>.50105</b> |
| #3 | <b>.97992</b> | <b>.96975</b> | <b>.48601</b> | <b>.52634</b> | <b>.50369</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2854.3</b> | <b>5232.0</b> | <b>75855.</b> | <b>11073.</b> |
| Stddev    | 2.5           | 4.9           | 115.          | 12.           |
| %RSD      | .08603        | .09443        | .15209        | .11239        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>2851.6</b> | <b>5227.9</b> | <b>75730.</b> | <b>11059.</b> |
| #2 | <b>2856.2</b> | <b>5230.6</b> | <b>75877.</b> | <b>11080.</b> |
| #3 | <b>2855.2</b> | <b>5237.5</b> | <b>75957.</b> | <b>11081.</b> |

Sample Name: LCSD 180-140575/3-A      Acquired: 5/6/2015 10:44:10      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05237        | 2.0190        | .50866        | 1.0405        | 1.9872        | .04910        |
| Stddev | .00037        | .0287         | .00267        | .0021         | .0027         | .00011        |
| %RSD   | .71150        | 1.4202        | .52533        | .19943        | .13770        | .22276        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .05217 | 2.0482 | .50727 | 1.0412 | 1.9844 | .04922 |
| #2 | .05214 | 1.9909 | .51174 | 1.0420 | 1.9898 | .04908 |
| #3 | .05280 | 2.0180 | .50696 | 1.0381 | 1.9875 | .04901 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 51.055        | .04932        | .50810        | .20526        | .24471        | 1.0485        |
| Stddev | .165          | .00031        | .00096        | .00068        | .00152        | .0063         |
| %RSD   | .32414        | .63302        | .18810        | .33186        | .62284        | .59569        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 50.868 | .04961 | .50915 | .20522 | .24419 | 1.0436 |
| #2 | 51.117 | .04936 | .50784 | .20459 | .24352 | 1.0556 |
| #3 | 51.181 | .04899 | .50730 | .20595 | .24643 | 1.0464 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: LCSD 180-140575/3-A      Acquired: 5/6/2015 10:44:10      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>51.011</b> | <b>1.0165</b> | <b>50.795</b> | <b>.48353</b> | <b>1.0072</b> | <b>52.076</b> |
| Stddev | .064          | .0026         | .145          | .00246        | .0016         | .086          |
| %RSD   | .12584        | .26004        | .28635        | .50895        | .15824        | .16528        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>50.938</b> | <b>1.0173</b> | <b>50.627</b> | <b>.48315</b> | <b>1.0067</b> | <b>51.990</b> |
| #2 | <b>51.059</b> | <b>1.0186</b> | <b>50.882</b> | <b>.48128</b> | <b>1.0090</b> | <b>52.162</b> |
| #3 | <b>51.037</b> | <b>1.0135</b> | <b>50.876</b> | <b>.48616</b> | <b>1.0059</b> | <b>52.076</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.50058</b> | <b>.48748</b> | <b>.51126</b> | <b>.49651</b> | <b>10.001</b> | <b>1.9412</b> |
| Stddev | .00080        | .00077        | .00179        | .00042        | .045          | .0039         |
| %RSD   | .15898        | .15818        | .34990        | .08367        | .45442        | .20158        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.50048</b> | <b>.48806</b> | <b>.51313</b> | <b>.49618</b> | <b>9.9520</b> | <b>1.9428</b> |
| #2 | <b>.50142</b> | <b>.48778</b> | <b>.51108</b> | <b>.49638</b> | <b>10.041</b> | <b>1.9440</b> |
| #3 | <b>.49983</b> | <b>.48661</b> | <b>.50957</b> | <b>.49698</b> | <b>10.011</b> | <b>1.9367</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

Sample Name: LCSD 180-140575/3-A      Acquired: 5/6/2015 10:44:10      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .95949        | .96905        | .48221        | .53711        | .50207        |
| Stddev | .00546        | .00384        | .00101        | .00248        | .00083        |
| %RSD   | .56916        | .39670        | .20865        | .46177        | .16448        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .96448 | .96806 | .48297 | .53677 | .50255 |
| #2 | .95366 | .96579 | .48259 | .53975 | .50255 |
| #3 | .96034 | .97329 | .48107 | .53482 | .50112 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2870.8        | 5259.4        | 75251.        | 11009.        |
| Stddev    | 4.0           | 7.4           | 83.           | 45.           |
| %RSD      | .13958        | .14151        | .11040        | .40933        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2871.4 | 5264.9 | 75331. | 11015. |
| #2 | 2866.5 | 5250.9 | 75165. | 11050. |
| #3 | 2874.4 | 5262.4 | 75257. | 10961. |

Sample Name: 180-43622-A-1-B      Acquired: 5/6/2015 10:48:59      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00018        | .00146        | .00319        | .05042        | .00131        | -.00003       |
| Stddev | .00066        | .00528        | .00204        | .00025        | .00013        | .00005        |
| %RSD   | 362.61        | 362.71        | 64.064        | .50060        | 10.113        | 163.02        |

|    |         |         |        |        |        |         |
|----|---------|---------|--------|--------|--------|---------|
| #1 | -.00039 | .00315  | .00270 | .05052 | .00136 | -.00007 |
| #2 | .00090  | -.00447 | .00543 | .05060 | .00140 | .00003  |
| #3 | .00003  | .00568  | .00143 | .05013 | .00116 | -.00006 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .28105        | -.00003       | .00022        | -.00004       | .00093        | .01221        |
| Stddev | .00187        | .00010        | .00022        | .00014        | .00002        | .00081        |
| %RSD   | .66476        | 318.56        | 100.47        | 360.18        | 2.1779        | 6.6127        |

|    |        |         |        |         |        |        |
|----|--------|---------|--------|---------|--------|--------|
| #1 | .28050 | .00008  | .00003 | -.00018 | .00093 | .01235 |
| #2 | .27952 | -.00007 | .00017 | -.00004 | .00096 | .01294 |
| #3 | .28313 | -.00011 | .00047 | .00010  | .00092 | .01135 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43622-A-1-B      Acquired: 5/6/2015 10:48:59      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.14886</b> | <b>.00055</b> | <b>.07700</b> | <b>.00010</b> | <b>.00108</b> | <b>144.52</b> |
| Stddev | .03288        | .00087        | .01538        | .00004        | .00013        | .43           |
| %RSD   | 22.091        | 157.03        | 19.977        | 37.969        | 12.093        | .30051        |

|    |               |                |               |               |               |               |
|----|---------------|----------------|---------------|---------------|---------------|---------------|
| #1 | <b>.18142</b> | <b>.00125</b>  | <b>.05963</b> | <b>.00009</b> | <b>.00123</b> | <b>144.83</b> |
| #2 | <b>.14950</b> | <b>-.00042</b> | <b>.08889</b> | <b>.00007</b> | <b>.00098</b> | <b>144.02</b> |
| #3 | <b>.11566</b> | <b>.00082</b>  | <b>.08248</b> | <b>.00014</b> | <b>.00104</b> | <b>144.71</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |                |               |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb             | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455}  | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>.41242</b> | <b>.23224</b> | <b>-.00190</b> | <b>.00029</b> | <b>.05298</b> | <b>.00470</b> |
| Stddev | .00177        | .00076        | .00153         | .00174        | .00662        | .00040        |
| %RSD   | .43002        | .32811        | 80.431         | 590.83        | 12.496        | 8.5662        |

|    |               |               |                |                |               |               |
|----|---------------|---------------|----------------|----------------|---------------|---------------|
| #1 | <b>.41082</b> | <b>.23219</b> | <b>-.00343</b> | <b>-.00087</b> | <b>.04879</b> | <b>.00464</b> |
| #2 | <b>.41210</b> | <b>.23302</b> | <b>-.00188</b> | <b>.00230</b>  | <b>.06061</b> | <b>.00433</b> |
| #3 | <b>.41433</b> | <b>.23150</b> | <b>-.00038</b> | <b>-.00054</b> | <b>.04954</b> | <b>.00513</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43622-A-1-B      Acquired: 5/6/2015 10:48:59      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00344</b> | <b>.00040</b> | <b>.00027</b> | <b>.00260</b> | <b>.00125</b> |
| Stddev | .00385         | .00017        | .00121        | .00071        | .00006        |
| %RSD   | 111.87         | 43.036        | 450.66        | 27.520        | 4.8658        |

|    |                |               |                |               |               |
|----|----------------|---------------|----------------|---------------|---------------|
| #1 | <b>-.00735</b> | <b>.00020</b> | <b>-.00106</b> | <b>.00332</b> | <b>.00118</b> |
| #2 | <b>.00036</b>  | <b>.00046</b> | <b>.00132</b>  | <b>.00190</b> | <b>.00125</b> |
| #3 | <b>-.00334</b> | <b>.00052</b> | <b>.00054</b>  | <b>.00257</b> | <b>.00131</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2945.5</b> | <b>5250.9</b> | <b>75434.</b> | <b>11065.</b> |
| Stddev    | .3            | 7.2           | 347.          | 43.           |
| %RSD      | .01017        | .13718        | .45965        | .38438        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2945.1 | 5256.9 | 75689. | 11044. |
| #2 | 2945.6 | 5252.7 | 75040. | 11114. |
| #3 | 2945.6 | 5242.9 | 75574. | 11037. |

Sample Name: 180-43622-A-1-B SD@5      Acquired: 5/6/2015 10:54:07      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00005        | -.00200       | .00111        | .01071        | .00033        | .00001        |
| Stddev | .00040        | .00688        | .00073        | .00026        | .00016        | .00006        |
| %RSD   | 866.59        | 343.34        | 66.352        | 2.4058        | 47.951        | 644.35        |

|    |         |         |        |        |        |         |
|----|---------|---------|--------|--------|--------|---------|
| #1 | .00010  | .00172  | .00045 | .01072 | .00047 | .00007  |
| #2 | .00042  | -.00995 | .00096 | .01096 | .00037 | -.00000 |
| #3 | -.00038 | .00221  | .00190 | .01045 | .00016 | -.00004 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .06974        | .00003        | -.00004       | -.00024       | .00032        | .00398        |
| Stddev | .00241        | .00012        | .00012        | .00026        | .00053        | .00169        |
| %RSD   | 3.4537        | 376.53        | 261.67        | 106.87        | 164.58        | 42.509        |

|    |        |         |         |         |         |        |
|----|--------|---------|---------|---------|---------|--------|
| #1 | .06828 | -.00007 | .00008  | -.00022 | .00087  | .00330 |
| #2 | .06842 | .00016  | -.00015 | -.00051 | .00028  | .00590 |
| #3 | .07252 | .00000  | -.00006 | .00000  | -.00019 | .00273 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43622-A-1-B SD@5      Acquired: 5/6/2015 10:54:07      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .04856        | -.00022       | .03280        | .00003        | .00028        | 30.632        |
| Stddev | .02264        | .00049        | .01005        | .00004        | .00016        | .028          |
| %RSD   | 46.631        | 221.34        | 30.628        | 141.22        | 58.660        | .09002        |

|    |        |         |        |         |        |        |
|----|--------|---------|--------|---------|--------|--------|
| #1 | .03028 | -.00011 | .02235 | .00006  | .00028 | 30.604 |
| #2 | .07389 | -.00076 | .04239 | -.00001 | .00044 | 30.631 |
| #3 | .04150 | .00020  | .03365 | .00003  | .00012 | 30.660 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .08416        | .04812        | -.00028       | .00059        | .00962        | .00143        |
| Stddev | .00025        | .00126        | .00067        | .00094        | .00387        | .00051        |
| %RSD   | .29427        | 2.6224        | 240.38        | 160.43        | 40.201        | 35.383        |

|    |        |        |         |         |        |        |
|----|--------|--------|---------|---------|--------|--------|
| #1 | .08425 | .04727 | -.00075 | .00127  | .01378 | .00184 |
| #2 | .08388 | .04957 | -.00057 | .00099  | .00614 | .00159 |
| #3 | .08434 | .04753 | .00049  | -.00049 | .00893 | .00087 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43622-A-1-B SD@5      Acquired: 5/6/2015 10:54:07      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00255</b> | <b>.00014</b> | <b>.00109</b> | <b>.00325</b> | <b>.00076</b> |
| Stddev | .00405         | .00014        | .00070        | .00145        | .00006        |
| %RSD   | 158.79         | 96.512        | 64.105        | 44.538        | 8.2214        |

|    |         |        |        |        |        |
|----|---------|--------|--------|--------|--------|
| #1 | .00095  | .00012 | .00185 | .00479 | .00082 |
| #2 | -.00699 | .00029 | .00093 | .00192 | .00069 |
| #3 | -.00162 | .00002 | .00049 | .00304 | .00077 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3144.9</b> | <b>5424.2</b> | <b>79174.</b> | <b>11124.</b> |
| Stddev    | 1.7           | 2.1           | 154.          | 19.           |
| %RSD      | .05324        | .03867        | .19451        | .17082        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3145.8 | 5421.8 | 79304. | 11108. |
| #2 | 3145.9 | 5425.2 | 79214. | 11145. |
| #3 | 3142.9 | 5425.6 | 79004. | 11119. |

Sample Name: MB 180-140574/1-A      Acquired: 5/6/2015 10:59:16      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00035        | -.01414       | .00071        | .00053        | .00006        | -.00004       |
| Stddev | .00028        | .00450        | .00093        | .00005        | .00018        | .00003        |
| %RSD   | 79.404        | 31.828        | 130.65        | 10.422        | 301.79        | 81.507        |

|    |        |         |        |        |         |         |
|----|--------|---------|--------|--------|---------|---------|
| #1 | .00005 | -.01934 | .00036 | .00059 | .00022  | -.00000 |
| #2 | .00040 | -.01148 | .00176 | .00050 | -.00014 | -.00005 |
| #3 | .00059 | -.01161 | .00001 | .00049 | .00010  | -.00007 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00541       | -.00002       | -.00005       | -.00022       | .00075        | .00300        |
| Stddev | .00043        | .00007        | .00027        | .00029        | .00022        | .00067        |
| %RSD   | 7.8644        | 325.95        | 527.77        | 130.25        | 28.958        | 22.234        |

|    |         |         |         |         |        |        |
|----|---------|---------|---------|---------|--------|--------|
| #1 | -.00540 | .00004  | -.00030 | .00010  | .00077 | .00224 |
| #2 | -.00499 | -.00001 | .00023  | -.00031 | .00095 | .00347 |
| #3 | -.00584 | -.00010 | -.00008 | -.00045 | .00052 | .00329 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: MB 180-140574/1-A      Acquired: 5/6/2015 10:59:16      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .01820        | -.00077       | .00022        | .00006        | .00003        | .05675        |
| Stddev | .01177        | .00053        | .01121        | .00002        | .00014        | .00848        |
| %RSD   | 64.685        | 67.841        | 5184.8        | 33.414        | 443.85        | 14.949        |

|    |        |         |         |        |         |        |
|----|--------|---------|---------|--------|---------|--------|
| #1 | .01776 | -.00060 | -.01153 | .00008 | -.00013 | .04988 |
| #2 | .03018 | -.00036 | .01080  | .00005 | .00012  | .05414 |
| #3 | .00665 | -.00137 | .00137  | .00005 | .00010  | .06623 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00016       | .00001        | -.00164       | .00025        | .01236        | .00077        |
| Stddev | .00010        | .00024        | .00138        | .00173        | .00435        | .00067        |
| %RSD   | 66.415        | 1846.4        | 84.093        | 694.04        | 35.180        | 87.175        |

|    |         |         |         |         |        |        |
|----|---------|---------|---------|---------|--------|--------|
| #1 | -.00009 | -.00011 | -.00254 | -.00147 | .01567 | .00007 |
| #2 | -.00028 | -.00015 | -.00232 | .00023  | .01398 | .00083 |
| #3 | -.00011 | .00029  | -.00005 | .00199  | .00743 | .00142 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: MB 180-140574/1-A      Acquired: 5/6/2015 10:59:16      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00507</b> | <b>.00015</b> | <b>.00082</b> | <b>.00362</b> | <b>.00001</b> |
| Stddev | .00060         | .00001        | .00059        | .00197        | .00010        |
| %RSD   | 11.817         | 7.7732        | 72.288        | 54.269        | 704.76        |

|    |                |               |               |               |                |
|----|----------------|---------------|---------------|---------------|----------------|
| #1 | <b>-.00560</b> | <b>.00016</b> | <b>.00035</b> | <b>.00554</b> | <b>-.00010</b> |
| #2 | <b>-.00442</b> | <b>.00015</b> | <b>.00062</b> | <b>.00161</b> | <b>.00009</b>  |
| #3 | <b>-.00519</b> | <b>.00014</b> | <b>.00148</b> | <b>.00372</b> | <b>.00004</b>  |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3344.7</b> | <b>5585.5</b> | <b>81607.</b> | <b>11230.</b> |
| Stddev    | 10.8          | 16.0          | 566.          | 70.           |
| %RSD      | .32251        | .28705        | .69375        | .62650        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>3335.7</b> | <b>5574.0</b> | <b>81278.</b> | <b>11233.</b> |
| #2 | <b>3341.8</b> | <b>5578.6</b> | <b>81282.</b> | <b>11298.</b> |
| #3 | <b>3356.6</b> | <b>5603.8</b> | <b>82260.</b> | <b>11157.</b> |



Sample Name: LCS 180-140574/2-A      Acquired: 5/6/2015 11:04:24      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05260        | 2.0173        | .50774        | 1.0471        | 1.9857        | .04917        |
| Stddev | .00017        | .0342         | .00219        | .0016         | .0020         | .00042        |
| %RSD   | .31917        | 1.6957        | .43120        | .15093        | .10201        | .84800        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .05246 | 1.9805 | .50525 | 1.0453 | 1.9862 | .04876 |
| #2 | .05278 | 2.0231 | .50937 | 1.0477 | 1.9874 | .04959 |
| #3 | .05256 | 2.0482 | .50859 | 1.0482 | 1.9835 | .04916 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 50.654        | .04970        | .50654        | .20447        | .24558        | 1.0496        |
| Stddev | .258          | .00014        | .00084        | .00112        | .00264        | .0109         |
| %RSD   | .50932        | .27407        | .16500        | .54565        | 1.0746        | 1.0404        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 50.361 | .04964 | .50751 | .20343 | .24256 | 1.0374 |
| #2 | 50.848 | .04985 | .50603 | .20565 | .24744 | 1.0583 |
| #3 | 50.753 | .04960 | .50609 | .20433 | .24673 | 1.0531 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: LCS 180-140574/2-A      Acquired: 5/6/2015 11:04:24      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>50.751</b> | <b>1.0221</b> | <b>50.435</b> | <b>.48467</b> | <b>1.0214</b> | <b>51.833</b> |
| Stddev | .237          | .0035         | .595          | .00638        | .0013         | .195          |
| %RSD   | .46608        | .34396        | 1.1802        | 1.3157        | .13069        | .37652        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 50.542 | 1.0180 | 49.805 | .47762 | 1.0199 | 51.648 |
| #2 | 51.008 | 1.0240 | 50.989 | .49003 | 1.0215 | 52.037 |
| #3 | 50.703 | 1.0243 | 50.509 | .48636 | 1.0226 | 51.813 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.50032</b> | <b>.49025</b> | <b>.51569</b> | <b>.50037</b> | <b>10.059</b> | <b>1.9635</b> |
| Stddev | .00053        | .00058        | .00044        | .00260        | .108          | .0024         |
| %RSD   | .10556        | .11926        | .08600        | .51989        | 1.0745        | .12013        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .50075 | .49084 | .51620 | .49756 | 9.9407 | 1.9614 |
| #2 | .50047 | .49023 | .51539 | .50084 | 10.153 | 1.9660 |
| #3 | .49973 | .48967 | .51548 | .50270 | 10.084 | 1.9632 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: LCS 180-140574/2-A      Acquired: 5/6/2015 11:04:24      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.95045</b> | <b>.97994</b> | <b>.48413</b> | <b>.52983</b> | <b>.49991</b> |
| Stddev | .01387        | .01246        | .00257        | .00573        | .00017        |
| %RSD   | 1.4593        | 1.2713        | .53073        | 1.0806        | .03438        |

|    |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.93768</b> | <b>.96635</b> | <b>.48268</b> | <b>.53439</b> | <b>.50010</b> |
| #2 | <b>.96521</b> | <b>.99082</b> | <b>.48710</b> | <b>.52341</b> | <b>.49986</b> |
| #3 | <b>.94846</b> | <b>.98264</b> | <b>.48261</b> | <b>.53170</b> | <b>.49976</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2865.4</b> | <b>5235.7</b> | <b>75154.</b> | <b>10954.</b> |
| Stddev    | 3.6           | 4.6           | 64.           | 124.          |
| %RSD      | .12731        | .08867        | .08532        | 1.1359        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>2862.4</b> | <b>5239.8</b> | <b>75224.</b> | <b>11088.</b> |
| #2 | <b>2864.2</b> | <b>5236.7</b> | <b>75099.</b> | <b>10843.</b> |
| #3 | <b>2869.5</b> | <b>5230.7</b> | <b>75140.</b> | <b>10929.</b> |

Sample Name: LCSD 180-140574/3-A      Acquired: 5/6/2015 11:09:11      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05222        | 2.0405        | .52882        | 1.0882        | 2.0279        | .05083        |
| Stddev | .00053        | .0162         | .00424        | .0065         | .0027         | .00006        |
| %RSD   | 1.0184        | .79301        | .80120        | .59244        | .13343        | .11216        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .05197 | 2.0407 | .52605 | 1.0822 | 2.0257 | .05084 |
| #2 | .05186 | 2.0242 | .53369 | 1.0950 | 2.0271 | .05076 |
| #3 | .05283 | 2.0566 | .52671 | 1.0873 | 2.0309 | .05087 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 51.767        | .05118        | .52069        | .20522        | .24864        | 1.0814        |
| Stddev | .184          | .00048        | .00234        | .00060        | .00233        | .0039         |
| %RSD   | .35612        | .93680        | .44877        | .29248        | .93873        | .36304        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 51.830 | .05075 | .51961 | .20461 | .25013 | 1.0854 |
| #2 | 51.560 | .05170 | .52337 | .20581 | .24595 | 1.0775 |
| #3 | 51.912 | .05110 | .51909 | .20525 | .24985 | 1.0813 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: LCSD 180-140574/3-A      Acquired: 5/6/2015 11:09:11      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>52.421</b> | <b>1.0382</b> | <b>52.183</b> | <b>.49355</b> | <b>1.0609</b> | <b>53.284</b> |
| Stddev | .101          | .0045         | .129          | .00424        | .0048         | .080          |
| %RSD   | .19177        | .43190        | .24761        | .85929        | .45597        | .14967        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 52.405 | 1.0341 | 52.269 | .49809 | 1.0554 | 53.274 |
| #2 | 52.329 | 1.0376 | 52.034 | .48968 | 1.0644 | 53.210 |
| #3 | 52.528 | 1.0430 | 52.245 | .49290 | 1.0630 | 53.368 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.51935</b> | <b>.50704</b> | <b>.53871</b> | <b>.52722</b> | <b>10.311</b> | <b>2.0281</b> |
| Stddev | .00243        | .00365        | .00439        | .00312        | .020          | .0106         |
| %RSD   | .46817        | .71914        | .81436        | .59149        | .19789        | .52361        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .51747 | .50403 | .53453 | .52584 | 10.312 | 2.0173 |
| #2 | .52210 | .51109 | .54328 | .53079 | 10.290 | 2.0385 |
| #3 | .51848 | .50600 | .53833 | .52503 | 10.330 | 2.0286 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: LCSD 180-140574/3-A      Acquired: 5/6/2015 11:09:11      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.98807</b> | <b>.99819</b> | <b>.50069</b> | <b>.54089</b> | <b>.51650</b> |
| Stddev | .00252        | .00934        | .00434        | .00209        | .00178        |
| %RSD   | .25504        | .93521        | .86731        | .38679        | .34376        |

|    |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.99089</b> | <b>1.0071</b> | <b>.49569</b> | <b>.53855</b> | <b>.51556</b> |
| #2 | <b>.98603</b> | <b>.98850</b> | <b>.50283</b> | <b>.54153</b> | <b>.51855</b> |
| #3 | <b>.98730</b> | <b>.99893</b> | <b>.50355</b> | <b>.54258</b> | <b>.51539</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2817.2</b> | <b>5141.8</b> | <b>75310.</b> | <b>10974.</b> |
| Stddev    | 15.4          | 25.7          | 72.           | 98.           |
| %RSD      | .54616        | .49992        | .09582        | .89122        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>2825.1</b> | <b>5158.5</b> | <b>75392.</b> | <b>10870.</b> |
| #2 | <b>2799.5</b> | <b>5112.2</b> | <b>75255.</b> | <b>11065.</b> |
| #3 | <b>2827.0</b> | <b>5154.6</b> | <b>75283.</b> | <b>10986.</b> |

Sample Name: CCV 1551842      Acquired: 5/6/2015 11:13:59      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.0612        | 25.844        | .53384        | 2.1187        | 2.0494        | 2.0796        |
| Stddev | .0051         | .101          | .00113        | .0057         | .0048         | .0049         |
| %RSD   | .48284        | .39180        | .21099        | .27029        | .23595        | .23716        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.0588 | 25.940 | .53499 | 2.1252 | 2.0546 | 2.0851 |
| #2 | 1.0671 | 25.738 | .53274 | 2.1169 | 2.0452 | 2.0756 |
| #3 | 1.0578 | 25.855 | .53377 | 2.1142 | 2.0483 | 2.0781 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 52.336        | .52430        | 2.1409        | 2.0472        | 1.9230        | 27.109        |
| Stddev | .116          | .00076        | .0010         | .0040         | .0074         | .059          |
| %RSD   | .22209        | .14430        | .04903        | .19568        | .38363        | .21616        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 52.407 | .52505 | 2.1410 | 2.0489 | 1.9274 | 27.172 |
| #2 | 52.202 | .52433 | 2.1420 | 2.0500 | 1.9145 | 27.098 |
| #3 | 52.400 | .52353 | 2.1399 | 2.0426 | 1.9271 | 27.056 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/6/2015 11:13:59      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>131.78</b> | <b>2.0511</b> | <b>53.112</b> | <b>1.9533</b> | <b>2.0240</b> | <b>131.67</b> |
| Stddev | .43           | .0035         | .108          | .0174         | .0022         | .37           |
| %RSD   | .32507        | .16954        | .20308        | .88956        | .10681        | .28100        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 132.25 | 2.0545 | 53.177 | 1.9620 | 2.0264 | 132.05 |
| #2 | 131.41 | 2.0475 | 52.987 | 1.9333 | 2.0232 | 131.31 |
| #3 | 131.67 | 2.0511 | 53.172 | 1.9646 | 2.0224 | 131.64 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>2.1266</b> | <b>.52178</b> | <b>.52155</b> | <b>.52366</b> | <b>2.0843</b> | <b>1.9663</b> |
| Stddev | .0025         | .00012        | .00189        | .00292        | .0167         | .0040         |
| %RSD   | .11692        | .02357        | .36145        | .55856        | .79896        | .20337        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 2.1294 | .52188 | .52369 | .52602 | 2.0720 | 1.9694 |
| #2 | 2.1254 | .52164 | .52014 | .52457 | 2.0776 | 1.9677 |
| #3 | 2.1249 | .52181 | .52082 | .52039 | 2.1032 | 1.9618 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |



Sample Name: CCV 1551842      Acquired: 5/6/2015 11:13:59      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>2.0139</b> | <b>1.9464</b> | <b>.99940</b> | <b>2.1933</b> | <b>2.0555</b> |
| Stddev | .0083         | .0124         | .00270        | .0096         | .0039         |
| %RSD   | .41268        | .63546        | .26972        | .43656        | .18815        |

|    |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>2.0119</b> | <b>1.9542</b> | <b>1.0025</b> | <b>2.1848</b> | <b>2.0585</b> |
| #2 | <b>2.0068</b> | <b>1.9321</b> | <b>.99815</b> | <b>2.2037</b> | <b>2.0511</b> |
| #3 | <b>2.0230</b> | <b>1.9528</b> | <b>.99756</b> | <b>2.1915</b> | <b>2.0568</b> |

|         |                 |                 |                 |                 |                 |
|---------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ? | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| Value   |                 |                 |                 |                 |                 |
| Range   |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2702.6</b> | <b>5183.9</b> | <b>74147.</b> | <b>10904.</b> |
| Stddev    | 1.2           | 7.9           | 71.           | 70.           |
| %RSD      | .04309        | .15211        | .09554        | .64492        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>2701.3</b> | <b>5174.8</b> | <b>74203.</b> | <b>10878.</b> |
| #2 | <b>2703.0</b> | <b>5189.0</b> | <b>74067.</b> | <b>10984.</b> |
| #3 | <b>2703.5</b> | <b>5187.9</b> | <b>74169.</b> | <b>10851.</b> |

Sample Name: CCB5      Acquired: 5/6/2015 11:18:45      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00008        | .00753        | .00191        | .00238        | .00045        | .00003        |
| Stddev | .00023        | .02102        | .00102        | .00008        | .00024        | .00005        |
| %RSD   | 282.13        | 279.27        | 53.746        | 3.4732        | 52.041        | 161.61        |

|    |         |         |        |        |        |         |
|----|---------|---------|--------|--------|--------|---------|
| #1 | .00006  | -.00749 | .00268 | .00230 | .00056 | .00002  |
| #2 | -.00014 | .03155  | .00229 | .00237 | .00061 | -.00001 |
| #3 | .00033  | -.00147 | .00075 | .00247 | .00018 | .00009  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .01201        | .00003        | .00013        | -.00020       | -.00014       | .00295        |
| Stddev | .00179        | .00008        | .00013        | .00006        | .00025        | .00037        |
| %RSD   | 14.878        | 332.16        | 100.49        | 28.455        | 177.23        | 12.482        |

|    |        |         |        |         |         |        |
|----|--------|---------|--------|---------|---------|--------|
| #1 | .01401 | -.00007 | .00002 | -.00023 | -.00000 | .00295 |
| #2 | .01056 | .00010  | .00009 | -.00024 | .00001  | .00259 |
| #3 | .01146 | .00004  | .00027 | -.00014 | -.00044 | .00332 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB5      Acquired: 5/6/2015 11:18:45      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .13856        | .00093        | -.00553       | .00008        | .00246        | .05673        |
| Stddev | .02123        | .00080        | .00792        | .00002        | .00041        | .00247        |
| %RSD   | 15.324        | 85.721        | 143.18        | 24.863        | 16.566        | 4.3624        |

|    |        |        |         |        |        |        |
|----|--------|--------|---------|--------|--------|--------|
| #1 | .14269 | .00001 | -.00981 | .00006 | .00279 | .05935 |
| #2 | .15743 | .00144 | .00361  | .00010 | .00257 | .05639 |
| #3 | .11557 | .00134 | -.01039 | .00009 | .00200 | .05444 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00028        | -.00024       | -.00191       | .00177        | -.00021       | .00089        |
| Stddev | .00061        | .00112        | .00031        | .00149        | .00156        | .00025        |
| %RSD   | 219.49        | 473.32        | 16.032        | 83.952        | 729.77        | 28.413        |

|    |         |         |         |        |         |        |
|----|---------|---------|---------|--------|---------|--------|
| #1 | .00080  | -.00018 | -.00216 | .00008 | .00118  | .00092 |
| #2 | -.00040 | .00085  | -.00157 | .00233 | .00008  | .00062 |
| #3 | .00044  | -.00139 | -.00200 | .00289 | -.00190 | .00113 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB5      Acquired: 5/6/2015 11:18:45      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00139</b> | <b>.00033</b> | <b>.00133</b> | <b>.00208</b> | <b>.00014</b> |
| Stddev | .00275         | .00016        | .00065        | .00204        | .00018        |
| %RSD   | 197.38         | 48.717        | 48.640        | 97.742        | 130.61        |

|    |                |               |               |                |                |
|----|----------------|---------------|---------------|----------------|----------------|
| #1 | <b>-.00160</b> | <b>.00015</b> | <b>.00137</b> | <b>.00293</b>  | <b>-.00000</b> |
| #2 | <b>-.00404</b> | <b>.00047</b> | <b>.00066</b> | <b>.00356</b>  | <b>.00008</b>  |
| #3 | <b>.00145</b>  | <b>.00037</b> | <b>.00195</b> | <b>-.00024</b> | <b>.00034</b>  |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3361.8</b> | <b>5594.8</b> | <b>80467.</b> | <b>11047.</b> |
| Stddev    | 3.3           | 3.7           | 371.          | 24.           |
| %RSD      | .09728        | .06574        | .46151        | .21928        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3361.1 | 5597.1 | 80217. | 11075. |
| #2 | 3358.9 | 5590.6 | 80289. | 11034. |
| #3 | 3365.3 | 5596.8 | 80893. | 11033. |

Sample Name: 180-43632-A-1-D      Acquired: 5/6/2015 11:23:56      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |                |
|--------|----------------|---------------|---------------|---------------|---------------|----------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be             |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108}  |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)       |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm            |
| Avg    | <b>-.00007</b> | <b>.00711</b> | <b>.00224</b> | <b>.06932</b> | <b>.00289</b> | <b>-.00001</b> |
| Stddev | .00057         | .02014        | .00025        | .00044        | .00012        | .00003         |
| %RSD   | 785.84         | 283.11        | 11.132        | .63503        | 4.2326        | 440.68         |

|    |         |         |        |        |        |         |
|----|---------|---------|--------|--------|--------|---------|
| #1 | .00057  | -.01611 | .00199 | .06931 | .00283 | .00001  |
| #2 | -.00053 | .01985  | .00224 | .06889 | .00281 | -.00003 |
| #3 | -.00026 | .01760  | .00248 | .06977 | .00303 | .00000  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |                |               |               |               |               |
|--------|---------------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd             | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>4.3047</b> | <b>-.00003</b> | <b>.00014</b> | <b>.00007</b> | <b>.00080</b> | <b>.13596</b> |
| Stddev | .0171         | .00012         | .00010        | .00010        | .00033        | .00246        |
| %RSD   | .39752        | 359.91         | 75.144        | 131.26        | 41.740        | 1.8067        |

|    |        |         |        |         |        |        |
|----|--------|---------|--------|---------|--------|--------|
| #1 | 4.3158 | .00007  | .00004 | .00018  | .00045 | .13791 |
| #2 | 4.2850 | -.00017 | .00024 | .00005  | .00112 | .13677 |
| #3 | 4.3134 | -.00000 | .00013 | -.00001 | .00083 | .13320 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43632-A-1-D      Acquired: 5/6/2015 11:23:56      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .64124        | .00254        | .60275        | .00188        | .00217        | 92.997        |
| Stddev | .04196        | .00142        | .01997        | .00004        | .00020        | .346          |
| %RSD   | 6.5439        | 55.974        | 3.3125        | 2.1458        | 9.2233        | .37208        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .62584 | .00325 | .62578 | .00189 | .00201 | 93.102 |
| #2 | .60915 | .00345 | .59218 | .00191 | .00211 | 92.611 |
| #3 | .68873 | .00090 | .59029 | .00183 | .00240 | 93.279 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00072        | .00034        | -.00175       | .00261        | 5.6196        | .00137        |
| Stddev | .00018        | .00079        | .00118        | .00082        | .0301         | .00007        |
| %RSD   | 25.297        | 233.87        | 67.406        | 31.487        | .53541        | 5.1789        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | .00087 | .00113  | -.00051 | .00278 | 5.6419 | .00130 |
| #2 | .00052 | -.00045 | -.00287 | .00334 | 5.5854 | .00136 |
| #3 | .00076 | .00033  | -.00187 | .00172 | 5.6315 | .00144 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43632-A-1-D      Acquired: 5/6/2015 11:23:56      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00690        | .00067        | -.00024       | .00403        | .00680        |
| Stddev | .00469        | .00010        | .00099        | .00469        | .00011        |
| %RSD   | 68.039        | 15.652        | 404.70        | 116.42        | 1.6644        |

|    |        |        |         |         |        |
|----|--------|--------|---------|---------|--------|
| #1 | .00363 | .00063 | -.00134 | -.00125 | .00679 |
| #2 | .00478 | .00058 | .00059  | .00771  | .00670 |
| #3 | .01227 | .00078 | .00001  | .00562  | .00692 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2961.4        | 5252.7        | 74893.        | 10696.        |
| Stddev    | 6.6           | 8.0           | 143.          | 73.           |
| %RSD      | .22291        | .15215        | .19121        | .68054        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2967.2 | 5253.5 | 74801. | 10620. |
| #2 | 2962.8 | 5260.3 | 74819. | 10765. |
| #3 | 2954.2 | 5244.3 | 75058. | 10703. |

Sample Name: 180-43675-A-1-C      Acquired: 5/6/2015 11:29:03      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |                |
|--------|----------------|---------------|---------------|---------------|---------------|----------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be             |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108}  |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)       |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm            |
| Avg    | <b>-.00030</b> | <b>.27262</b> | <b>.10758</b> | <b>5.5227</b> | <b>.84795</b> | <b>-.00026</b> |
| Stddev | .00039         | .00732        | .00034        | .0088         | .00294        | .00003         |
| %RSD   | 129.31         | 2.6842        | .31553        | .15925        | .34653        | 10.360         |

|    |                |               |               |               |               |                |
|----|----------------|---------------|---------------|---------------|---------------|----------------|
| #1 | <b>-.00010</b> | <b>.26988</b> | <b>.10725</b> | <b>5.5177</b> | <b>.84668</b> | <b>-.00026</b> |
| #2 | <b>-.00005</b> | <b>.28091</b> | <b>.10793</b> | <b>5.5328</b> | <b>.85131</b> | <b>-.00029</b> |
| #3 | <b>-.00076</b> | <b>.26707</b> | <b>.10757</b> | <b>5.5176</b> | <b>.84586</b> | <b>-.00023</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>37.867</b> | <b>.00203</b> | <b>.00385</b> | <b>.67306</b> | <b>.49918</b> | <b>107.26</b> |
| Stddev | .142          | .00029        | .00031        | .00422        | .00223        | .37           |
| %RSD   | .37453        | 14.274        | 8.0074        | .62625        | .44705        | .34462        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>37.711</b> | <b>.00235</b> | <b>.00420</b> | <b>.67693</b> | <b>.49744</b> | <b>106.85</b> |
| #2 | <b>37.904</b> | <b>.00179</b> | <b>.00370</b> | <b>.67369</b> | <b>.50170</b> | <b>107.37</b> |
| #3 | <b>37.987</b> | <b>.00194</b> | <b>.00364</b> | <b>.66857</b> | <b>.49841</b> | <b>107.57</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43675-A-1-C      Acquired: 5/6/2015 11:29:03      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 13.182        | .06031        | .25202        | .01596        | 1.1600        | F 1940.6      |
| Stddev | .093          | .00100        | .00717        | .00014        | .0025         | 17.5          |
| %RSD   | .70698        | 1.6662        | 2.8437        | .90809        | .21352        | .90118        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 13.074 | .05916 | .24951 | .01580 | 1.1615 | 1934.0 |
| #2 | 13.238 | .06081 | .26011 | .01607 | 1.1614 | 1960.4 |
| #3 | 13.233 | .06097 | .24645 | .01602 | 1.1572 | 1927.4 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit |          |          |          |          |          | 500.00   |
| Low Limit  |          |          |          |          |          | -5.0000  |

| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .07869        | .05290        | .28751        | .03007        | 11.403        | .01909        |
| Stddev | .00053        | .00106        | .00165        | .00139        | .041          | .00082        |
| %RSD   | .67006        | 1.9948        | .57366        | 4.6092        | .36000        | 4.3180        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .07878 | .05320 | .28771 | .02848 | 11.357 | .02003 |
| #2 | .07812 | .05173 | .28577 | .03071 | 11.417 | .01850 |
| #3 | .07916 | .05378 | .28905 | .03102 | 11.436 | .01874 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43675-A-1-C      Acquired: 5/6/2015 11:29:03      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05021        | .02097        | -.00900       | .12388        | .03793        |
| Stddev | .00356        | .00017        | .00170        | .00326        | .00039        |
| %RSD   | 7.0974        | .79481        | 18.898        | 2.6344        | 1.0407        |

|    |        |        |         |        |        |
|----|--------|--------|---------|--------|--------|
| #1 | .04616 | .02087 | -.00706 | .12739 | .03813 |
| #2 | .05158 | .02116 | -.01024 | .12331 | .03820 |
| #3 | .05289 | .02088 | -.00970 | .12094 | .03748 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2079.0        | 4269.4        | 58610.        | 10413.        |
| Stddev    | 6.0           | 9.0           | 104.          | 64.           |
| %RSD      | .28976        | .20992        | .17802        | .61896        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2072.4 | 4259.2 | 58495. | 10487. |
| #2 | 2080.5 | 4273.3 | 58637. | 10371. |
| #3 | 2084.1 | 4275.8 | 58698. | 10381. |

Sample Name: 180-43675-A-1-C@5      Acquired: 5/6/2015 11:34:12      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00013        | .04606        | .02068        | 1.0657        | .16319        | -.00008       |
| Stddev | .00051        | .00833        | .00019        | .0074         | .00034        | .00002        |
| %RSD   | 401.28        | 18.078        | .93648        | .69464        | .20922        | 31.441        |

|    |         |        |        |        |        |         |
|----|---------|--------|--------|--------|--------|---------|
| #1 | .00069  | .05073 | .02045 | 1.0718 | .16358 | -.00007 |
| #2 | -.00004 | .03645 | .02076 | 1.0677 | .16296 | -.00010 |
| #3 | -.00028 | .05102 | .02081 | 1.0575 | .16302 | -.00005 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 7.5525        | .00052        | .00096        | .13250        | .10326        | 21.485        |
| Stddev | .0306         | .00018        | .00008        | .00057        | .00108        | .168          |
| %RSD   | .40481        | 33.946        | 8.5134        | .43078        | 1.0504        | .78219        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 7.5186 | .00051 | .00092 | .13254 | .10210 | 21.297 |
| #2 | 7.5607 | .00070 | .00091 | .13304 | .10344 | 21.537 |
| #3 | 7.5781 | .00035 | .00106 | .13190 | .10425 | 21.621 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43675-A-1-C@5      Acquired: 5/6/2015 11:34:12      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 2.5298        | .01338        | .04976        | .00339        | .22737        | F 736.75      |
| Stddev | .0094         | .00055        | .00282        | .00003        | .00166        | 5.79          |
| %RSD   | .36969        | 4.0994        | 5.6599        | .79950        | .73080        | .78647        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 2.5388 | .01382 | .05214 | .00337 | .22925 | 730.09 |
| #2 | 2.5305 | .01277 | .05049 | .00339 | .22674 | 740.62 |
| #3 | 2.5201 | .01355 | .04666 | .00342 | .22611 | 739.53 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit |          |          |          |          |          | 500.00   |
| Low Limit  |          |          |          |          |          | -5.0000  |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .01461        | .00951        | .05415        | .00570        | 2.1850        | .00458        |
| Stddev | .00075        | .00025        | .00031        | .00195        | .0077         | .00059        |
| %RSD   | 5.1479        | 2.6302        | .57930        | 34.237        | .35352        | 12.897        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .01494 | .00929 | .05450 | .00391 | 2.1762 | .00516 |
| #2 | .01375 | .00947 | .05392 | .00541 | 2.1907 | .00398 |
| #3 | .01515 | .00978 | .05402 | .00778 | 2.1881 | .00460 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43675-A-1-C@5      Acquired: 5/6/2015 11:34:12      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .01018        | .00471        | -.00420       | .02623        | .00779        |
| Stddev | .00441        | .00005        | .00147        | .00072        | .00003        |
| %RSD   | 43.305        | 1.1132        | 34.957        | 2.7304        | .41391        |

|    |        |        |         |        |        |
|----|--------|--------|---------|--------|--------|
| #1 | .01508 | .00472 | -.00410 | .02705 | .00775 |
| #2 | .00891 | .00477 | -.00278 | .02578 | .00782 |
| #3 | .00655 | .00466 | -.00572 | .02585 | .00780 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2594.0        | 4989.4        | 69610.        | 11039.        |
| Stddev    | 4.1           | 10.0          | 178.          | 120.          |
| %RSD      | .15712        | .19961        | .25568        | 1.0891        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2589.5 | 4979.5 | 69761. | 11172. |
| #2 | 2595.1 | 4989.3 | 69414. | 11004. |
| #3 | 2597.5 | 4999.4 | 69655. | 10939. |

Sample Name: 180-43676-A-1-C      Acquired: 5/6/2015 11:39:24      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | Ag             | Al             | As            | B_            | Ba            | Be             |
|--------|----------------|----------------|---------------|---------------|---------------|----------------|
| Line   | 328.068 {103}  | 308.215 {109}  | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108}  |
| IS Ref | (Y_3600)       | (Y_3710)       | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)       |
| Units  | ppm            | ppm            | ppm           | ppm           | ppm           | ppm            |
| Avg    | <b>-.00016</b> | <b>-.00688</b> | <b>.00307</b> | <b>.37287</b> | <b>.25262</b> | <b>-.00004</b> |
| Stddev | .00040         | .02414         | .00047        | .00107        | .00069        | .00005         |
| %RSD   | 243.72         | 350.91         | 15.417        | .28576        | .27351        | 141.36         |

|    |         |         |        |        |        |         |
|----|---------|---------|--------|--------|--------|---------|
| #1 | .00002  | -.03083 | .00307 | .37183 | .25287 | -.00005 |
| #2 | .00011  | -.00727 | .00354 | .37396 | .25316 | -.00008 |
| #3 | -.00062 | .01746  | .00260 | .37284 | .25185 | .00002  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ca            | Cd             | Co            | Cr             | Cu             | Fe            |
|--------|---------------|----------------|---------------|----------------|----------------|---------------|
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447} | 267.716 {126}  | 327.396 {103}  | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (In2306)      | (Y_3600)       | (Y_3710)       | (Y_3710)      |
| Units  | ppm           | ppm            | ppm           | ppm            | ppm            | ppm           |
| Avg    | <b>32.451</b> | <b>-.00006</b> | <b>.00501</b> | <b>-.00008</b> | <b>-.00123</b> | <b>1.7099</b> |
| Stddev | .062          | .00012         | .00042        | .00004         | .00041         | .0033         |
| %RSD   | .19150        | 215.98         | 8.3812        | 44.289         | 33.629         | .19123        |

|    |        |         |        |         |         |        |
|----|--------|---------|--------|---------|---------|--------|
| #1 | 32.513 | .00003  | .00457 | -.00006 | -.00079 | 1.7136 |
| #2 | 32.452 | -.00020 | .00506 | -.00012 | -.00162 | 1.7091 |
| #3 | 32.389 | -.00001 | .00541 | -.00006 | -.00129 | 1.7072 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43676-A-1-C      Acquired: 5/6/2015 11:39:24      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 67.552        | .01450        | 5.7350        | .15326        | .00289        | F 848.14      |
| Stddev | .098          | .00081        | .0429         | .00025        | .00031        | 11.70         |
| %RSD   | .14555        | 5.6125        | .74872        | .16199        | 10.582        | 1.3790        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 67.664 | .01398 | 5.7846 | .15348 | .00256 | 858.21 |
| #2 | 67.480 | .01408 | 5.7109 | .15331 | .00315 | 850.89 |
| #3 | 67.511 | .01544 | 5.7095 | .15299 | .00297 | 835.31 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit |          |          |          |          |          | 500.00   |
| Low Limit  |          |          |          |          |          | -5.0000  |

| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .01297        | .00116        | -.00010       | -.00134       | .67552        | .00073        |
| Stddev | .00039        | .00152        | .00205        | .00044        | .00272        | .00026        |
| %RSD   | 2.9728        | 131.90        | 2061.3        | 33.168        | .40254        | 35.219        |

|    |        |         |         |         |        |        |
|----|--------|---------|---------|---------|--------|--------|
| #1 | .01260 | .00283  | .00050  | -.00162 | .67856 | .00101 |
| #2 | .01337 | .00077  | .00159  | -.00083 | .67467 | .00051 |
| #3 | .01294 | -.00014 | -.00239 | -.00157 | .67332 | .00066 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43676-A-1-C      Acquired: 5/6/2015 11:39:24      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |                |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti             | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>.56131</b> | <b>.00026</b> | <b>-.00130</b> | <b>.00228</b> | <b>.10340</b> |
| Stddev | .00279        | .00019        | .00072         | .00123        | .00078        |
| %RSD   | .49737        | 72.481        | 55.435         | 54.170        | .75492        |

|    |               |               |                |               |               |
|----|---------------|---------------|----------------|---------------|---------------|
| #1 | <b>.56385</b> | <b>.00017</b> | <b>-.00083</b> | <b>.00196</b> | <b>.10402</b> |
| #2 | <b>.56175</b> | <b>.00048</b> | <b>-.00094</b> | <b>.00364</b> | <b>.10252</b> |
| #3 | <b>.55832</b> | <b>.00013</b> | <b>-.00213</b> | <b>.00123</b> | <b>.10365</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2513.3</b> | <b>4916.8</b> | <b>67812.</b> | <b>10768.</b> |
| Stddev    | 2.3           | 8.3           | 134.          | 24.           |
| %RSD      | .09093        | .16981        | .19695        | .22077        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>2515.4</b> | <b>4926.1</b> | <b>67662.</b> | <b>10750.</b> |
| #2 | <b>2513.6</b> | <b>4909.9</b> | <b>67856.</b> | <b>10758.</b> |
| #3 | <b>2510.9</b> | <b>4914.5</b> | <b>67918.</b> | <b>10795.</b> |



Sample Name: 180-43677-A-1-C      Acquired: 5/6/2015 11:44:38      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00077        | 17.199        | .08346        | 5.1876        | .94052        | -.00019       |
| Stddev | .00038        | .117          | .00166        | .0065         | .00164        | .00004        |
| %RSD   | 49.094        | .68178        | 1.9890        | .12469        | .17390        | 20.211        |

|    |        |        |        |        |        |         |
|----|--------|--------|--------|--------|--------|---------|
| #1 | .00102 | 17.069 | .08529 | 5.1951 | .93894 | -.00023 |
| #2 | .00034 | 17.297 | .08302 | 5.1839 | .94042 | -.00016 |
| #3 | .00096 | 17.231 | .08206 | 5.1838 | .94220 | -.00017 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 36.691        | .00396        | .00497        | .38019        | 3.2453        | 91.990        |
| Stddev | .110          | .00007        | .00040        | .00139        | .0229         | .259          |
| %RSD   | .29925        | 1.8740        | 8.0242        | .36514        | .70504        | .28127        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 36.564 | .00392 | .00533 | .38143 | 3.2371 | 91.695 |
| #2 | 36.764 | .00391 | .00505 | .37869 | 3.2712 | 92.101 |
| #3 | 36.743 | .00405 | .00454 | .38047 | 3.2277 | 92.176 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43677-A-1-C      Acquired: 5/6/2015 11:44:38      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|            |               |               |               |               |               |               |
|------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem       | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line       | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref     | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units      | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg        | 9.4963        | .21073        | .59318        | .18726        | 1.0011        | F 1750.8      |
| Stddev     | .0405         | .00141        | .03470        | .00157        | .0011         | 20.2          |
| %RSD       | .42625        | .66884        | 5.8495        | .83661        | .11409        | 1.1557        |
| #1         | 9.4585        | .20933        | .55322        | .18585        | 1.0011        | 1758.8        |
| #2         | 9.5390        | .21070        | .61059        | .18894        | .99992        | 1765.8        |
| #3         | 9.4913        | .21215        | .61572        | .18698        | 1.0022        | 1727.8        |
| Check ?    | Chk Pass      | Chk Pass      | Chk Pass      | Chk Pass      | Chk Pass      | Chk Fail      |
| High Limit |               |               |               |               |               | 500.00        |
| Low Limit  |               |               |               |               |               | -5.0000       |

|            |               |               |               |               |               |               |
|------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem       | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line       | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref     | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units      | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg        | .06261        | .09170        | .15165        | .03742        | .55682        | .67131        |
| Stddev     | .00112        | .00055        | .00031        | .00206        | .00977        | .00136        |
| %RSD       | 1.7925        | .60241        | .20771        | 5.4920        | 1.7554        | .20287        |
| #1         | .06383        | .09108        | .15151        | .03540        | .54555        | .67074        |
| #2         | .06237        | .09214        | .15143        | .03951        | .56288        | .67032        |
| #3         | .06162        | .09186        | .15201        | .03737        | .56204        | .67286        |
| Check ?    | Chk Pass      | Chk Pass      | Chk Pass      | Chk Pass      | Chk Pass      | Chk Pass      |
| High Limit |               |               |               |               |               |               |
| Low Limit  |               |               |               |               |               |               |

Sample Name: 180-43677-A-1-C      Acquired: 5/6/2015 11:44:38      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .06352        | .03705        | -.00643       | .08205        | .69624        |
| Stddev | .00459        | .00020        | .00105        | .00246        | .00364        |
| %RSD   | 7.2324        | .54560        | 16.362        | 2.9999        | .52294        |

|    |        |        |         |        |        |
|----|--------|--------|---------|--------|--------|
| #1 | .06316 | .03689 | -.00743 | .08331 | .69976 |
| #2 | .05912 | .03728 | -.00533 | .08364 | .69249 |
| #3 | .06829 | .03698 | -.00652 | .07922 | .69646 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2191.5        | 4489.5        | 62138.        | 10493.        |
| Stddev    | 3.4           | 6.6           | 214.          | 64.           |
| %RSD      | .15605        | .14798        | .34427        | .61241        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2189.6 | 4482.6 | 62133. | 10556. |
| #2 | 2189.6 | 4490.2 | 62354. | 10428. |
| #3 | 2195.5 | 4495.8 | 61926. | 10494. |

Sample Name: 180-43677-A-1-C@5      Acquired: 5/6/2015 11:49:46      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00014        | 3.3613        | .01542        | 1.0132        | .18412        | -.00006       |
| Stddev | .00028        | .0168         | .00115        | .0051         | .00074        | .00009        |
| %RSD   | 205.00        | .49911        | 7.4663        | .50051        | .40290        | 155.35        |

|    |         |        |        |        |        |         |
|----|---------|--------|--------|--------|--------|---------|
| #1 | .00032  | 3.3801 | .01445 | 1.0190 | .18497 | -.00013 |
| #2 | -.00019 | 3.3480 | .01669 | 1.0115 | .18380 | -.00008 |
| #3 | .00028  | 3.3558 | .01511 | 1.0093 | .18360 | .00004  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 7.3449        | .00065        | .00148        | .07436        | .67773        | 18.641        |
| Stddev | .0342         | .00007        | .00015        | .00057        | .00393        | .185          |
| %RSD   | .46520        | 11.530        | 9.9460        | .77068        | .57959        | .99352        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 7.3579 | .00073 | .00164 | .07440 | .67471 | 18.601 |
| #2 | 7.3707 | .00063 | .00145 | .07376 | .68217 | 18.843 |
| #3 | 7.3061 | .00059 | .00135 | .07491 | .67632 | 18.479 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43677-A-1-C@5      Acquired: 5/6/2015 11:49:46      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.8937        | .04114        | .11235        | .04051        | .19825        | F 544.02      |
| Stddev | .0520         | .00138        | .00919        | .00021        | .00086        | 6.14          |
| %RSD   | 2.7479        | 3.3558        | 8.1815        | .51875        | .43337        | 1.1283        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.9043 | .03983 | .10902 | .04036 | .19921 | 551.09 |
| #2 | 1.9396 | .04258 | .10529 | .04075 | .19756 | 540.89 |
| #3 | 1.8371 | .04101 | .12275 | .04042 | .19798 | 540.08 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit |          |          |          |          |          | 500.00   |
| Low Limit  |          |          |          |          |          | -5.0000  |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .01159        | .01878        | .02794        | .00774        | .11164        | .13717        |
| Stddev | .00003        | .00008        | .00151        | .00353        | .00434        | .00092        |
| %RSD   | .28186        | .40061        | 5.4126        | 45.539        | 3.8862        | .66734        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .01161 | .01886 | .02627 | .00420 | .11620 | .13816 |
| #2 | .01155 | .01872 | .02833 | .01125 | .11117 | .13635 |
| #3 | .01160 | .01877 | .02922 | .00778 | .10756 | .13698 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43677-A-1-C@5      Acquired: 5/6/2015 11:49:46      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .01134        | .00812        | -.00199       | .01678        | .13651        |
| Stddev | .00156        | .00013        | .00060        | .00122        | .00047        |
| %RSD   | 13.777        | 1.5666        | 30.086        | 7.2416        | .34132        |

|    |        |        |         |        |        |
|----|--------|--------|---------|--------|--------|
| #1 | .01247 | .00798 | -.00132 | .01798 | .13699 |
| #2 | .00956 | .00815 | -.00248 | .01680 | .13649 |
| #3 | .01200 | .00823 | -.00218 | .01555 | .13606 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2664.5        | 5104.4        | 71811.        | 10933.        |
| Stddev    | 6.9           | 11.3          | 261.          | 69.           |
| %RSD      | .25731        | .22160        | .36372        | .63042        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2669.2 | 5098.7 | 71527. | 10946. |
| #2 | 2656.7 | 5097.1 | 71865. | 10858. |
| #3 | 2667.7 | 5117.4 | 72040. | 10994. |

Sample Name: 180-43685-A-1-D      Acquired: 5/6/2015 11:54:56      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00003        | .07048        | .00552        | .90015        | .00382        | -.00008       |
| Stddev | .00030        | .02765        | .00118        | .00081        | .00014        | .00004        |
| %RSD   | 920.47        | 39.226        | 21.427        | .08952        | 3.6101        | 47.110        |

|    |         |        |        |        |        |         |
|----|---------|--------|--------|--------|--------|---------|
| #1 | .00035  | .09899 | .00458 | .90107 | .00376 | -.00007 |
| #2 | -.00024 | .06866 | .00512 | .89958 | .00397 | -.00012 |
| #3 | -.00001 | .04379 | .00685 | .89980 | .00371 | -.00005 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 4.1286        | .00112        | .00081        | .00310        | .01921        | .47759        |
| Stddev | .0101         | .00020        | .00013        | .00018        | .00026        | .00182        |
| %RSD   | .24465        | 18.000        | 16.394        | 5.7899        | 1.3429        | .38085        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 4.1232 | .00130 | .00079 | .00323 | .01921 | .47637 |
| #2 | 4.1402 | .00117 | .00094 | .00289 | .01895 | .47671 |
| #3 | 4.1222 | .00090 | .00068 | .00317 | .01947 | .47968 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43685-A-1-D      Acquired: 5/6/2015 11:54:56      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>4.1726</b> | <b>.07395</b> | <b>1.8270</b> | <b>.02581</b> | <b>.02103</b> | <b>325.85</b> |
| Stddev | .0055         | .00014        | .0392         | .00018        | .00021        | 2.98          |
| %RSD   | .13189        | .18811        | 2.1476        | .68519        | 1.0092        | .91607        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 4.1769 | .07407 | 1.8501 | .02561 | .02097 | 328.79 |
| #2 | 4.1664 | .07380 | 1.7817 | .02584 | .02085 | 325.92 |
| #3 | 4.1744 | .07398 | 1.8492 | .02596 | .02126 | 322.82 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.00128</b> | <b>.00554</b> | <b>.02688</b> | <b>.00459</b> | <b>18.146</b> | <b>.00313</b> |
| Stddev | .00020        | .00096        | .00180        | .00211        | .005          | .00012        |
| %RSD   | 15.408        | 17.295        | 6.6851        | 45.897        | .02817        | 3.8202        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .00120 | .00657 | .02828 | .00320 | 18.141 | .00322 |
| #2 | .00112 | .00536 | .02485 | .00357 | 18.146 | .00299 |
| #3 | .00150 | .00468 | .02749 | .00702 | 18.152 | .00317 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43685-A-1-D      Acquired: 5/6/2015 11:54:56      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00187        | .00454        | -.00362       | .00519        | .16063        |
| Stddev | .00654        | .00016        | .00081        | .00451        | .00011        |
| %RSD   | 349.83        | 3.4680        | 22.251        | 86.796        | .07095        |

|    |         |        |         |        |        |
|----|---------|--------|---------|--------|--------|
| #1 | .00873  | .00440 | -.00377 | .01022 | .16051 |
| #2 | -.00429 | .00452 | -.00275 | .00152 | .16073 |
| #3 | .00117  | .00471 | -.00435 | .00384 | .16065 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2740.1        | 5098.1        | 70275.        | 10481.        |
| Stddev    | 2.6           | 4.3           | 227.          | 8.            |
| %RSD      | .09401        | .08467        | .32330        | .07778        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2738.2 | 5097.9 | 70015. | 10490. |
| #2 | 2743.0 | 5102.6 | 70437. | 10479. |
| #3 | 2739.0 | 5093.9 | 70372. | 10473. |

Sample Name: 180-43689-A-1-C      Acquired: 5/6/2015 12:00:10      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem       | Ag              | Al              | As              | B_              | Ba              | Be              |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Line       | 328.068 {103}   | 308.215 {109}   | 189.042 {478}   | 182.641 {485}   | 455.403 { 74}   | 313.042 {108}   |
| IS Ref     | (Y_3600)        | (Y_3710)        | (Y_2243)        | (Y_2243)        | (Y_3710)        | (Y_3710)        |
| Units      | ppm             | ppm             | ppm             | ppm             | ppm             | ppm             |
| Avg        | <b>-.00008</b>  | <b>22.404</b>   | <b>.04960</b>   | <b>F 27.978</b> | <b>.02567</b>   | <b>-.00003</b>  |
| Stddev     | .00040          | .053            | .00159          | .063            | .00012          | .00006          |
| %RSD       | 475.00          | .23651          | 3.2018          | .22409          | .46903          | 181.65          |
| #1         | <b>-.00038</b>  | <b>22.445</b>   | <b>.04818</b>   | <b>27.908</b>   | <b>.02553</b>   | <b>-.00007</b>  |
| #2         | <b>-.00024</b>  | <b>22.344</b>   | <b>.05131</b>   | <b>27.995</b>   | <b>.02573</b>   | <b>-.00006</b>  |
| #3         | <b>.00037</b>   | <b>22.423</b>   | <b>.04932</b>   | <b>28.030</b>   | <b>.02574</b>   | <b>.00003</b>   |
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Fail</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 | <b>25.000</b>   |                 |                 |
| Low Limit  |                 |                 |                 | <b>-.20000</b>  |                 |                 |

| Elem       | Ca              | Cd              | Co              | Cr              | Cu              | Fe              |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Line       | 317.933 {106}   | 228.802 {447}   | 228.616 {447}   | 267.716 {126}   | 327.396 {103}   | 259.940 {130}   |
| IS Ref     | (Y_3710)        | (Y_2243)        | (In2306)        | (Y_3600)        | (Y_3710)        | (Y_3710)        |
| Units      | ppm             | ppm             | ppm             | ppm             | ppm             | ppm             |
| Avg        | <b>10.091</b>   | <b>.01276</b>   | <b>.19184</b>   | <b>.01830</b>   | <b>2.0862</b>   | <b>8.0858</b>   |
| Stddev     | .026            | .00012          | .00090          | .00052          | .0087           | .0294           |
| %RSD       | .25614          | .92166          | .46846          | 2.8422          | .41793          | .36344          |
| #1         | <b>10.105</b>   | <b>.01271</b>   | <b>.19089</b>   | <b>.01850</b>   | <b>2.0764</b>   | <b>8.0994</b>   |
| #2         | <b>10.061</b>   | <b>.01268</b>   | <b>.19195</b>   | <b>.01869</b>   | <b>2.0889</b>   | <b>8.1058</b>   |
| #3         | <b>10.107</b>   | <b>.01290</b>   | <b>.19267</b>   | <b>.01771</b>   | <b>2.0932</b>   | <b>8.0520</b>   |
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

Sample Name: 180-43689-A-1-C      Acquired: 5/6/2015 12:00:10      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>12.673</b> | <b>.01269</b> | <b>.57036</b> | <b>.29524</b> | <b>.07071</b> | <b>404.72</b> |
| Stddev | .037          | .00012        | .01888        | .00045        | .00046        | 3.49          |
| %RSD   | .29361        | .97448        | 3.3109        | .15342        | .65600        | .86339        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 12.691 | .01260 | .57514 | .29554 | .07019 | 406.31 |
| #2 | 12.630 | .01263 | .58639 | .29545 | .07087 | 407.14 |
| #3 | 12.697 | .01283 | .54954 | .29472 | .07108 | 400.72 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.14816</b> | <b>.15023</b> | <b>.01775</b> | <b>.01172</b> | <b>.29707</b> | <b>.08292</b> |
| Stddev | .00030        | .00096        | .00236        | .00075        | .00942        | .00022        |
| %RSD   | .20524        | .63690        | 13.297        | 6.3999        | 3.1709        | .26554        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .14789 | .14972 | .01834 | .01173 | .28643 | .08295 |
| #2 | .14809 | .15133 | .01515 | .01096 | .30434 | .08312 |
| #3 | .14849 | .14963 | .01975 | .01246 | .30044 | .08268 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43689-A-1-C      Acquired: 5/6/2015 12:00:10      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .01071        | .01394        | -.00708       | .00775        | 8.1163        |
| Stddev | .00573        | .00029        | .00057        | .00295        | .0291         |
| %RSD   | 53.537        | 2.0638        | 8.0421        | 38.031        | .35872        |

|    |        |        |         |        |        |
|----|--------|--------|---------|--------|--------|
| #1 | .01713 | .01362 | -.00657 | .00789 | 8.0925 |
| #2 | .00892 | .01418 | -.00697 | .01064 | 8.1077 |
| #3 | .00608 | .01401 | -.00769 | .00474 | 8.1488 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2658.6        | 4983.0        | 70012.        | 10438.        |
| Stddev    | 4.1           | 7.4           | 198.          | 26.           |
| %RSD      | .15584        | .14897        | .28240        | .24914        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2663.3 | 4987.2 | 69905. | 10457. |
| #2 | 2656.9 | 4974.4 | 69892. | 10409. |
| #3 | 2655.5 | 4987.3 | 70241. | 10449. |

Sample Name: 180-43686-A-1-D      Acquired: 5/6/2015 12:05:20      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00027        | .07843        | .00397        | .27236        | .00509        | .00003        |
| Stddev | .00023        | .00876        | .00111        | .00323        | .00010        | .00002        |
| %RSD   | 83.892        | 11.170        | 27.838        | 1.1876        | 1.8708        | 85.522        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .00010 | .06954 | .00380 | .27551 | .00507 | .00000 |
| #2 | .00018 | .08706 | .00296 | .27253 | .00520 | .00005 |
| #3 | .00053 | .07870 | .00515 | .26904 | .00501 | .00004 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 3.6063        | .00009        | .00008        | .03871        | .04438        | .11455        |
| Stddev | .0126         | .00008        | .00011        | .00048        | .00018        | .00317        |
| %RSD   | .34948        | 88.426        | 129.63        | 1.2271        | .40253        | 2.7656        |

|    |        |        |         |        |        |        |
|----|--------|--------|---------|--------|--------|--------|
| #1 | 3.5975 | .00016 | -.00002 | .03887 | .04456 | .11365 |
| #2 | 3.6207 | .00009 | .00008  | .03818 | .04420 | .11193 |
| #3 | 3.6006 | .00001 | .00019  | .03909 | .04438 | .11807 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43686-A-1-D      Acquired: 5/6/2015 12:05:20      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>2.7459</b> | <b>.01987</b> | <b>.16469</b> | <b>.00348</b> | <b>.07865</b> | <b>146.34</b> |
| Stddev | .0505         | .00017        | .02504        | .00004        | .00049        | .31           |
| %RSD   | 1.8377        | .87958        | 15.205        | 1.1549        | .62474        | .21452        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>2.7540</b> | <b>.01990</b> | <b>.19173</b> | <b>.00347</b> | <b>.07882</b> | <b>146.69</b> |
| #2 | <b>2.7919</b> | <b>.01969</b> | <b>.16004</b> | <b>.00353</b> | <b>.07903</b> | <b>146.20</b> |
| #3 | <b>2.6919</b> | <b>.02004</b> | <b>.14230</b> | <b>.00345</b> | <b>.07810</b> | <b>146.11</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.00349</b> | <b>.00675</b> | <b>.00267</b> | <b>.00120</b> | <b>9.5107</b> | <b>.00077</b> |
| Stddev | .00066        | .00080        | .00155        | .00209        | .0116         | .00012        |
| %RSD   | 18.795        | 11.863        | 58.134        | 174.18        | .12213        | 15.955        |

|    |               |               |               |                |               |               |
|----|---------------|---------------|---------------|----------------|---------------|---------------|
| #1 | <b>.00374</b> | <b>.00764</b> | <b>.00260</b> | <b>.00032</b>  | <b>9.4989</b> | <b>.00089</b> |
| #2 | <b>.00275</b> | <b>.00650</b> | <b>.00115</b> | <b>.00359</b>  | <b>9.5110</b> | <b>.00064</b> |
| #3 | <b>.00398</b> | <b>.00610</b> | <b>.00425</b> | <b>-.00031</b> | <b>9.5221</b> | <b>.00076</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43686-A-1-D      Acquired: 5/6/2015 12:05:20      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00179        | .00169        | -.00067       | .00424        | .04609        |
| Stddev | .00167        | .00012        | .00058        | .00543        | .00003        |
| %RSD   | 93.295        | 7.0220        | 86.027        | 127.99        | .07123        |

|    |         |        |         |         |        |
|----|---------|--------|---------|---------|--------|
| #1 | .00325  | .00182 | -.00076 | .00914  | .04605 |
| #2 | -.00003 | .00158 | -.00120 | .00520  | .04611 |
| #3 | .00216  | .00167 | -.00005 | -.00160 | .04611 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2908.2        | 5249.6        | 75495.        | 10929.        |
| Stddev    | 3.7           | 6.4           | 247.          | 73.           |
| %RSD      | .12687        | .12206        | .32730        | .67032        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2904.3 | 5246.1 | 75692. | 10976. |
| #2 | 2908.7 | 5245.7 | 75218. | 10844. |
| #3 | 2911.6 | 5257.0 | 75576. | 10965. |

Sample Name: 180-43686-A-1-D SD@5      Acquired: 5/6/2015 12:10:27      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00017        | -.00180       | .00160        | .01063        | .00015        | .00001        |
| Stddev | .00032        | .01153        | .00117        | .00033        | .00021        | .00008        |
| %RSD   | 183.56        | 640.16        | 73.166        | 3.0707        | 144.19        | 588.35        |

|    |         |         |        |        |         |         |
|----|---------|---------|--------|--------|---------|---------|
| #1 | -.00017 | .01134  | .00027 | .01098 | .00027  | .00003  |
| #2 | .00045  | -.01022 | .00246 | .01034 | .00027  | .00008  |
| #3 | .00024  | -.00652 | .00207 | .01057 | -.00010 | -.00007 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .01443        | -.00008       | .00001        | -.00058       | .00000        | .00081        |
| Stddev | .00083        | .00010        | .00012        | .00013        | .00018        | .00085        |
| %RSD   | 5.7523        | 122.87        | 1767.7        | 22.714        | 3787.1        | 104.58        |

|    |        |         |         |         |         |        |
|----|--------|---------|---------|---------|---------|--------|
| #1 | .01357 | .00000  | -.00013 | -.00063 | -.00019 | .00172 |
| #2 | .01522 | -.00006 | .00006  | -.00069 | .00006  | .00068 |
| #3 | .01449 | -.00020 | .00009  | -.00043 | .00015  | .00004 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43686-A-1-D SD@5      Acquired: 5/6/2015 12:10:27      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .07329        | -.00015       | .00170        | -.00000       | -.00006       | .17882        |
| Stddev | .01023        | .00093        | .01054        | .00005        | .00014        | .00948        |
| %RSD   | 13.965        | 599.58        | 620.78        | 3819.4        | 219.00        | 5.3002        |

|    |        |         |         |         |         |        |
|----|--------|---------|---------|---------|---------|--------|
| #1 | .08482 | -.00041 | -.01033 | -.00002 | .00003  | .18939 |
| #2 | .06528 | .00088  | .00935  | .00006  | -.00000 | .17599 |
| #3 | .06978 | -.00093 | .00607  | -.00004 | -.00023 | .17107 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00028        | .00006        | -.00052       | -.00078       | .00005        | .00065        |
| Stddev | .00008        | .00015        | .00026        | .00137        | .00709        | .00073        |
| %RSD   | 29.931        | 253.37        | 49.249        | 174.10        | 13876.        | 112.88        |

|    |        |         |         |         |         |         |
|----|--------|---------|---------|---------|---------|---------|
| #1 | .00026 | -.00005 | -.00028 | -.00155 | .00818  | .00068  |
| #2 | .00038 | .00023  | -.00079 | -.00159 | -.00487 | -.00010 |
| #3 | .00021 | -.00000 | -.00049 | .00079  | -.00315 | .00137  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43686-A-1-D SD@5      Acquired: 5/6/2015 12:10:27      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00706</b> | <b>.00012</b> | <b>.00033</b> | <b>.00056</b> | <b>.00048</b> |
| Stddev | .00337         | .00008        | .00044        | .00154        | .00009        |
| %RSD   | 47.776         | 68.478        | 134.30        | 275.69        | 18.251        |

|    |                |               |                |                |               |
|----|----------------|---------------|----------------|----------------|---------------|
| #1 | <b>-.01084</b> | <b>.00018</b> | <b>.00019</b>  | <b>.00014</b>  | <b>.00053</b> |
| #2 | <b>-.00598</b> | <b>.00017</b> | <b>-.00002</b> | <b>-.00073</b> | <b>.00038</b> |
| #3 | <b>-.00436</b> | <b>.00003</b> | <b>.00083</b>  | <b>.00226</b>  | <b>.00054</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3367.1</b> | <b>5612.2</b> | <b>81406.</b> | <b>11183.</b> |
| Stddev    | 6.0           | 5.2           | 143.          | 7.            |
| %RSD      | .17780        | .09266        | .17604        | .06537        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3374.0 | 5616.2 | 81446. | 11185. |
| #2 | 3362.9 | 5614.1 | 81525. | 11190. |
| #3 | 3364.5 | 5606.3 | 81247. | 11175. |

Sample Name: CCV 1551842      Acquired: 5/6/2015 12:15:37      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>1.0763</b> | <b>25.721</b> | <b>.53318</b> | <b>2.1233</b> | <b>2.0164</b> | <b>2.0084</b> |
| Stddev | .0015         | .138          | .00506        | .0106         | .0035         | .0104         |
| %RSD   | .14074        | .53548        | .94896        | .50030        | .17148        | .51648        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.0757 | 25.729 | .52817 | 2.1118 | 2.0127 | 1.9979 |
| #2 | 1.0752 | 25.579 | .53311 | 2.1254 | 2.0171 | 2.0088 |
| #3 | 1.0780 | 25.855 | .53828 | 2.1327 | 2.0195 | 2.0186 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>51.426</b> | <b>.52756</b> | <b>2.1069</b> | <b>2.0424</b> | <b>1.9468</b> | <b>26.029</b> |
| Stddev | .052          | .00178        | .0086         | .0009         | .0077         | .142          |
| %RSD   | .10202        | .33668        | .40633        | .04604        | .39783        | .54746        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 51.395 | .52551 | 2.0975 | 2.0434 | 1.9379 | 25.900 |
| #2 | 51.398 | .52851 | 2.1088 | 2.0416 | 1.9504 | 26.003 |
| #3 | 51.487 | .52865 | 2.1143 | 2.0421 | 1.9520 | 26.182 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/6/2015 12:15:37      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>128.41</b> | <b>2.0563</b> | <b>50.754</b> | <b>1.9052</b> | <b>2.0185</b> | <b>129.61</b> |
| Stddev | .55           | .0073         | .381          | .0042         | .0106         | .47           |
| %RSD   | .43215        | .35682        | .75117        | .22093        | .52675        | .36267        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 127.80 | 2.0513 | 50.331 | 1.9004 | 2.0064 | 129.12 |
| #2 | 128.54 | 2.0528 | 50.859 | 1.9072 | 2.0228 | 129.67 |
| #3 | 128.89 | 2.0647 | 51.072 | 1.9081 | 2.0263 | 130.05 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>2.0838</b> | <b>.51650</b> | <b>.52156</b> | <b>.52253</b> | <b>2.0434</b> | <b>1.9545</b> |
| Stddev | .0081         | .00178        | .00366        | .00560        | .0055         | .0025         |
| %RSD   | .39102        | .34536        | .70257        | 1.0711        | .26967        | .12996        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 2.0777 | .51480 | .51738 | .51690 | 2.0373 | 1.9518 |
| #2 | 2.0807 | .51634 | .52310 | .52258 | 2.0480 | 1.9567 |
| #3 | 2.0931 | .51836 | .52421 | .52809 | 2.0449 | 1.9551 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/6/2015 12:15:37      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>1.9418</b> | <b>1.9176</b> | <b>.97958</b> | <b>2.1790</b> | <b>2.0201</b> |
| Stddev | .0075         | .0061         | .00489        | .0087         | .0065         |
| %RSD   | .38668        | .31864        | .49963        | .39809        | .32012        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | 1.9351 | 1.9105 | .97402 | 2.1771 | 2.0128 |
| #2 | 1.9402 | 1.9208 | .98147 | 2.1715 | 2.0225 |
| #3 | 1.9499 | 1.9214 | .98325 | 2.1885 | 2.0250 |

|         |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |
| Range   |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2711.0</b> | <b>5145.3</b> | <b>74147.</b> | <b>10964.</b> |
| Stddev    | 8.7           | 11.4          | 143.          | 47.           |
| %RSD      | .32273        | .22082        | .19243        | .42491        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2717.1 | 5155.1 | 74298. | 11017. |
| #2 | 2714.8 | 5147.8 | 74014. | 10931. |
| #3 | 2700.9 | 5132.8 | 74130. | 10945. |

Sample Name: CCB6      Acquired: 5/6/2015 12:20:24      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00035        | .00845        | .00106        | .00740        | .00028        | .00022        |
| Stddev | .00004        | .01908        | .00057        | .00036        | .00026        | .00007        |
| %RSD   | 11.546        | 225.64        | 53.336        | 4.9012        | 91.556        | 31.682        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | .00031 | -.01357 | .00146 | .00764 | .00020 | .00030 |
| #2 | .00035 | .01966  | .00130 | .00758 | .00007 | .00018 |
| #3 | .00039 | .01928  | .00041 | .00698 | .00057 | .00017 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .01295        | -.00005       | .00029        | -.00016       | .00128        | .00821        |
| Stddev | .00202        | .00008        | .00003        | .00014        | .00032        | .00084        |
| %RSD   | 15.593        | 155.87        | 11.825        | 87.424        | 25.299        | 10.170        |

|    |        |         |        |         |        |        |
|----|--------|---------|--------|---------|--------|--------|
| #1 | .01246 | .00003  | .00025 | -.00031 | .00099 | .00725 |
| #2 | .01517 | -.00005 | .00032 | -.00003 | .00163 | .00872 |
| #3 | .01123 | -.00013 | .00030 | -.00014 | .00122 | .00866 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB6      Acquired: 5/6/2015 12:20:24      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .12364        | .00158        | .01919        | .00015        | .00206        | .14128        |
| Stddev | .02089        | .00065        | .01044        | .00002        | .00044        | .00740        |
| %RSD   | 16.897        | 41.139        | 54.404        | 10.217        | 21.182        | 5.2377        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .09982 | .00223 | .00932 | .00013 | .00255 | .14979 |
| #2 | .13228 | .00158 | .01813 | .00016 | .00175 | .13641 |
| #3 | .13883 | .00093 | .03011 | .00015 | .00186 | .13763 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00029        | .00002        | -.00153       | .00003        | .00157        | .00124        |
| Stddev | .00007        | .00092        | .00048        | .00176        | .00447        | .00009        |
| %RSD   | 23.917        | 4316.3        | 31.756        | 5399.4        | 284.57        | 7.1460        |

|    |        |         |         |         |         |        |
|----|--------|---------|---------|---------|---------|--------|
| #1 | .00036 | .00015  | -.00108 | -.00011 | .00563  | .00134 |
| #2 | .00031 | .00087  | -.00204 | -.00166 | -.00322 | .00117 |
| #3 | .00022 | -.00095 | -.00146 | .00186  | .00230  | .00121 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB6      Acquired: 5/6/2015 12:20:24      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00380</b> | <b>.00026</b> | <b>.00343</b> | <b>.00128</b> | <b>.00009</b> |
| Stddev | .00139         | .00007        | .00052        | .00075        | .00009        |
| %RSD   | 36.479         | 27.794        | 15.083        | 58.525        | 94.249        |

|    |                |               |               |               |               |
|----|----------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00303</b> | <b>.00019</b> | <b>.00402</b> | <b>.00170</b> | <b>.00001</b> |
| #2 | <b>-.00540</b> | <b>.00025</b> | <b>.00305</b> | <b>.00173</b> | <b>.00019</b> |
| #3 | <b>-.00297</b> | <b>.00033</b> | <b>.00323</b> | <b>.00042</b> | <b>.00009</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3279.9</b> | <b>5474.9</b> | <b>81074.</b> | <b>11095.</b> |
| Stddev    | 2.3           | 5.9           | 63.           | 21.           |
| %RSD      | .06991        | .10731        | .07719        | .18912        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3278.0 | 5471.1 | 81145. | 11074. |
| #2 | 3282.5 | 5481.7 | 81048. | 11115. |
| #3 | 3279.3 | 5472.0 | 81028. | 11097. |



Sample Name: MB 180-140511/1-A      Acquired: 5/6/2015 12:25:35      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00020        | -.00013       | .00076        | .00473        | .00030        | -.00001       |
| Stddev | .00029        | .00175        | .00219        | .00019        | .00016        | .00006        |
| %RSD   | 142.06        | 1325.0        | 289.09        | 4.0612        | 54.154        | 959.82        |

|    |        |         |         |        |        |         |
|----|--------|---------|---------|--------|--------|---------|
| #1 | .00005 | .00153  | .00179  | .00494 | .00037 | -.00005 |
| #2 | .00054 | -.00196 | .00224  | .00456 | .00041 | .00006  |
| #3 | .00002 | .00003  | -.00176 | .00468 | .00011 | -.00003 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00364       | -.00001       | -.00005       | .00001        | .00033        | .00425        |
| Stddev | .00191        | .00004        | .00006        | .00029        | .00028        | .00202        |
| %RSD   | 52.401        | 417.86        | 119.36        | 2304.1        | 84.603        | 47.454        |

|    |         |         |         |         |        |        |
|----|---------|---------|---------|---------|--------|--------|
| #1 | -.00393 | .00004  | .00001  | .00035  | .00011 | .00464 |
| #2 | -.00161 | -.00005 | -.00011 | -.00015 | .00024 | .00207 |
| #3 | -.00540 | -.00002 | -.00006 | -.00016 | .00064 | .00604 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: MB 180-140511/1-A      Acquired: 5/6/2015 12:25:35      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.13642</b> | <b>.00052</b> | <b>.01182</b> | <b>.00020</b> | <b>.00042</b> | <b>.12598</b> |
| Stddev | .03543        | .00017        | .00732        | .00002        | .00015        | .00197        |
| %RSD   | 25.971        | 31.852        | 61.923        | 8.7069        | 35.936        | 1.5631        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .12053 | .00056 | .00393 | .00019 | .00046 | .12824 |
| #2 | .11171 | .00034 | .01314 | .00019 | .00025 | .12462 |
| #3 | .17701 | .00067 | .01838 | .00022 | .00055 | .12507 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |                |                |                |               |               |
|--------|---------------|----------------|----------------|----------------|---------------|---------------|
| Elem   | Ni            | Pb             | Sb             | Se             | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453}  | 217.581 {455}  | 196.090 {472}  | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)       | (Y_2243)       | (Y_2243)       | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm            | ppm            | ppm            | ppm           | ppm           |
| Avg    | <b>.00028</b> | <b>-.00007</b> | <b>-.00216</b> | <b>-.00160</b> | <b>.00478</b> | <b>.03548</b> |
| Stddev | .00026        | .00103         | .00163         | .00093         | .00451        | .00007        |
| %RSD   | 93.050        | 1412.1         | 75.796         | 58.338         | 94.323        | .20731        |

|    |         |         |         |         |        |        |
|----|---------|---------|---------|---------|--------|--------|
| #1 | -.00001 | .00043  | -.00038 | -.00236 | .00298 | .03553 |
| #2 | .00051  | -.00126 | -.00360 | -.00189 | .00992 | .03552 |
| #3 | .00034  | .00061  | -.00249 | -.00056 | .00145 | .03540 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: MB 180-140511/1-A      Acquired: 5/6/2015 12:25:35      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00187</b> | <b>.00038</b> | <b>.00009</b> | <b>.00165</b> | <b>.00376</b> |
| Stddev | .00521         | .00004        | .00083        | .00229        | .00003        |
| %RSD   | 278.57         | 9.4925        | 904.40        | 139.14        | .69797        |

|    |                |               |                |                |               |
|----|----------------|---------------|----------------|----------------|---------------|
| #1 | <b>-.00015</b> | <b>.00034</b> | <b>.00105</b>  | <b>.00343</b>  | <b>.00374</b> |
| #2 | <b>.00226</b>  | <b>.00041</b> | <b>-.00045</b> | <b>-.00094</b> | <b>.00379</b> |
| #3 | <b>-.00772</b> | <b>.00040</b> | <b>-.00032</b> | <b>.00246</b>  | <b>.00375</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3302.3</b> | <b>5493.7</b> | <b>80502.</b> | <b>11097.</b> |
| Stddev    | 10.2          | 14.6          | 65.           | 32.           |
| %RSD      | .30793        | .26642        | .08095        | .29037        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3291.0 | 5477.0 | 80576. | 11083. |
| #2 | 3304.9 | 5499.6 | 80457. | 11075. |
| #3 | 3310.8 | 5504.4 | 80472. | 11134. |

Sample Name: LCS 180-140511/2-A      Acquired: 5/6/2015 12:30:43      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05117        | 1.9749        | .49421        | 1.0001        | 1.9776        | .04850        |
| Stddev | .00012        | .0124         | .00332        | .0020         | .0049         | .00021        |
| %RSD   | .22700        | .62853        | .67225        | .20048        | .24787        | .44105        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .05123 | 1.9813 | .49559 | 1.0012 | 1.9825 | .04867 |
| #2 | .05103 | 1.9606 | .49042 | .99783 | 1.9727 | .04858 |
| #3 | .05124 | 1.9827 | .49662 | 1.0014 | 1.9777 | .04826 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 50.302        | .04871        | .49596        | .20171        | .24356        | 1.0266        |
| Stddev | .149          | .00012        | .00121        | .00126        | .00075        | .0056         |
| %RSD   | .29675        | .24059        | .24388        | .62508        | .30834        | .54083        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 50.436 | .04857 | .49517 | .20311 | .24382 | 1.0306 |
| #2 | 50.328 | .04876 | .49735 | .20066 | .24415 | 1.0290 |
| #3 | 50.141 | .04879 | .49536 | .20135 | .24271 | 1.0203 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: LCS 180-140511/2-A      Acquired: 5/6/2015 12:30:43      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 50.476        | 1.0149        | 49.803        | .47656        | 1.0150        | 51.615        |
| Stddev | .127          | .0017         | .320          | .00241        | .0027         | .108          |
| %RSD   | .25135        | .16227        | .64266        | .50537        | .26102        | .20962        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 50.596 | 1.0165 | 50.008 | .47843 | 1.0128 | 51.735 |
| #2 | 50.488 | 1.0132 | 49.967 | .47740 | 1.0144 | 51.524 |
| #3 | 50.344 | 1.0151 | 49.434 | .47384 | 1.0179 | 51.586 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .49081        | .47681        | .49809        | .48650        | F 7.3853      | 1.9513        |
| Stddev | .00153        | .00063        | .00337        | .00222        | .0476         | .0069         |
| %RSD   | .31202        | .13310        | .67694        | .45619        | .64519        | .35328        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .48970 | .47642 | .49742 | .48539 | 7.4377 | 1.9471 |
| #2 | .49256 | .47647 | .49511 | .48507 | 7.3734 | 1.9476 |
| #3 | .49018 | .47754 | .50175 | .48906 | 7.3447 | 1.9593 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit |          |          |          |          | 12.000   |          |
| Low Limit  |          |          |          |          | 8.0000   |          |

Sample Name: LCS 180-140511/2-A      Acquired: 5/6/2015 12:30:43      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.94395</b> | <b>.96389</b> | <b>.46581</b> | <b>.52351</b> | <b>.49367</b> |
| Stddev | .00661        | .00510        | .00066        | .00351        | .00047        |
| %RSD   | .70028        | .52947        | .14125        | .66960        | .09573        |

|    |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.94985</b> | <b>.96598</b> | <b>.46613</b> | <b>.52389</b> | <b>.49319</b> |
| #2 | <b>.94518</b> | <b>.96762</b> | <b>.46625</b> | <b>.51984</b> | <b>.49370</b> |
| #3 | <b>.93681</b> | <b>.95808</b> | <b>.46506</b> | <b>.52682</b> | <b>.49413</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2842.9</b> | <b>5136.7</b> | <b>74187.</b> | <b>10831.</b> |
| Stddev    | 7.4           | 8.2           | 323.          | 73.           |
| %RSD      | .26010        | .15895        | .43515        | .67295        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2840.7 | 5129.8 | 73822. | 10763. |
| #2 | 2836.9 | 5134.5 | 74436. | 10822. |
| #3 | 2851.2 | 5145.7 | 74304. | 10908. |

Sample Name: LCSD 180-140511/3-A      Acquired: 5/6/2015 12:35:30      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05067        | 2.0070        | .51155        | 1.0213        | 2.0188        | .05041        |
| Stddev | .00064        | .0177         | .00142        | .0025         | .0017         | .00014        |
| %RSD   | 1.2580        | .88418        | .27845        | .24830        | .08538        | .27202        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .05041 | 1.9902 | .51004 | 1.0203 | 2.0182 | .05055 |
| #2 | .05140 | 2.0255 | .51287 | 1.0242 | 2.0175 | .05039 |
| #3 | .05021 | 2.0053 | .51174 | 1.0194 | 2.0208 | .05028 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (ln2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 51.341        | .04973        | .50755        | .20134        | .24550        | 1.0655        |
| Stddev | .322          | .00019        | .00093        | .00109        | .00397        | .0071         |
| %RSD   | .62623        | .38571        | .18294        | .54311        | 1.6187        | .66218        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 51.363 | .04962 | .50666 | .20253 | .24679 | 1.0711 |
| #2 | 51.652 | .04995 | .50748 | .20037 | .24867 | 1.0679 |
| #3 | 51.010 | .04962 | .50851 | .20112 | .24105 | 1.0576 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: LCSD 180-140511/3-A      Acquired: 5/6/2015 12:35:30      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>52.180</b> | <b>1.0285</b> | <b>52.004</b> | <b>.49136</b> | <b>1.0462</b> | <b>52.927</b> |
| Stddev | .204          | .0017         | .410          | .00489        | .0030         | .140          |
| %RSD   | .39017        | .16472        | .78747        | .99474        | .28407        | .26479        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 52.277 | 1.0266 | 52.228 | .49445 | 1.0430 | 52.996 |
| #2 | 52.316 | 1.0299 | 52.252 | .49390 | 1.0489 | 53.019 |
| #3 | 51.946 | 1.0289 | 51.531 | .48572 | 1.0466 | 52.766 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |                 |               |
|--------|---------------|---------------|---------------|---------------|-----------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si              | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134}   | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)        | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm             | ppm           |
| Avg    | <b>.50695</b> | <b>.49408</b> | <b>.51819</b> | <b>.50792</b> | <b>F 7.5048</b> | <b>2.0070</b> |
| Stddev | .00059        | .00144        | .00134        | .00317        | .0469           | .0030         |
| %RSD   | .11540        | .29182        | .25785        | .62480        | .62482          | .15017        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .50757 | .49373 | .51889 | .50551 | 7.4916 | 2.0038 |
| #2 | .50641 | .49285 | .51903 | .51152 | 7.5569 | 2.0073 |
| #3 | .50686 | .49567 | .51665 | .50675 | 7.4660 | 2.0098 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit |          |          |          |          | 12.000   |          |
| Low Limit  |          |          |          |          | 8.0000   |          |



Sample Name: LCSD 180-140511/3-A      Acquired: 5/6/2015 12:35:30      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .98863        | .99118        | .48045        | .52807        | .50677        |
| Stddev | .00700        | .01152        | .00195        | .00649        | .00080        |
| %RSD   | .70810        | 1.1625        | .40601        | 1.2282        | .15854        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .99371 | .99667 | .47821 | .52429 | .50589 |
| #2 | .98064 | .99893 | .48133 | .52435 | .50695 |
| #3 | .99153 | .97794 | .48180 | .53556 | .50746 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2812.2        | 5098.3        | 74506.        | 10775.        |
| Stddev    | 2.3           | 7.4           | 91.           | 133.          |
| %RSD      | .08022        | .14522        | .12170        | 1.2340        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2809.6 | 5098.7 | 74406. | 10712. |
| #2 | 2812.9 | 5090.7 | 74528. | 10686. |
| #3 | 2814.0 | 5105.4 | 74583. | 10928. |

Sample Name: 180-43624-A-2-C      Acquired: 5/6/2015 12:40:17      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00033        | .02429        | .00390        | .00903        | .00118        | .00003        |
| Stddev | .00006        | .01115        | .00188        | .00046        | .00022        | .00001        |
| %RSD   | 18.157        | 45.925        | 48.217        | 5.1366        | 18.547        | 20.295        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .00026 | .03026 | .00186 | .00956 | .00103 | .00003 |
| #2 | .00036 | .03118 | .00557 | .00871 | .00108 | .00003 |
| #3 | .00037 | .01142 | .00426 | .00880 | .00143 | .00004 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .16514        | .00004        | -.00004       | .00027        | .00983        | .04816        |
| Stddev | .00249        | .00017        | .00016        | .00024        | .00051        | .00259        |
| %RSD   | 1.5085        | 380.76        | 439.00        | 87.879        | 5.1554        | 5.3764        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | .16795 | .00001  | .00000  | .00033 | .01003 | .05100 |
| #2 | .16422 | -.00010 | .00010  | .00001 | .00925 | .04756 |
| #3 | .16323 | .00023  | -.00021 | .00048 | .01020 | .04593 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43624-A-2-C      Acquired: 5/6/2015 12:40:17      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .13936        | .00063        | .05739        | .00044        | .00078        | .33437        |
| Stddev | .01682        | .00062        | .01224        | .00003        | .00023        | .01036        |
| %RSD   | 12.072        | 97.612        | 21.334        | 7.2818        | 29.482        | 3.0975        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .11999 | .00007 | .05498 | .00048 | .00104 | .34020 |
| #2 | .14779 | .00053 | .07065 | .00044 | .00069 | .34049 |
| #3 | .15030 | .00130 | .04652 | .00041 | .00061 | .32241 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00072        | .00115        | .00148        | .00727        | .02227        | .03848        |
| Stddev | .00016        | .00021        | .00073        | .00166        | .00531        | .00025        |
| %RSD   | 22.704        | 18.308        | 49.560        | 22.877        | 23.833        | .65321        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .00087 | .00127 | .00164 | .00853 | .01764 | .03859 |
| #2 | .00055 | .00128 | .00068 | .00789 | .02806 | .03867 |
| #3 | .00074 | .00091 | .00213 | .00538 | .02110 | .03820 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43624-A-2-C      Acquired: 5/6/2015 12:40:17      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |                |               |               |
|--------|----------------|---------------|----------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti             | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>-.00010</b> | <b>.00176</b> | <b>-.00203</b> | <b>.00230</b> | <b>.00371</b> |
| Stddev | .00523         | .00012        | .00026         | .00207        | .00011        |
| %RSD   | 5440.2         | 6.5945        | 12.566         | 90.010        | 2.8999        |

|    |                |               |                |                |               |
|----|----------------|---------------|----------------|----------------|---------------|
| #1 | <b>-.00177</b> | <b>.00189</b> | <b>-.00180</b> | <b>-.00001</b> | <b>.00382</b> |
| #2 | <b>.00576</b>  | <b>.00175</b> | <b>-.00200</b> | <b>.00400</b>  | <b>.00360</b> |
| #3 | <b>-.00428</b> | <b>.00166</b> | <b>-.00230</b> | <b>.00292</b>  | <b>.00370</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3327.4</b> | <b>5491.6</b> | <b>80854.</b> | <b>11031.</b> |
| Stddev    | 6.9           | 3.3           | 307.          | 32.           |
| %RSD      | .20774        | .05933        | .37977        | .28727        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>3319.7</b> | <b>5487.9</b> | <b>80593.</b> | <b>11066.</b> |
| #2 | <b>3329.4</b> | <b>5493.7</b> | <b>80776.</b> | <b>11025.</b> |
| #3 | <b>3333.1</b> | <b>5493.3</b> | <b>81192.</b> | <b>11003.</b> |

Sample Name: 180-43631-A-1-B      Acquired: 5/6/2015 12:45:25      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00020        | .02582        | .00000        | .00324        | .00044        | -.00001       |
| Stddev | .00036        | .02610        | .00116        | .00020        | .00008        | .00005        |
| %RSD   | 179.46        | 101.07        | 63992.        | 6.2929        | 17.054        | 326.72        |

|    |         |        |         |        |        |         |
|----|---------|--------|---------|--------|--------|---------|
| #1 | .00060  | .00381 | .00122  | .00342 | .00043 | .00001  |
| #2 | -.00010 | .05465 | -.00012 | .00329 | .00038 | -.00007 |
| #3 | .00010  | .01901 | -.00109 | .00302 | .00053 | .00002  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00027        | .00042        | -.00017       | -.00004       | .21607        | .06706        |
| Stddev | .00546        | .00004        | .00019        | .00037        | .00023        | .00276        |
| %RSD   | 2007.0        | 10.470        | 113.13        | 918.05        | .10523        | 4.1209        |

|    |         |        |         |         |        |        |
|----|---------|--------|---------|---------|--------|--------|
| #1 | -.00151 | .00039 | .00001  | -.00027 | .21626 | .06913 |
| #2 | .00640  | .00047 | -.00014 | -.00023 | .21613 | .06812 |
| #3 | -.00408 | .00040 | -.00037 | .00039  | .21582 | .06392 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43631-A-1-B      Acquired: 5/6/2015 12:45:25      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .09880        | -.00074       | .00550        | .00137        | .00064        | .10889        |
| Stddev | .00799        | .00022        | .01318        | .00006        | .00010        | .00197        |
| %RSD   | 8.0904        | 29.605        | 239.52        | 4.5937        | 15.364        | 1.8127        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | .09329 | -.00096 | .02060  | .00142 | .00069 | .11034 |
| #2 | .10797 | -.00073 | -.00371 | .00139 | .00053 | .10664 |
| #3 | .09515 | -.00052 | -.00038 | .00130 | .00071 | .10970 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00085        | .00252        | .00431        | .00088        | .10285        | .03412        |
| Stddev | .00017        | .00098        | .00046        | .00119        | .00039        | .00030        |
| %RSD   | 20.400        | 38.749        | 10.557        | 136.32        | .37549        | .88679        |

|    |        |        |        |         |        |        |
|----|--------|--------|--------|---------|--------|--------|
| #1 | .00065 | .00259 | .00480 | .00201  | .10243 | .03377 |
| #2 | .00091 | .00152 | .00390 | -.00037 | .10320 | .03431 |
| #3 | .00098 | .00347 | .00424 | .00099  | .10291 | .03427 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43631-A-1-B      Acquired: 5/6/2015 12:45:25      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00417</b> | <b>.00094</b> | <b>.00022</b> | <b>.00343</b> | <b>.02628</b> |
| Stddev | .00212         | .00007        | .00053        | .00046        | .00018        |
| %RSD   | 50.865         | 7.4675        | 242.11        | 13.435        | .69915        |

|    |                |               |                |               |               |
|----|----------------|---------------|----------------|---------------|---------------|
| #1 | <b>-.00558</b> | <b>.00100</b> | <b>.00036</b>  | <b>.00320</b> | <b>.02649</b> |
| #2 | <b>-.00173</b> | <b>.00086</b> | <b>-.00037</b> | <b>.00314</b> | <b>.02614</b> |
| #3 | <b>-.00518</b> | <b>.00097</b> | <b>.00067</b>  | <b>.00397</b> | <b>.02621</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3384.8</b> | <b>5576.3</b> | <b>81575.</b> | <b>11267.</b> |
| Stddev    | 5.5           | 11.2          | 290.          | 36.           |
| %RSD      | .16303        | .20093        | .35521        | .31847        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>3379.7</b> | <b>5568.6</b> | <b>81910.</b> | <b>11308.</b> |
| #2 | <b>3390.6</b> | <b>5589.1</b> | <b>81394.</b> | <b>11255.</b> |
| #3 | <b>3384.1</b> | <b>5571.1</b> | <b>81422.</b> | <b>11239.</b> |

Sample Name: 180-43674-A-1-B      Acquired: 5/6/2015 12:50:34      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00025        | .00452        | .00241        | .00290        | .00024        | -.00005       |
| Stddev | .00010        | .00629        | .00238        | .00010        | .00011        | .00006        |
| %RSD   | 40.774        | 139.07        | 98.862        | 3.4197        | 45.070        | 106.98        |

|    |        |         |        |        |        |         |
|----|--------|---------|--------|--------|--------|---------|
| #1 | .00023 | .00608  | .00496 | .00301 | .00012 | -.00006 |
| #2 | .00037 | -.00240 | .00201 | .00282 | .00034 | -.00010 |
| #3 | .00017 | .00989  | .00025 | .00288 | .00026 | .00001  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00317       | .00005        | .00011        | .00028        | .02345        | .04541        |
| Stddev | .00311        | .00009        | .00030        | .00021        | .00047        | .00169        |
| %RSD   | 98.100        | 167.25        | 288.81        | 76.448        | 1.9862        | 3.7201        |

|    |         |         |         |        |        |        |
|----|---------|---------|---------|--------|--------|--------|
| #1 | -.00131 | .00001  | .00030  | .00007 | .02360 | .04461 |
| #2 | -.00676 | .00016  | -.00025 | .00027 | .02382 | .04735 |
| #3 | -.00144 | -.00000 | .00026  | .00050 | .02292 | .04428 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43674-A-1-B      Acquired: 5/6/2015 12:50:34      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .03234        | -.00131       | .01583        | .00147        | .00014        | .14772        |
| Stddev | .02318        | .00055        | .02093        | .00004        | .00008        | .00612        |
| %RSD   | 71.684        | 41.549        | 132.16        | 2.7063        | 56.728        | 4.1406        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | .00796 | -.00192 | .00002 | .00151 | .00014 | .14253 |
| #2 | .05409 | -.00118 | .00792 | .00146 | .00021 | .15447 |
| #3 | .03497 | -.00085 | .03956 | .00144 | .00006 | .14617 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00395        | .00018        | -.00050       | .00183        | .24119        | .03516        |
| Stddev | .00021        | .00107        | .00108        | .00192        | .00540        | .00025        |
| %RSD   | 5.4377        | 599.89        | 214.16        | 105.00        | 2.2395        | .72497        |

|    |        |         |         |         |        |        |
|----|--------|---------|---------|---------|--------|--------|
| #1 | .00372 | .00043  | -.00154 | -.00034 | .24697 | .03490 |
| #2 | .00415 | -.00099 | .00061  | .00332  | .23627 | .03518 |
| #3 | .00399 | .00110  | -.00058 | .00250  | .24032 | .03541 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43674-A-1-B      Acquired: 5/6/2015 12:50:34      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |                |               |               |
|--------|----------------|---------------|----------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti             | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>-.00133</b> | <b>.00035</b> | <b>-.00000</b> | <b>.00327</b> | <b>.00296</b> |
| Stddev | .00391         | .00015        | .00096         | .00111        | .00004        |
| %RSD   | 294.13         | 42.359        | 22330.         | 34.042        | 1.2963        |

|    |                |               |                |               |               |
|----|----------------|---------------|----------------|---------------|---------------|
| #1 | <b>-.00547</b> | <b>.00018</b> | <b>-.00018</b> | <b>.00371</b> | <b>.00294</b> |
| #2 | <b>.00229</b>  | <b>.00043</b> | <b>-.00087</b> | <b>.00200</b> | <b>.00301</b> |
| #3 | <b>-.00081</b> | <b>.00045</b> | <b>.00103</b>  | <b>.00410</b> | <b>.00294</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3340.4</b> | <b>5498.6</b> | <b>81574.</b> | <b>11244.</b> |
| Stddev    | 10.4          | 8.6           | 170.          | 35.           |
| %RSD      | .31198        | .15638        | .20821        | .30759        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>3352.4</b> | <b>5507.8</b> | <b>81757.</b> | <b>11254.</b> |
| #2 | <b>3333.5</b> | <b>5490.8</b> | <b>81421.</b> | <b>11205.</b> |
| #3 | <b>3335.3</b> | <b>5497.4</b> | <b>81543.</b> | <b>11272.</b> |

Sample Name: 180-43687-A-1-B      Acquired: 5/6/2015 12:55:43      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00018        | .02360        | .00135        | .00953        | .00076        | .00001        |
| Stddev | .00023        | .00932        | .00170        | .00010        | .00009        | .00006        |
| %RSD   | 123.38        | 39.480        | 126.08        | 1.0248        | 12.239        | 482.78        |

|    |         |        |         |        |        |         |
|----|---------|--------|---------|--------|--------|---------|
| #1 | .00032  | .01485 | -.00058 | .00942 | .00087 | .00002  |
| #2 | .00031  | .03340 | .00265  | .00957 | .00073 | .00008  |
| #3 | -.00008 | .02256 | .00198  | .00960 | .00069 | -.00005 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (ln2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .21582        | .00010        | -.00021       | .00056        | .10062        | .09653        |
| Stddev | .00295        | .00006        | .00006        | .00038        | .00132        | .00164        |
| %RSD   | 1.3676        | 57.675        | 26.272        | 68.527        | 1.3154        | 1.6939        |

|    |        |        |         |        |        |        |
|----|--------|--------|---------|--------|--------|--------|
| #1 | .21912 | .00003 | -.00016 | .00019 | .10127 | .09542 |
| #2 | .21490 | .00013 | -.00021 | .00096 | .10149 | .09576 |
| #3 | .21344 | .00014 | -.00027 | .00053 | .09910 | .09841 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43687-A-1-B      Acquired: 5/6/2015 12:55:43      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .09217        | -.00108       | .00958        | .00265        | .00419        | .21543        |
| Stddev | .00583        | .00132        | .01921        | .00007        | .00007        | .00514        |
| %RSD   | 6.3267        | 122.21        | 200.57        | 2.6502        | 1.7020        | 2.3881        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | .09652 | -.00246 | .03112  | .00264 | .00425 | .21950 |
| #2 | .08555 | -.00095 | .00341  | .00272 | .00411 | .21713 |
| #3 | .09446 | .00017  | -.00579 | .00259 | .00421 | .20965 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00127        | .00887        | -.00022       | .00149        | .16588        | .03745        |
| Stddev | .00020        | .00036        | .00067        | .00131        | .00022        | .00028        |
| %RSD   | 15.634        | 4.0060        | 300.55        | 87.670        | .12997        | .73511        |

|    |        |        |         |        |        |        |
|----|--------|--------|---------|--------|--------|--------|
| #1 | .00149 | .00926 | -.00025 | .00293 | .16604 | .03725 |
| #2 | .00114 | .00857 | -.00088 | .00114 | .16595 | .03777 |
| #3 | .00116 | .00878 | .00046  | .00040 | .16563 | .03735 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43687-A-1-B      Acquired: 5/6/2015 12:55:43      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00179</b> | <b>.00151</b> | <b>.00015</b> | <b>.00317</b> | <b>.08711</b> |
| Stddev | .00074         | .00011        | .00025        | .00078        | .00042        |
| %RSD   | 41.418         | 7.2226        | 165.55        | 24.559        | .48157        |

|    |                |               |                |               |               |
|----|----------------|---------------|----------------|---------------|---------------|
| #1 | <b>-.00152</b> | <b>.00161</b> | <b>.00025</b>  | <b>.00228</b> | <b>.08736</b> |
| #2 | <b>-.00122</b> | <b>.00153</b> | <b>-.00014</b> | <b>.00353</b> | <b>.08736</b> |
| #3 | <b>-.00262</b> | <b>.00140</b> | <b>.00034</b>  | <b>.00371</b> | <b>.08663</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3317.3</b> | <b>5479.0</b> | <b>81682.</b> | <b>11210.</b> |
| Stddev    | 6.0           | 14.8          | 99.           | 105.          |
| %RSD      | .18144        | .27008        | .12121        | .93424        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>3317.8</b> | <b>5468.0</b> | <b>81712.</b> | <b>11185.</b> |
| #2 | <b>3311.1</b> | <b>5473.2</b> | <b>81571.</b> | <b>11120.</b> |
| #3 | <b>3323.1</b> | <b>5495.9</b> | <b>81762.</b> | <b>11325.</b> |

Sample Name: 180-43688-A-1-B      Acquired: 5/6/2015 13:00:51      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00008        | .02259        | .00113        | .00211        | .00033        | -.00003       |
| Stddev | .00023        | .01396        | .00075        | .00023        | .00003        | .00003        |
| %RSD   | 279.21        | 61.794        | 65.715        | 10.776        | 9.3355        | 78.382        |
| #1     | .00020        | .01662        | .00073        | .00185        | .00030        | -.00004       |
| #2     | -.00019       | .03853        | .00199        | .00221        | .00036        | -.00000       |
| #3     | .00024        | .01260        | .00068        | .00226        | .00033        | -.00006       |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (ln2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00624        | .00014        | -.00005       | -.00011       | .00690        | .01880        |
| Stddev | .00173        | .00008        | .00011        | .00013        | .00047        | .00107        |
| %RSD   | 27.690        | 56.555        | 230.84        | 112.69        | 6.7509        | 5.7137        |
| #1     | .00776        | .00017        | .00007        | -.00004       | .00637        | .01925        |
| #2     | .00661        | .00019        | -.00015       | -.00026       | .00706        | .01958        |
| #3     | .00436        | .00005        | -.00006       | -.00004       | .00726        | .01757        |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43688-A-1-B      Acquired: 5/6/2015 13:00:51      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .07091        | -.00067       | .00642        | .00050        | .00045        | .09865        |
| Stddev | .01865        | .00100        | .01958        | .00002        | .00020        | .00045        |
| %RSD   | 26.305        | 148.04        | 304.83        | 3.7653        | 45.587        | .45224        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | .08677 | -.00097 | -.01327 | .00052 | .00068 | .09820 |
| #2 | .05036 | -.00149 | .00665  | .00049 | .00031 | .09909 |
| #3 | .07559 | .00044  | .02588  | .00049 | .00036 | .09864 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00057        | .00122        | -.00169       | .00104        | .10592        | .03194        |
| Stddev | .00025        | .00054        | .00014        | .00140        | .00390        | .00030        |
| %RSD   | 43.694        | 44.406        | 8.3618        | 134.71        | 3.6796        | .94089        |

|    |        |        |         |         |        |        |
|----|--------|--------|---------|---------|--------|--------|
| #1 | .00051 | .00069 | -.00184 | .00218  | .11021 | .03188 |
| #2 | .00085 | .00120 | -.00156 | -.00052 | .10259 | .03226 |
| #3 | .00036 | .00178 | -.00166 | .00145  | .10496 | .03167 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43688-A-1-B      Acquired: 5/6/2015 13:00:51      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |                |               |               |
|--------|----------------|---------------|----------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti             | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>-.00014</b> | <b>.00102</b> | <b>-.00100</b> | <b>.00321</b> | <b>.01764</b> |
| Stddev | .00551         | .00012        | .00064         | .00026        | .00007        |
| %RSD   | 3920.1         | 11.715        | 63.847         | 7.9878        | .41376        |

|    |                |               |                |               |               |
|----|----------------|---------------|----------------|---------------|---------------|
| #1 | <b>-.00482</b> | <b>.00115</b> | <b>-.00084</b> | <b>.00318</b> | <b>.01768</b> |
| #2 | <b>-.00153</b> | <b>.00094</b> | <b>-.00046</b> | <b>.00348</b> | <b>.01768</b> |
| #3 | <b>.00593</b>  | <b>.00095</b> | <b>-.00170</b> | <b>.00297</b> | <b>.01755</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3360.5</b> | <b>5528.4</b> | <b>81318.</b> | <b>11313.</b> |
| Stddev    | 9.6           | 14.0          | 266.          | 65.           |
| %RSD      | .28454        | .25327        | .32739        | .57625        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>3352.7</b> | <b>5525.6</b> | <b>81348.</b> | <b>11378.</b> |
| #2 | <b>3357.6</b> | <b>5516.0</b> | <b>81039.</b> | <b>11247.</b> |
| #3 | <b>3371.1</b> | <b>5543.6</b> | <b>81569.</b> | <b>11313.</b> |



Sample Name: 180-43672-A-1-B      Acquired: 5/6/2015 13:06:01      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00004</b> | <b>.02283</b> | <b>.00146</b> | <b>.00493</b> | <b>.00097</b> | <b>.00000</b> |
| Stddev | .00016         | .00700        | .00051        | .00013        | .00011        | .00001        |
| %RSD   | 376.68         | 30.672        | 34.923        | 2.6420        | 11.609        | 361.54        |

|    |         |        |        |        |        |         |
|----|---------|--------|--------|--------|--------|---------|
| #1 | .00014  | .02702 | .00136 | .00482 | .00105 | .00002  |
| #2 | -.00012 | .02673 | .00101 | .00507 | .00103 | -.00000 |
| #3 | -.00015 | .01475 | .00201 | .00489 | .00084 | -.00001 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |                |               |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co             | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447}  | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)       | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>.40221</b> | <b>.00012</b> | <b>-.00012</b> | <b>.00017</b> | <b>.00108</b> | <b>.03446</b> |
| Stddev | .00189        | .00013        | .00008         | .00041        | .00051        | .00037        |
| %RSD   | .47030        | 109.63        | 69.706         | 241.77        | 46.986        | 1.0804        |

|    |        |        |         |         |        |        |
|----|--------|--------|---------|---------|--------|--------|
| #1 | .40033 | .00026 | -.00014 | .00048  | .00131 | .03403 |
| #2 | .40411 | .00001 | -.00019 | .00033  | .00144 | .03461 |
| #3 | .40218 | .00008 | -.00003 | -.00030 | .00050 | .03473 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43672-A-1-B      Acquired: 5/6/2015 13:06:01      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |                |               |               |                |               |
|--------|---------------|----------------|---------------|---------------|----------------|---------------|
| Elem   | K_            | Li             | Mg            | Mn            | Mo             | Na            |
| Line   | 766.490 { 44} | 670.784 { 50}  | 279.079 {121} | 257.610 {131} | 202.030 {467}  | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)       | (Y_3710)      | (Y_3710)      | (Y_2243)       | (Y_3710)      |
| Units  | ppm           | ppm            | ppm           | ppm           | ppm            | ppm           |
| Avg    | <b>.21667</b> | <b>-.00018</b> | <b>.12551</b> | <b>.00057</b> | <b>-.00003</b> | <b>26.728</b> |
| Stddev | .03582        | .00126         | .00788        | .00005        | .00016         | .033          |
| %RSD   | 16.534        | 712.35         | 6.2770        | 9.2167        | 538.38         | .12469        |

|    |        |         |        |        |         |        |
|----|--------|---------|--------|--------|---------|--------|
| #1 | .24446 | -.00160 | .11658 | .00052 | .00002  | 26.741 |
| #2 | .22930 | .00078  | .13149 | .00058 | .00010  | 26.690 |
| #3 | .17624 | .00029  | .12845 | .00062 | -.00020 | 26.753 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |                |                |               |               |
|--------|---------------|---------------|----------------|----------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb             | Se             | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455}  | 196.090 {472}  | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)       | (Y_2243)       | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm            | ppm           | ppm           |
| Avg    | <b>.00040</b> | <b>.00009</b> | <b>-.00190</b> | <b>-.00045</b> | <b>2.7130</b> | <b>.03387</b> |
| Stddev | .00015        | .00060        | .00106         | .00087         | .0159         | .00024        |
| %RSD   | 37.589        | 666.26        | 55.455         | 192.44         | .58611        | .70856        |

|    |        |         |         |         |        |        |
|----|--------|---------|---------|---------|--------|--------|
| #1 | .00042 | -.00011 | -.00184 | -.00141 | 2.7065 | .03406 |
| #2 | .00054 | .00077  | -.00088 | .00029  | 2.7014 | .03360 |
| #3 | .00024 | -.00038 | -.00299 | -.00024 | 2.7311 | .03395 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43672-A-1-B      Acquired: 5/6/2015 13:06:01      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00096        | .00094        | -.00046       | .00077        | .00288        |
| Stddev | .00588        | .00007        | .00107        | .00185        | .00019        |
| %RSD   | 614.36        | 7.9358        | 233.41        | 241.75        | 6.6803        |

|    |         |        |         |         |        |
|----|---------|--------|---------|---------|--------|
| #1 | .00682  | .00102 | -.00135 | -.00121 | .00277 |
| #2 | .00099  | .00087 | .00073  | .00247  | .00311 |
| #3 | -.00494 | .00092 | -.00077 | .00104  | .00278 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3179.4        | 5394.9        | 79347.        | 11130.        |
| Stddev    | 11.1          | 12.3          | 102.          | 41.           |
| %RSD      | .34862        | .22860        | .12910        | .36513        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3190.0 | 5403.5 | 79236. | 11162. |
| #2 | 3180.3 | 5400.5 | 79368. | 11145. |
| #3 | 3167.9 | 5380.8 | 79437. | 11084. |

Sample Name: 180-43672-A-1-B SD@5      Acquired: 5/6/2015 13:11:11      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00002        | .01508        | .00186        | .00202        | .00038        | .00005        |
| Stddev | .00039        | .01943        | .00130        | .00033        | .00011        | .00003        |
| %RSD   | 1734.9        | 128.92        | 70.019        | 16.376        | 29.332        | 57.864        |

|    |         |         |        |        |        |        |
|----|---------|---------|--------|--------|--------|--------|
| #1 | .00035  | -.00182 | .00093 | .00209 | .00040 | .00003 |
| #2 | .00012  | .01074  | .00335 | .00232 | .00026 | .00004 |
| #3 | -.00040 | .03631  | .00130 | .00166 | .00047 | .00009 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .08889        | .00004        | .00011        | -.00034       | .00082        | .00815        |
| Stddev | .00214        | .00009        | .00018        | .00032        | .00033        | .00059        |
| %RSD   | 2.4091        | 218.07        | 161.21        | 96.033        | 40.185        | 7.2331        |

|    |        |         |         |         |        |        |
|----|--------|---------|---------|---------|--------|--------|
| #1 | .09081 | -.00003 | -.00008 | -.00069 | .00057 | .00814 |
| #2 | .08658 | .00001  | .00015  | -.00006 | .00119 | .00756 |
| #3 | .08927 | .00014  | .00028  | -.00026 | .00069 | .00874 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43672-A-1-B SD@5      Acquired: 5/6/2015 13:11:11      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05978        | -.00115       | .01639        | .00008        | -.00026       | 5.5213        |
| Stddev | .01998        | .00003        | .01216        | .00004        | .00008        | .0204         |
| %RSD   | 33.420        | 2.6848        | 74.179        | 51.363        | 29.897        | .37027        |

|    |        |         |        |        |         |        |
|----|--------|---------|--------|--------|---------|--------|
| #1 | .07206 | -.00116 | .00237 | .00009 | -.00024 | 5.5382 |
| #2 | .07055 | -.00111 | .02399 | .00012 | -.00034 | 5.4986 |
| #3 | .03673 | -.00117 | .02282 | .00004 | -.00018 | 5.5272 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00037        | -.00006       | -.00085       | -.00081       | .55246        | .00708        |
| Stddev | .00067        | .00057        | .00059        | .00126        | .00587        | .00048        |
| %RSD   | 182.13        | 1010.7        | 69.463        | 155.70        | 1.0617        | 6.7164        |

|    |         |         |         |         |        |        |
|----|---------|---------|---------|---------|--------|--------|
| #1 | .00025  | .00052  | -.00028 | -.00101 | .55905 | .00654 |
| #2 | .00109  | -.00007 | -.00081 | .00054  | .55053 | .00725 |
| #3 | -.00024 | -.00061 | -.00146 | -.00196 | .54781 | .00744 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43672-A-1-B SD@5      Acquired: 5/6/2015 13:11:11      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00350</b> | <b>.00026</b> | <b>.00042</b> | <b>.00337</b> | <b>.00137</b> |
| Stddev | .00169         | .00006        | .00133        | .00410        | .00014        |
| %RSD   | 48.352         | 21.792        | 314.16        | 121.75        | 10.036        |

|    |                |               |                |               |               |
|----|----------------|---------------|----------------|---------------|---------------|
| #1 | <b>-.00155</b> | <b>.00020</b> | <b>.00175</b>  | <b>.00810</b> | <b>.00142</b> |
| #2 | <b>-.00460</b> | <b>.00026</b> | <b>.00045</b>  | <b>.00107</b> | <b>.00122</b> |
| #3 | <b>-.00434</b> | <b>.00031</b> | <b>-.00092</b> | <b>.00093</b> | <b>.00148</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3243.5</b> | <b>5434.3</b> | <b>80855.</b> | <b>11162.</b> |
| Stddev    | 6.7           | 11.8          | 277.          | 21.           |
| %RSD      | .20567        | .21678        | .34210        | .18930        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3241.2 | 5422.5 | 80584. | 11139. |
| #2 | 3238.4 | 5434.4 | 81137. | 11181. |
| #3 | 3251.1 | 5446.1 | 80844. | 11165. |

Sample Name: CCV 1551842      Acquired: 5/6/2015 13:16:22      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.0912        | 26.037        | .52904        | 2.1118        | 2.0671        | 2.0657        |
| Stddev | .0117         | .452          | .00040        | .0067         | .0383         | .0397         |
| %RSD   | 1.0716        | 1.7360        | .07573        | .31947        | 1.8536        | 1.9239        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.1047 | 25.730 | .52879 | 2.1186 | 2.0421 | 2.0462 |
| #2 | 1.0841 | 25.826 | .52883 | 2.1116 | 2.0479 | 2.0395 |
| #3 | 1.0849 | 26.556 | .52950 | 2.1051 | 2.1112 | 2.1114 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 52.531        | .52166        | 2.1127        | 2.0583        | 1.9724        | 26.639        |
| Stddev | .981          | .00174        | .0059         | .0205         | .0312         | .558          |
| %RSD   | 1.8668        | .33280        | .27681        | .99613        | 1.5827        | 2.0938        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 51.903 | .52342 | 2.1163 | 2.0816 | 1.9572 | 26.346 |
| #2 | 52.030 | .52162 | 2.1158 | 2.0504 | 1.9517 | 26.289 |
| #3 | 53.661 | .51995 | 2.1059 | 2.0430 | 2.0083 | 27.282 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/6/2015 13:16:22      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>132.08</b> | <b>2.0732</b> | <b>52.516</b> | <b>1.9375</b> | <b>2.0179</b> | <b>132.65</b> |
| Stddev | 2.57          | .0372         | .934          | .0273         | .0082         | 2.40          |
| %RSD   | 1.9475        | 1.7968        | 1.7781        | 1.4082        | .40496        | 1.8087        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 130.64 | 2.0516 | 51.905 | 1.9138 | 2.0261 | 131.18 |
| #2 | 130.56 | 2.0518 | 52.052 | 1.9315 | 2.0181 | 131.35 |
| #3 | 135.05 | 2.1162 | 53.591 | 1.9673 | 2.0097 | 135.42 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>2.0916</b> | <b>.51541</b> | <b>.52190</b> | <b>.52288</b> | <b>2.0759</b> | <b>1.9551</b> |
| Stddev | .0050         | .00491        | .00249        | .00602        | .0312         | .0091         |
| %RSD   | .24119        | .95345        | .47696        | 1.1522        | 1.5028        | .46527        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 2.0968 | .51982 | .52419 | .52956 | 2.0569 | 1.9650 |
| #2 | 2.0912 | .51630 | .52226 | .52120 | 2.0588 | 1.9532 |
| #3 | 2.0867 | .51011 | .51925 | .51786 | 2.1119 | 1.9472 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |



Sample Name: CCV 1551842      Acquired: 5/6/2015 13:16:22      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 2.0066        | 1.9587        | .98583        | F 2.2071      | 2.0180        |
| Stddev | .0336         | .0277         | .00747        | .0273         | .0081         |
| %RSD   | 1.6746        | 1.4150        | .75771        | 1.2350        | .39936        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | 1.9810 | 1.9374 | .99340 | 2.2346 | 2.0238 |
| #2 | 1.9942 | 1.9486 | .98563 | 2.1801 | 2.0214 |
| #3 | 2.0447 | 1.9900 | .97847 | 2.2066 | 2.0088 |

|         |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value   |          |          |          | 2.0000   |          |
| Range   |          |          |          | 10.000%  |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2709.1        | 5171.4        | 72944.        | 10792.        |
| Stddev    | 5.4           | 12.8          | 589.          | 164.          |
| %RSD      | .20019        | .24780        | .80770        | 1.5164        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2703.4 | 5157.5 | 72273. | 10914. |
| #2 | 2709.7 | 5174.1 | 73187. | 10856. |
| #3 | 2714.2 | 5182.7 | 73374. | 10606. |

Sample Name: CCB7      Acquired: 5/6/2015 13:21:09      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00010</b> | <b>.01244</b> | <b>.00137</b> | <b>.00275</b> | <b>.00029</b> | <b>.00020</b> |
| Stddev | .00028         | .00934        | .00244        | .00040        | .00008        | .00005        |
| %RSD   | 293.78         | 75.094        | 178.60        | 14.696        | 27.443        | 24.062        |

|    |         |        |         |        |        |        |
|----|---------|--------|---------|--------|--------|--------|
| #1 | .00023  | .00502 | .00391  | .00317 | .00020 | .00026 |
| #2 | -.00026 | .02292 | -.00095 | .00272 | .00035 | .00019 |
| #3 | -.00026 | .00937 | .00113  | .00236 | .00031 | .00016 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |                |               |                |               |               |
|--------|---------------|----------------|---------------|----------------|---------------|---------------|
| Elem   | Ca            | Cd             | Co            | Cr             | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447} | 267.716 {126}  | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (In2306)      | (Y_3600)       | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm            | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>.01606</b> | <b>-.00006</b> | <b>.00009</b> | <b>-.00028</b> | <b>.00079</b> | <b>.00595</b> |
| Stddev | .00138        | .00009         | .00016        | .00047         | .00009        | .00264        |
| %RSD   | 8.6164        | 147.06         | 178.19        | 169.94         | 11.704        | 44.351        |

|    |        |         |         |         |        |        |
|----|--------|---------|---------|---------|--------|--------|
| #1 | .01741 | -.00017 | -.00003 | -.00080 | .00070 | .00820 |
| #2 | .01612 | .00001  | .00026  | -.00016 | .00079 | .00662 |
| #3 | .01465 | -.00004 | .00003  | .00013  | .00089 | .00304 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB7      Acquired: 5/6/2015 13:21:09      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .10189        | -.00068       | .01727        | .00019        | .00252        | .09828        |
| Stddev | .03031        | .00149        | .01287        | .00005        | .00054        | .00895        |
| %RSD   | 29.752        | 218.98        | 74.536        | 28.269        | 21.354        | 9.1021        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | .08376 | .00028  | .02990 | .00019 | .00308 | .08985 |
| #2 | .13689 | .00008  | .01773 | .00023 | .00246 | .09732 |
| #3 | .08503 | -.00239 | .00417 | .00013 | .00201 | .10767 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00004        | -.00072       | -.00071       | .00041        | -.00131       | .00058        |
| Stddev | .00045        | .00132        | .00153        | .00246        | .00436        | .00009        |
| %RSD   | 1042.0        | 183.73        | 215.98        | 603.02        | 333.31        | 16.266        |

|    |         |         |         |         |         |        |
|----|---------|---------|---------|---------|---------|--------|
| #1 | -.00038 | -.00124 | .00068  | .00070  | -.00564 | .00068 |
| #2 | -.00001 | .00078  | -.00046 | .00271  | .00307  | .00050 |
| #3 | .00051  | -.00170 | -.00235 | -.00218 | -.00135 | .00055 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB7      Acquired: 5/6/2015 13:21:09      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00029        | .00040        | .00215        | .00293        | .00017        |
| Stddev | .00339        | .00010        | .00115        | .00092        | .00007        |
| %RSD   | 1158.8        | 23.845        | 53.283        | 31.416        | 37.659        |

|    |         |        |        |        |        |
|----|---------|--------|--------|--------|--------|
| #1 | .00196  | .00033 | .00098 | .00203 | .00020 |
| #2 | .00253  | .00051 | .00327 | .00290 | .00010 |
| #3 | -.00361 | .00036 | .00221 | .00387 | .00022 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3340.6        | 5536.8        | 80546.        | 11116.        |
| Stddev    | 4.3           | 7.3           | 197.          | 35.           |
| %RSD      | .12926        | .13143        | .24441        | .31195        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3340.8 | 5537.3 | 80767. | 11149. |
| #2 | 3344.8 | 5543.7 | 80480. | 11120. |
| #3 | 3336.1 | 5529.2 | 80390. | 11080. |

Sample Name: CRI 1550960      Acquired: 5/6/2015 13:26:21      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00529        | .20047        | F .01316      | .21080        | .20216        | .00404        |
| Stddev | .00045        | .01463        | .00086        | .00071        | .00070        | .00008        |
| %RSD   | 8.5901        | 7.3002        | 6.5027        | .33547        | .34435        | 2.0124        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .00497 | .19409 | .01367 | .21105 | .20283 | .00405 |
| #2 | .00509 | .19011 | .01217 | .21136 | .20220 | .00395 |
| #3 | .00581 | .21721 | .01364 | .21001 | .20144 | .00412 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          | .01000   |          |          |          |
| Range   |          |          | 30.000%  |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 5.1939        | .00506        | .04944        | .00469        | .02621        | .10997        |
| Stddev | .0065         | .00009        | .00024        | .00043        | .00043        | .00176        |
| %RSD   | .12552        | 1.7779        | .47789        | 9.1038        | 1.6243        | 1.6011        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 5.1889 | .00496 | .04916 | .00457 | .02585 | .10847 |
| #2 | 5.2013 | .00509 | .04956 | .00434 | .02611 | .11191 |
| #3 | 5.1916 | .00513 | .04959 | .00517 | .02668 | .10953 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CRI 1550960      Acquired: 5/6/2015 13:26:21      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>5.3141</b> | <b>.05179</b> | <b>5.3351</b> | <b>.01577</b> | <b>.04233</b> | <b>5.4062</b> |
| Stddev | .0056         | .00089        | .0463         | .00006        | .00032        | .0138         |
| %RSD   | .10519        | 1.7128        | .86789        | .35005        | .75985        | .25559        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 5.3082 | .05080 | 5.2846 | .01582 | .04237 | 5.4210 |
| #2 | 5.3148 | .05205 | 5.3453 | .01571 | .04262 | 5.4040 |
| #3 | 5.3193 | .05252 | 5.3755 | .01577 | .04199 | 5.3937 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.03984</b> | <b>.01047</b> | <b>.00992</b> | <b>.01185</b> | <b>.50485</b> | <b>.10269</b> |
| Stddev | .00027        | .00008        | .00114        | .00053        | .00876        | .00026        |
| %RSD   | .68205        | .73768        | 11.475        | 4.4934        | 1.7345        | .25445        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .03987 | .01056 | .01122 | .01247 | .51430 | .10243 |
| #2 | .04010 | .01043 | .00938 | .01158 | .50326 | .10270 |
| #3 | .03956 | .01042 | .00914 | .01152 | .49700 | .10295 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CRI 1550960      Acquired: 5/6/2015 13:26:21      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.04534</b> | <b>.05149</b> | <b>.02157</b> | <b>.05480</b> | <b>.01985</b> |
| Stddev | .00664        | .00022        | .00059        | .00341        | .00004        |
| %RSD   | 14.642        | .43079        | 2.7513        | 6.2166        | .19602        |

|    |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.04592</b> | <b>.05136</b> | <b>.02093</b> | <b>.05142</b> | <b>.01985</b> |
| #2 | <b>.03843</b> | <b>.05175</b> | <b>.02211</b> | <b>.05474</b> | <b>.01981</b> |
| #3 | <b>.05168</b> | <b>.05137</b> | <b>.02165</b> | <b>.05823</b> | <b>.01989</b> |

|         |                 |                 |                 |                 |                 |
|---------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ? | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| Value   |                 |                 |                 |                 |                 |
| Range   |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3185.9</b> | <b>5404.3</b> | <b>79466.</b> | <b>11093.</b> |
| Stddev    | 5.2           | 2.3           | 158.          | 41.           |
| %RSD      | .16460        | .04217        | .19851        | .37247        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>3180.2</b> | <b>5401.8</b> | <b>79648.</b> | <b>11112.</b> |
| #2 | <b>3190.6</b> | <b>5404.7</b> | <b>79368.</b> | <b>11045.</b> |
| #3 | <b>3186.7</b> | <b>5406.3</b> | <b>79381.</b> | <b>11121.</b> |

Sample Name: MB 180-140635/1-A      Acquired: 5/6/2015 13:33:41      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00001        | .01358        | .00453        | .00441        | .00048        | .00009        |
| Stddev | .00025        | .00939        | .00026        | .00021        | .00013        | .00004        |
| %RSD   | 3154.9        | 69.125        | 5.6390        | 4.7868        | 27.311        | 42.560        |

|    |         |        |        |        |        |        |
|----|---------|--------|--------|--------|--------|--------|
| #1 | .00025  | .00557 | .00424 | .00417 | .00062 | .00005 |
| #2 | .00001  | .01126 | .00472 | .00455 | .00036 | .00011 |
| #3 | -.00024 | .02391 | .00464 | .00451 | .00046 | .00012 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .03647        | -.00016       | .00035        | F .00597      | .00266        | .03594        |
| Stddev | .00026        | .00008        | .00007        | .00031        | .00022        | .00149        |
| %RSD   | .71045        | 47.497        | 20.100        | 5.1575        | 8.1744        | 4.1355        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | .03652 | -.00016 | .00039 | .00612 | .00291 | .03692 |
| #2 | .03671 | -.00009 | .00039 | .00562 | .00255 | .03423 |
| #3 | .03619 | -.00024 | .00027 | .00618 | .00251 | .03666 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| High Limit |          |          |          | .00500   |          |          |
| Low Limit  |          |          |          | -.00500  |          |          |



Sample Name: MB 180-140635/1-A      Acquired: 5/6/2015 13:33:41      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .08002        | -.00153       | .01260        | .00065        | .00024        | .11760        |
| Stddev | .03332        | .00097        | .00995        | .00004        | .00020        | .00500        |
| %RSD   | 41.634        | 63.569        | 78.998        | 6.6785        | 81.873        | 4.2535        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | .08107 | -.00189 | .00228 | .00067 | .00042 | .12332 |
| #2 | .11280 | -.00043 | .02214 | .00069 | .00028 | .11541 |
| #3 | .04619 | -.00227 | .01338 | .00060 | .00003 | .11406 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00247        | .00025        | -.00050       | -.00089       | .05057        | .00049        |
| Stddev | .00036        | .00111        | .00115        | .00163        | .00108        | .00018        |
| %RSD   | 14.652        | 438.38        | 229.23        | 183.35        | 2.1312        | 35.871        |

|    |        |         |         |         |        |        |
|----|--------|---------|---------|---------|--------|--------|
| #1 | .00207 | -.00097 | .00001  | -.00082 | .05066 | .00030 |
| #2 | .00255 | .00054  | .00031  | .00070  | .04945 | .00064 |
| #3 | .00278 | .00118  | -.00182 | -.00255 | .05159 | .00054 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: MB 180-140635/1-A      Acquired: 5/6/2015 13:33:41      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |                 |
|--------|----------------|---------------|---------------|---------------|-----------------|
| Elem   | Sr             | Ti            | Ti            | V_            | Zn              |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463}   |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)        |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm             |
| Avg    | <b>-.00095</b> | <b>.00008</b> | <b>.00221</b> | <b>.00323</b> | <b>F .05380</b> |
| Stddev | .00119         | .00009        | .00043        | .00344        | .00033          |
| %RSD   | 125.76         | 116.18        | 19.414        | 106.35        | .60457          |

|    |         |         |        |        |        |
|----|---------|---------|--------|--------|--------|
| #1 | .00041  | .00017  | .00212 | .00710 | .05355 |
| #2 | -.00141 | .00009  | .00184 | .00051 | .05416 |
| #3 | -.00183 | -.00002 | .00268 | .00210 | .05368 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit |          |          |          |          | .02000   |
| Low Limit  |          |          |          |          | -.02000  |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3439.2</b> | <b>5658.7</b> | <b>81554.</b> | <b>11395.</b> |
| Stddev    | 10.3          | 13.2          | 210.          | 64.           |
| %RSD      | .29906        | .23292        | .25694        | .56190        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3429.5 | 5650.2 | 81572. | 11426. |
| #2 | 3438.2 | 5651.9 | 81755. | 11321. |
| #3 | 3450.0 | 5673.8 | 81337. | 11438. |

Sample Name: LCS 180-140635/2-A      Acquired: 5/6/2015 13:38:50      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .04952        | 1.9839        | .50215        | 1.0746        | 1.9461        | .04778        |
| Stddev | .00110        | .0362         | .00159        | .0033         | .0025         | .00028        |
| %RSD   | 2.2247        | 1.8242        | .31599        | .31025        | .12707        | .57673        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .05061 | 1.9816 | .50166 | 1.0708 | 1.9478 | .04810 |
| #2 | .04953 | 2.0212 | .50087 | 1.0767 | 1.9471 | .04761 |
| #3 | .04841 | 1.9489 | .50392 | 1.0764 | 1.9432 | .04764 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (ln2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | F .05077      | .05059        | .47744        | .20997        | .25644        | 1.0474        |
| Stddev | .00235        | .00028        | .00051        | .00383        | .00115        | .0094         |
| %RSD   | 4.6269        | .55177        | .10778        | 1.8244        | .44983        | .89348        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .04822 | .05028 | .47712 | .21393 | .25756 | 1.0581 |
| #2 | .05124 | .05083 | .47804 | .20968 | .25649 | 1.0404 |
| #3 | .05285 | .05065 | .47717 | .20629 | .25526 | 1.0438 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Fail | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit | 60.000   |          |          |          |          |          |
| Low Limit  | 40.000   |          |          |          |          |          |

Sample Name: LCS 180-140635/2-A      Acquired: 5/6/2015 13:38:50      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | F .06668      | .99554        | F .01346      | .50395        | F .00023      | F .10949      |
| Stddev | .01552        | .00075        | .02265        | .00376        | .00008        | .00893        |
| %RSD   | 23.283        | .07550        | 168.25        | .74604        | 33.250        | 8.1541        |

|    |        |        |         |        |        |        |
|----|--------|--------|---------|--------|--------|--------|
| #1 | .06497 | .99638 | .01987  | .50829 | .00015 | .10082 |
| #2 | .08298 | .99494 | -.01170 | .50170 | .00026 | .10900 |
| #3 | .05208 | .99528 | .03221  | .50186 | .00029 | .11865 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Fail | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail |
| High Limit | 60.000   |          | 60.000   |          | 1.2000   | 60.000   |
| Low Limit  | 40.000   |          | 40.000   |          | .80000   | 40.000   |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .48083        | .48086        | F -.00145     | .54912        | F .05511      | F .00128      |
| Stddev | .00142        | .00269        | .00181        | .00351        | .00134        | .00053        |
| %RSD   | .29566        | .55876        | 124.69        | .63878        | 2.4321        | 41.137        |

|    |        |        |         |        |        |        |
|----|--------|--------|---------|--------|--------|--------|
| #1 | .47941 | .47861 | -.00079 | .54520 | .05664 | .00067 |
| #2 | .48082 | .48015 | -.00350 | .55017 | .05454 | .00157 |
| #3 | .48225 | .48384 | -.00006 | .55198 | .05414 | .00160 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Fail | Chk Fail |
| High Limit |          |          | .60000   |          | 12.000   | 2.4000   |
| Low Limit  |          |          | .40000   |          | 8.0000   | 1.6000   |

Sample Name: LCS 180-140635/2-A      Acquired: 5/6/2015 13:38:50      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .95785        | F .00019      | .48531        | .49965        | .54334        |
| Stddev | .00781        | .00009        | .00349        | .00816        | .00069        |
| %RSD   | .81543        | 49.936        | .71907        | 1.6331        | .12773        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .96666 | .00020 | .48148 | .50809 | .54284 |
| #2 | .95510 | .00009 | .48831 | .49906 | .54305 |
| #3 | .95178 | .00028 | .48614 | .49180 | .54413 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          | 1.2000   |          |          |          |
| Low Limit  |          | .80000   |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3324.9        | 5585.2        | 79038.        | 11315.        |
| Stddev    | 4.9           | 10.5          | 1304.         | 49.           |
| %RSD      | .14631        | .18813        | 1.6495        | .43191        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3330.1 | 5597.4 | 77537. | 11261. |
| #2 | 3324.1 | 5579.1 | 79699. | 11357. |
| #3 | 3320.5 | 5579.3 | 79880. | 11328. |

Sample Name: 180-43368-B-1-J      Acquired: 5/6/2015 13:43:43      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00076</b> | <b>37.161</b> | <b>.02224</b> | <b>.02801</b> | <b>1.1024</b> | <b>.01258</b> |
| Stddev | .00021         | .035          | .00150        | .00026        | .0025         | .00006        |
| %RSD   | 27.074         | .09547        | 6.7500        | .91264        | .22518        | .48063        |

|    |                |               |               |               |               |               |
|----|----------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00054</b> | <b>37.120</b> | <b>.02264</b> | <b>.02818</b> | <b>1.1024</b> | <b>.01261</b> |
| #2 | <b>-.00079</b> | <b>37.181</b> | <b>.02350</b> | <b>.02813</b> | <b>1.1000</b> | <b>.01251</b> |
| #3 | <b>-.00095</b> | <b>37.183</b> | <b>.02058</b> | <b>.02771</b> | <b>1.1049</b> | <b>.01263</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>71.670</b> | <b>.01164</b> | <b>.24709</b> | <b>.17550</b> | <b>.73168</b> | <b>171.17</b> |
| Stddev | .168          | .00004        | .00042        | .00007        | .00247        | .17           |
| %RSD   | .23389        | .33640        | .17011        | .03782        | .33776        | .10075        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>71.562</b> | <b>.01165</b> | <b>.24692</b> | <b>.17557</b> | <b>.72893</b> | <b>171.05</b> |
| #2 | <b>71.863</b> | <b>.01168</b> | <b>.24678</b> | <b>.17545</b> | <b>.73373</b> | <b>171.37</b> |
| #3 | <b>71.585</b> | <b>.01160</b> | <b>.24757</b> | <b>.17547</b> | <b>.73238</b> | <b>171.11</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

Sample Name: 180-43368-B-1-J      Acquired: 5/6/2015 13:43:43      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |                |               |
|--------|---------------|---------------|---------------|---------------|----------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo             | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467}  | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)       | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm            | ppm           |
| Avg    | <b>2.7132</b> | <b>.02461</b> | <b>23.764</b> | <b>5.7554</b> | <b>-.00039</b> | <b>3.4814</b> |
| Stddev | .0292         | .00041        | .085          | .0521         | .00004         | .0076         |
| %RSD   | 1.0779        | 1.6769        | .35907        | .90580        | 10.161         | .21830        |

|    |        |        |        |        |         |        |
|----|--------|--------|--------|--------|---------|--------|
| #1 | 2.6903 | .02458 | 23.667 | 5.7150 | -.00036 | 3.4830 |
| #2 | 2.7031 | .02504 | 23.830 | 5.8143 | -.00038 | 3.4731 |
| #3 | 2.7461 | .02421 | 23.794 | 5.7371 | -.00043 | 3.4880 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |                |               |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb             | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455}  | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>.36625</b> | <b>1.4796</b> | <b>-.00085</b> | <b>.00066</b> | <b>14.420</b> | <b>.02441</b> |
| Stddev | .00095        | .0031         | .00051         | .00184        | .036          | .00034        |
| %RSD   | .26053        | .21168        | 60.067         | 276.51        | .25055        | 1.3762        |

|    |        |        |         |         |        |        |
|----|--------|--------|---------|---------|--------|--------|
| #1 | .36524 | 1.4760 | -.00030 | -.00049 | 14.404 | .02429 |
| #2 | .36639 | 1.4818 | -.00131 | .00278  | 14.462 | .02415 |
| #3 | .36713 | 1.4811 | -.00094 | -.00030 | 14.396 | .02479 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43368-B-1-J      Acquired: 5/6/2015 13:43:43      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |                |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti             | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>.24147</b> | <b>.47056</b> | <b>-.00094</b> | <b>.30833</b> | <b>3.3841</b> |
| Stddev | .00260        | .00276        | .00144         | .00169        | .0053         |
| %RSD   | 1.0779        | .58657        | 152.64         | .54914        | .15679        |

|    |               |               |                |               |               |
|----|---------------|---------------|----------------|---------------|---------------|
| #1 | <b>.24114</b> | <b>.46808</b> | <b>-.00120</b> | <b>.30638</b> | <b>3.3799</b> |
| #2 | <b>.23905</b> | <b>.47353</b> | <b>.00061</b>  | <b>.30940</b> | <b>3.3823</b> |
| #3 | <b>.24422</b> | <b>.47007</b> | <b>-.00224</b> | <b>.30921</b> | <b>3.3900</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2944.5</b> | <b>6802.4</b> | <b>99171.</b> | <b>14380.</b> |
| Stddev    | 5.1           | 4.6           | 182.          | 97.           |
| %RSD      | .17257        | .06823        | .18305        | .67746        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2948.5 | 6803.0 | 99126. | 14460. |
| #2 | 2946.3 | 6806.7 | 99017. | 14272. |
| #3 | 2938.8 | 6797.5 | 99371. | 14409. |



Sample Name: 180-43368-B-1-J SD@5      Acquired: 5/6/2015 13:48:46      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00017</b> | <b>8.9589</b> | <b>.00909</b> | <b>.00691</b> | <b>.26458</b> | <b>.00296</b> |
| Stddev | .00019         | .0193         | .00056        | .00049        | .00063        | .00005        |
| %RSD   | 109.82         | .21510        | 6.1700        | 7.1544        | .23953        | 1.6750        |

|    |                |               |               |               |               |               |
|----|----------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00002</b> | <b>8.9464</b> | <b>.00902</b> | <b>.00693</b> | <b>.26390</b> | <b>.00291</b> |
| #2 | <b>-.00011</b> | <b>8.9811</b> | <b>.00969</b> | <b>.00739</b> | <b>.26515</b> | <b>.00295</b> |
| #3 | <b>-.00039</b> | <b>8.9493</b> | <b>.00858</b> | <b>.00640</b> | <b>.26469</b> | <b>.00301</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>17.430</b> | <b>.00261</b> | <b>.04858</b> | <b>.04351</b> | <b>.17931</b> | <b>42.737</b> |
| Stddev | .046          | .00005        | .00048        | .00056        | .00130        | .245          |
| %RSD   | .26276        | 1.8318        | .99168        | 1.2824        | .72322        | .57386        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>17.387</b> | <b>.00257</b> | <b>.04810</b> | <b>.04372</b> | <b>.17865</b> | <b>42.512</b> |
| #2 | <b>17.478</b> | <b>.00261</b> | <b>.04906</b> | <b>.04287</b> | <b>.18081</b> | <b>42.998</b> |
| #3 | <b>17.425</b> | <b>.00266</b> | <b>.04859</b> | <b>.04392</b> | <b>.17848</b> | <b>42.699</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43368-B-1-J SD@5      Acquired: 5/6/2015 13:48:46      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .69652        | .00615        | 5.7200        | 1.5179        | -.00026       | .88125        |
| Stddev | .00912        | .00093        | .0463         | .0052         | .00030        | .00834        |
| %RSD   | 1.3087        | 15.142        | .80882        | .33937        | 116.87        | .94627        |

|    |        |        |        |        |         |        |
|----|--------|--------|--------|--------|---------|--------|
| #1 | .68656 | .00700 | 5.6677 | 1.5221 | -.00050 | .87293 |
| #2 | .70445 | .00628 | 5.7558 | 1.5195 | .00008  | .88960 |
| #3 | .69853 | .00516 | 5.7363 | 1.5122 | -.00036 | .88123 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .07092        | .28900        | -.00050       | .00054        | 3.4336        | .00660        |
| Stddev | .00075        | .00228        | .00014        | .00077        | .0223         | .00024        |
| %RSD   | 1.0614        | .78984        | 28.885        | 142.50        | .64916        | 3.5845        |

|    |        |        |         |         |        |        |
|----|--------|--------|---------|---------|--------|--------|
| #1 | .07142 | .28721 | -.00056 | .00076  | 3.4236 | .00662 |
| #2 | .07128 | .29157 | -.00034 | -.00032 | 3.4591 | .00635 |
| #3 | .07005 | .28823 | -.00061 | .00118  | 3.4180 | .00682 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43368-B-1-J SD@5      Acquired: 5/6/2015 13:48:46      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05699        | .11904        | -.00020       | .07604        | .83512        |
| Stddev | .00128        | .00067        | .00062        | .00070        | .00226        |
| %RSD   | 2.2378        | .55897        | 306.99        | .91841        | .27078        |

|    |        |        |         |        |        |
|----|--------|--------|---------|--------|--------|
| #1 | .05842 | .11956 | .00042  | .07586 | .83660 |
| #2 | .05656 | .11927 | -.00020 | .07546 | .83624 |
| #3 | .05598 | .11829 | -.00082 | .07682 | .83251 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3136.8        | 5729.5        | 83082.        | 11755.        |
| Stddev    | 3.6           | 7.5           | 327.          | 43.           |
| %RSD      | .11399        | .13057        | .39417        | .36229        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3134.3 | 5722.7 | 83458. | 11753. |
| #2 | 3135.2 | 5737.5 | 82928. | 11713. |
| #3 | 3140.9 | 5728.2 | 82860. | 11798. |

Sample Name: 180-43368-B-1-K MS      Acquired: 5/6/2015 13:53:49      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.01313</b> | <b>37.444</b> | <b>.24944</b> | <b>.76600</b> | <b>2.4697</b> | <b>.04888</b> |
| Stddev | .00014        | .042          | .00108        | .00220        | .0042         | .00024        |
| %RSD   | 1.0670        | .11239        | .43419        | .28729        | .17064        | .48771        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .01298 | 37.435 | .24939 | .76345 | 2.4661 | .04915 |
| #2 | .01317 | 37.490 | .25055 | .76730 | 2.4743 | .04874 |
| #3 | .01325 | 37.407 | .24838 | .76723 | 2.4685 | .04874 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>59.269</b> | <b>.04949</b> | <b>.67419</b> | <b>.31963</b> | <b>.80937</b> | <b>168.00</b> |
| Stddev | .097          | .00018        | .00096        | .00171        | .00393        | .73           |
| %RSD   | .16282        | .36602        | .14171        | .53596        | .48507        | .43298        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 59.366 | .04929 | .67375 | .31819 | .81258 | 168.70 |
| #2 | 59.173 | .04964 | .67529 | .32152 | .80499 | 167.24 |
| #3 | 59.267 | .04955 | .67353 | .31916 | .81052 | 168.05 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43368-B-1-K MS      Acquired: 5/6/2015 13:53:49      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |                |               |
|--------|---------------|---------------|---------------|---------------|----------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo             | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467}  | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)       | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm            | ppm           |
| Avg    | <b>2.6226</b> | <b>.80294</b> | <b>22.135</b> | <b>5.4190</b> | <b>-.00089</b> | <b>3.2915</b> |
| Stddev | .0122         | .00049        | .155          | .0377         | .00014         | .0006         |
| %RSD   | .46417        | .06097        | .70152        | .69569        | 15.736         | .01935        |

|    |               |               |               |               |                |               |
|----|---------------|---------------|---------------|---------------|----------------|---------------|
| #1 | <b>2.6361</b> | <b>.80313</b> | <b>22.314</b> | <b>5.4526</b> | <b>-.00098</b> | <b>3.2911</b> |
| #2 | <b>2.6124</b> | <b>.80239</b> | <b>22.036</b> | <b>5.3782</b> | <b>-.00073</b> | <b>3.2910</b> |
| #3 | <b>2.6194</b> | <b>.80331</b> | <b>22.055</b> | <b>5.4262</b> | <b>-.00098</b> | <b>3.2922</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.79685</b> | <b>1.8444</b> | <b>.00066</b> | <b>.00140</b> | <b>15.706</b> | <b>.02374</b> |
| Stddev | .00096        | .0048         | .00125        | .00176        | .036          | .00018        |
| %RSD   | .12029        | .26066        | 190.42        | 125.71        | .23220        | .76133        |

|    |               |               |                |               |               |               |
|----|---------------|---------------|----------------|---------------|---------------|---------------|
| #1 | <b>.79788</b> | <b>1.8392</b> | <b>-.00053</b> | <b>.00015</b> | <b>15.700</b> | <b>.02379</b> |
| #2 | <b>.79599</b> | <b>1.8487</b> | <b>.00197</b>  | <b>.00063</b> | <b>15.674</b> | <b>.02354</b> |
| #3 | <b>.79667</b> | <b>1.8453</b> | <b>.00053</b>  | <b>.00341</b> | <b>15.746</b> | <b>.02389</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

Sample Name: 180-43368-B-1-K MS      Acquired: 5/6/2015 13:53:49      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .94620        | .55873        | .42656        | .69684        | 3.6281        |
| Stddev | .00215        | .00340        | .00106        | .00809        | .0092         |
| %RSD   | .22710        | .60785        | .24794        | 1.1607        | .25419        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .94389 | .56251 | .42753 | .68770 | 3.6267 |
| #2 | .94814 | .55592 | .42671 | .70307 | 3.6379 |
| #3 | .94658 | .55778 | .42543 | .69976 | 3.6196 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2995.3        | 6780.7        | 97007.        | 14005.        |
| Stddev    | 3.8           | 9.0           | 481.          | 66.           |
| %RSD      | .12612        | .13344        | .49553        | .47078        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2999.5 | 6790.9 | 97354. | 13929. |
| #2 | 2994.0 | 6777.6 | 96459. | 14041. |
| #3 | 2992.3 | 6773.7 | 97210. | 14046. |

Sample Name: 180-43368-B-1-L MSD      Acquired: 5/6/2015 13:58:48      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.01777</b> | <b>37.884</b> | <b>.25787</b> | <b>.77066</b> | <b>2.4561</b> | <b>.04889</b> |
| Stddev | .00031        | .027          | .00255        | .00565        | .0057         | .00017        |
| %RSD   | 1.7606        | .07135        | .98782        | .73302        | .23223        | .34038        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.01742</b> | <b>37.875</b> | <b>.25637</b> | <b>.76465</b> | <b>2.4509</b> | <b>.04871</b> |
| #2 | <b>.01788</b> | <b>37.914</b> | <b>.25642</b> | <b>.77146</b> | <b>2.4550</b> | <b>.04904</b> |
| #3 | <b>.01801</b> | <b>37.862</b> | <b>.26081</b> | <b>.77586</b> | <b>2.4622</b> | <b>.04892</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>59.486</b> | <b>.05002</b> | <b>.67245</b> | <b>.32245</b> | <b>.82590</b> | <b>165.76</b> |
| Stddev | .066          | .00019        | .00545        | .00123        | .00125        | .37           |
| %RSD   | .11168        | .37703        | .81035        | .38184        | .15102        | .22305        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>59.429</b> | <b>.04981</b> | <b>.66882</b> | <b>.32387</b> | <b>.82604</b> | <b>165.33</b> |
| #2 | <b>59.559</b> | <b>.05009</b> | <b>.66981</b> | <b>.32190</b> | <b>.82459</b> | <b>166.00</b> |
| #3 | <b>59.471</b> | <b>.05016</b> | <b>.67872</b> | <b>.32160</b> | <b>.82708</b> | <b>165.94</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43368-B-1-L MSD      Acquired: 5/6/2015 13:58:48      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |                |               |
|--------|---------------|---------------|---------------|---------------|----------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo             | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467}  | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)       | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm            | ppm           |
| Avg    | <b>2.6406</b> | <b>.80502</b> | <b>22.230</b> | <b>5.6348</b> | <b>-.00081</b> | <b>3.3446</b> |
| Stddev | .0347         | .00110        | .072          | .0251         | .00009         | .0099         |
| %RSD   | 1.3150        | .13622        | .32575        | .44630        | 10.933         | .29698        |

|    |               |               |               |               |                |               |
|----|---------------|---------------|---------------|---------------|----------------|---------------|
| #1 | <b>2.6057</b> | <b>.80410</b> | <b>22.163</b> | <b>5.6087</b> | <b>-.00074</b> | <b>3.3387</b> |
| #2 | <b>2.6752</b> | <b>.80623</b> | <b>22.221</b> | <b>5.6366</b> | <b>-.00091</b> | <b>3.3392</b> |
| #3 | <b>2.6409</b> | <b>.80471</b> | <b>22.307</b> | <b>5.6589</b> | <b>-.00078</b> | <b>3.3561</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.80088</b> | <b>1.8744</b> | <b>.00078</b> | <b>.00261</b> | <b>15.190</b> | <b>.02284</b> |
| Stddev | .00540        | .0121         | .00087        | .00241        | .048          | .00024        |
| %RSD   | .67477        | .64277        | 111.99        | 92.191        | .31449        | 1.0313        |

|    |               |               |                |               |               |               |
|----|---------------|---------------|----------------|---------------|---------------|---------------|
| #1 | <b>.79664</b> | <b>1.8656</b> | <b>-.00008</b> | <b>.00042</b> | <b>15.135</b> | <b>.02303</b> |
| #2 | <b>.79902</b> | <b>1.8694</b> | <b>.00166</b>  | <b>.00519</b> | <b>15.223</b> | <b>.02258</b> |
| #3 | <b>.80696</b> | <b>1.8881</b> | <b>.00074</b>  | <b>.00222</b> | <b>15.211</b> | <b>.02291</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43368-B-1-L MSD      Acquired: 5/6/2015 13:58:48      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.94540</b> | <b>.55136</b> | <b>.43308</b> | <b>.68739</b> | <b>3.6156</b> |
| Stddev | .00543        | .00103        | .00320        | .00141        | .0238         |
| %RSD   | .57433        | .18627        | .73970        | .20456        | .65942        |

|    |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.93929</b> | <b>.55020</b> | <b>.42939</b> | <b>.68579</b> | <b>3.6018</b> |
| #2 | <b>.94723</b> | <b>.55175</b> | <b>.43484</b> | <b>.68793</b> | <b>3.6019</b> |
| #3 | <b>.94967</b> | <b>.55214</b> | <b>.43502</b> | <b>.68845</b> | <b>3.6432</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2951.2</b> | <b>6682.6</b> | <b>96915.</b> | <b>13973.</b> |
| Stddev    | 16.3          | 29.3          | 16.           | 27.           |
| %RSD      | .55177        | .43869        | .01619        | .19265        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>2966.2</b> | <b>6714.1</b> | <b>96930.</b> | <b>14004.</b> |
| #2 | <b>2953.5</b> | <b>6677.5</b> | <b>96898.</b> | <b>13953.</b> |
| #3 | <b>2933.9</b> | <b>6656.1</b> | <b>96916.</b> | <b>13963.</b> |

Sample Name: 180-43408-L-1-I      Acquired: 5/6/2015 14:03:46      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00035        | 38.787        | .02510        | .03165        | 1.1113        | .01028        |
| Stddev | .00053        | .030          | .00122        | .00033        | .0019         | .00005        |
| %RSD   | 153.09        | .07671        | 4.8403        | 1.0427        | .16985        | .45716        |

|    |         |        |        |        |        |        |
|----|---------|--------|--------|--------|--------|--------|
| #1 | -.00023 | 38.769 | .02631 | .03140 | 1.1100 | .01025 |
| #2 | .00083  | 38.821 | .02388 | .03202 | 1.1135 | .01026 |
| #3 | .00045  | 38.770 | .02512 | .03152 | 1.1105 | .01034 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 118.42        | .01228        | .24390        | .17496        | .63415        | 194.08        |
| Stddev | .95           | .00004        | .00078        | .00039        | .00375        | 1.31          |
| %RSD   | .79802        | .30804        | .32071        | .22138        | .59101        | .67390        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 117.36 | .01225 | .24332 | .17538 | .63790 | 195.49 |
| #2 | 119.18 | .01232 | .24479 | .17463 | .63416 | 193.85 |
| #3 | 118.72 | .01227 | .24358 | .17486 | .63040 | 192.91 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43408-L-1-I      Acquired: 5/6/2015 14:03:46      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |                |               |
|--------|---------------|---------------|---------------|---------------|----------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo             | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467}  | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)       | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm            | ppm           |
| Avg    | <b>3.3280</b> | <b>.03012</b> | <b>29.297</b> | <b>8.4227</b> | <b>-.00086</b> | <b>3.0185</b> |
| Stddev | .0137         | .00117        | .146          | .0405         | .00020         | .0054         |
| %RSD   | .41157        | 3.8686        | .49904        | .48093        | 23.632         | .17759        |

|    |               |               |               |               |                |               |
|----|---------------|---------------|---------------|---------------|----------------|---------------|
| #1 | <b>3.3125</b> | <b>.02905</b> | <b>29.464</b> | <b>8.4694</b> | <b>-.00101</b> | <b>3.0216</b> |
| #2 | <b>3.3383</b> | <b>.03136</b> | <b>29.191</b> | <b>8.3981</b> | <b>-.00063</b> | <b>3.0215</b> |
| #3 | <b>3.3332</b> | <b>.02994</b> | <b>29.237</b> | <b>8.4004</b> | <b>-.00095</b> | <b>3.0123</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |                |                |               |               |
|--------|---------------|---------------|----------------|----------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb             | Se             | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455}  | 196.090 {472}  | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)       | (Y_2243)       | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm            | ppm           | ppm           |
| Avg    | <b>.28381</b> | <b>1.9975</b> | <b>-.00102</b> | <b>-.00180</b> | <b>18.956</b> | <b>.07489</b> |
| Stddev | .00069        | .0049         | .00098         | .00251         | .013          | .00033        |
| %RSD   | .24231        | .24289        | 95.209         | 139.36         | .06850        | .43731        |

|    |               |               |                |                |               |               |
|----|---------------|---------------|----------------|----------------|---------------|---------------|
| #1 | <b>.28390</b> | <b>1.9978</b> | <b>-.00063</b> | <b>-.00123</b> | <b>18.943</b> | <b>.07474</b> |
| #2 | <b>.28445</b> | <b>2.0022</b> | <b>-.00214</b> | <b>-.00456</b> | <b>18.956</b> | <b>.07527</b> |
| #3 | <b>.28309</b> | <b>1.9925</b> | <b>-.00031</b> | <b>.00037</b>  | <b>18.969</b> | <b>.07467</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43408-L-1-I      Acquired: 5/6/2015 14:03:46      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |                |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti             | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>.30763</b> | <b>.63012</b> | <b>-.00037</b> | <b>.26341</b> | <b>3.9657</b> |
| Stddev | .00388        | .00084        | .00106         | .00331        | .0174         |
| %RSD   | 1.2599        | .13285        | 287.17         | 1.2547        | .43767        |

|    |        |        |         |        |        |
|----|--------|--------|---------|--------|--------|
| #1 | .30319 | .63107 | .00085  | .26717 | 3.9643 |
| #2 | .31032 | .62982 | -.00110 | .26212 | 3.9838 |
| #3 | .30939 | .62948 | -.00085 | .26095 | 3.9491 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2863.2</b> | <b>6352.0</b> | <b>92394.</b> | <b>13522.</b> |
| Stddev    | 3.0           | 4.9           | 164.          | 16.           |
| %RSD      | .10355        | .07679        | .17788        | .11789        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2859.8 | 6346.5 | 92311. | 13504. |
| #2 | 2864.6 | 6355.9 | 92583. | 13529. |
| #3 | 2865.3 | 6353.6 | 92287. | 13533. |

Sample Name: 180-43408-L-2-H      Acquired: 5/6/2015 14:09:08      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00089        | 38.749        | .02096        | .02677        | 1.1442        | .01085        |
| Stddev | .00004        | .089          | .00146        | .00049        | .0018         | .00001        |
| %RSD   | 4.5818        | .23061        | 6.9584        | 1.8240        | .15963        | .05752        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .00085 | 38.767 | .01969 | .02621 | 1.1462 | .01085 |
| #2 | .00087 | 38.652 | .02255 | .02701 | 1.1435 | .01086 |
| #3 | .00093 | 38.828 | .02063 | .02709 | 1.1428 | .01085 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 64.211        | .01182        | .20816        | .18009        | .62860        | 170.58        |
| Stddev | .198          | .00023        | .00111        | .00040        | .00338        | 1.16          |
| %RSD   | .30877        | 1.9452        | .53346        | .22381        | .53825        | .68031        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 63.985 | .01156 | .20689 | .18021 | .62482 | 169.45 |
| #2 | 64.291 | .01191 | .20866 | .18042 | .63135 | 171.77 |
| #3 | 64.357 | .01199 | .20894 | .17964 | .62963 | 170.50 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43408-L-2-H      Acquired: 5/6/2015 14:09:08      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |                |               |
|--------|---------------|---------------|---------------|---------------|----------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo             | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467}  | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)       | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm            | ppm           |
| Avg    | <b>2.9110</b> | <b>.02666</b> | <b>20.363</b> | <b>6.8249</b> | <b>-.00085</b> | <b>2.7948</b> |
| Stddev | .0179         | .00056        | .177          | .0368         | .00009         | .0086         |
| %RSD   | .61620        | 2.0899        | .87101        | .53964        | 11.119         | .30649        |

|    |               |               |               |               |                |               |
|----|---------------|---------------|---------------|---------------|----------------|---------------|
| #1 | <b>2.9316</b> | <b>.02611</b> | <b>20.180</b> | <b>6.7824</b> | <b>-.00081</b> | <b>2.7852</b> |
| #2 | <b>2.9028</b> | <b>.02722</b> | <b>20.534</b> | <b>6.8464</b> | <b>-.00079</b> | <b>2.7978</b> |
| #3 | <b>2.8987</b> | <b>.02666</b> | <b>20.374</b> | <b>6.8460</b> | <b>-.00096</b> | <b>2.8015</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |                |               |               |
|--------|---------------|---------------|---------------|----------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se             | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472}  | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)       | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>.26406</b> | <b>1.3663</b> | <b>.00001</b> | <b>-.00014</b> | <b>19.074</b> | <b>.03329</b> |
| Stddev | .00140        | .0096         | .00212        | .00206         | .083          | .00042        |
| %RSD   | .53005        | .69968        | 28762.        | 1481.9         | .43326        | 1.2481        |

|    |               |               |                |                |               |               |
|----|---------------|---------------|----------------|----------------|---------------|---------------|
| #1 | <b>.26246</b> | <b>1.3560</b> | <b>-.00244</b> | <b>-.00210</b> | <b>18.997</b> | <b>.03371</b> |
| #2 | <b>.26464</b> | <b>1.3683</b> | <b>.00129</b>  | <b>-.00032</b> | <b>19.161</b> | <b>.03288</b> |
| #3 | <b>.26507</b> | <b>1.3748</b> | <b>.00117</b>  | <b>.00200</b>  | <b>19.064</b> | <b>.03329</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43408-L-2-H      Acquired: 5/6/2015 14:09:08      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |                |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti             | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>.22141</b> | <b>.60081</b> | <b>-.00048</b> | <b>.27289</b> | <b>3.2610</b> |
| Stddev | .00134        | .00379        | .00118         | .00237        | .0227         |
| %RSD   | .60348        | .63040        | 246.79         | .87029        | .69574        |

|    |        |        |         |        |        |
|----|--------|--------|---------|--------|--------|
| #1 | .22255 | .59648 | .00001  | .27354 | 3.2361 |
| #2 | .21994 | .60243 | .00038  | .27025 | 3.2664 |
| #3 | .22174 | .60351 | -.00183 | .27487 | 3.2805 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2980.5</b> | <b>6602.9</b> | <b>94553.</b> | <b>13830.</b> |
| Stddev    | 16.3          | 34.9          | 374.          | 68.           |
| %RSD      | .54838        | .52889        | .39556        | .49416        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2999.0 | 6642.3 | 94174. | 13908. |
| #2 | 2974.9 | 6590.5 | 94562. | 13798. |
| #3 | 2967.8 | 6575.8 | 94922. | 13783. |

Sample Name: 180-43408-C-3-E      Acquired: 5/6/2015 14:14:13      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00170</b> | <b>37.844</b> | <b>.02156</b> | <b>.02179</b> | <b>1.0310</b> | <b>.01294</b> |
| Stddev | .00016         | .112          | .00046        | .00036        | .0010         | .00004        |
| %RSD   | 9.6254         | .29568        | 2.1453        | 1.6566        | .10231        | .27859        |

|    |                |               |               |               |               |               |
|----|----------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00189</b> | <b>37.973</b> | <b>.02134</b> | <b>.02188</b> | <b>1.0301</b> | <b>.01290</b> |
| #2 | <b>-.00159</b> | <b>37.792</b> | <b>.02209</b> | <b>.02139</b> | <b>1.0308</b> | <b>.01296</b> |
| #3 | <b>-.00162</b> | <b>37.768</b> | <b>.02125</b> | <b>.02210</b> | <b>1.0322</b> | <b>.01296</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>45.996</b> | <b>.01111</b> | <b>.19559</b> | <b>.18572</b> | <b>.66844</b> | <b>159.45</b> |
| Stddev | .021          | .00024        | .00022        | .00105        | .00172        | .40           |
| %RSD   | .04506        | 2.1245        | .11311        | .56657        | .25744        | .24928        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>46.010</b> | <b>.01126</b> | <b>.19573</b> | <b>.18500</b> | <b>.67036</b> | <b>159.05</b> |
| #2 | <b>46.005</b> | <b>.01083</b> | <b>.19534</b> | <b>.18522</b> | <b>.66703</b> | <b>159.47</b> |
| #3 | <b>45.972</b> | <b>.01123</b> | <b>.19571</b> | <b>.18693</b> | <b>.66793</b> | <b>159.84</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43408-C-3-E      Acquired: 5/6/2015 14:14:13      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 2.7621        | .02717        | 21.243        | 4.7199        | -.00062       | 3.2670        |
| Stddev | .0185         | .00128        | .035          | .0404         | .00021        | .0081         |
| %RSD   | .67023        | 4.7229        | .16299        | .85606        | 33.417        | .24710        |

|    |        |        |        |        |         |        |
|----|--------|--------|--------|--------|---------|--------|
| #1 | 2.7462 | .02569 | 21.276 | 4.7643 | -.00052 | 3.2577 |
| #2 | 2.7824 | .02779 | 21.247 | 4.7099 | -.00047 | 3.2722 |
| #3 | 2.7577 | .02802 | 21.207 | 4.6854 | -.00085 | 3.2710 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .28647        | 1.0718        | .00072        | .00104        | 15.359        | .01847        |
| Stddev | .00178        | .0084         | .00032        | .00096        | .029          | .00044        |
| %RSD   | .62065        | .78082        | 44.072        | 92.631        | .18607        | 2.3785        |

|    |        |        |        |         |        |        |
|----|--------|--------|--------|---------|--------|--------|
| #1 | .28492 | 1.0649 | .00074 | -.00005 | 15.336 | .01882 |
| #2 | .28607 | 1.0694 | .00039 | .00177  | 15.351 | .01862 |
| #3 | .28841 | 1.0811 | .00102 | .00140  | 15.391 | .01798 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43408-C-3-E      Acquired: 5/6/2015 14:14:13      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |                |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti             | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>.18892</b> | <b>.49727</b> | <b>-.00308</b> | <b>.25787</b> | <b>2.9612</b> |
| Stddev | .00474        | .00177        | .00085         | .00060        | .0097         |
| %RSD   | 2.5088        | .35652        | 27.710         | .23427        | .32880        |

|    |        |        |         |        |        |
|----|--------|--------|---------|--------|--------|
| #1 | .18345 | .49906 | -.00395 | .25762 | 2.9540 |
| #2 | .19136 | .49726 | -.00225 | .25855 | 2.9573 |
| #3 | .19193 | .49551 | -.00303 | .25742 | 2.9723 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3003.5</b> | <b>6912.1</b> | <b>99119.</b> | <b>14347.</b> |
| Stddev    | 2.9           | 4.8           | 255.          | 46.           |
| %RSD      | .09605        | .06909        | .25726        | .31835        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3004.2 | 6917.5 | 99216. | 14299. |
| #2 | 3006.0 | 6910.3 | 99312. | 14352. |
| #3 | 3000.4 | 6908.4 | 98830. | 14390. |

Sample Name: CCV 1551842      Acquired: 5/6/2015 14:19:18      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.0561        | 25.911        | .54049        | 2.1554        | 2.0820        | 2.0886        |
| Stddev | .0025         | .078          | .00228        | .0035         | .0075         | .0092         |
| %RSD   | .23774        | .30121        | .42183        | .16223        | .36201        | .43954        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.0565 | 25.877 | .54050 | 2.1530 | 2.0831 | 2.0910 |
| #2 | 1.0584 | 26.000 | .54276 | 2.1594 | 2.0890 | 2.0964 |
| #3 | 1.0534 | 25.855 | .53820 | 2.1539 | 2.0740 | 2.0785 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 52.230        | .53053        | 2.1216        | 2.0044        | 1.9433        | 26.775        |
| Stddev | .150          | .00108        | .0007         | .0050         | .0228         | .145          |
| %RSD   | .28769        | .20324        | .03144        | .25065        | 1.1712        | .54087        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 52.124 | .53148 | 2.1208 | 2.0102 | 1.9288 | 26.793 |
| #2 | 52.402 | .53075 | 2.1220 | 2.0019 | 1.9696 | 26.911 |
| #3 | 52.163 | .52936 | 2.1220 | 2.0011 | 1.9316 | 26.623 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/6/2015 14:19:18      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>133.18</b> | <b>2.0921</b> | <b>52.458</b> | <b>1.9346</b> | <b>2.0536</b> | <b>133.78</b> |
| Stddev | .54           | .0047         | .339          | .0146         | .0025         | .57           |
| %RSD   | .40498        | .22371        | .64618        | .75207        | .12365        | .42686        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 133.21 | 2.0926 | 52.381 | 1.9214 | 2.0547 | 133.85 |
| #2 | 133.70 | 2.0965 | 52.829 | 1.9502 | 2.0553 | 134.32 |
| #3 | 132.62 | 2.0872 | 52.164 | 1.9321 | 2.0507 | 133.18 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>2.1204</b> | <b>.52525</b> | <b>.53373</b> | <b>.53756</b> | <b>2.1075</b> | <b>1.9764</b> |
| Stddev | .0043         | .00090        | .00243        | .00482        | .0102         | .0007         |
| %RSD   | .20120        | .17089        | .45509        | .89693        | .48469        | .03552        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 2.1247 | .52424 | .53478 | .53882 | 2.0959 | 1.9772 |
| #2 | 2.1162 | .52596 | .53546 | .54163 | 2.1152 | 1.9760 |
| #3 | 2.1202 | .52554 | .53095 | .53224 | 2.1113 | 1.9760 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/6/2015 14:19:18      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>2.0264</b> | <b>1.9472</b> | <b>1.0018</b> | <b>2.1753</b> | <b>2.0261</b> |
| Stddev | .0145         | .0178         | .0015         | .0131         | .0009         |
| %RSD   | .71514        | .91392        | .14773        | .60308        | .04327        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | 2.0188 | 1.9325 | 1.0013 | 2.1873 | 2.0253 |
| #2 | 2.0432 | 1.9670 | 1.0006 | 2.1613 | 2.0271 |
| #3 | 2.0173 | 1.9422 | 1.0034 | 2.1773 | 2.0258 |

|         |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |
| Range   |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2656.2</b> | <b>5039.1</b> | <b>73291.</b> | <b>10764.</b> |
| Stddev    | 5.4           | 8.4           | 221.          | 69.           |
| %RSD      | .20402        | .16680        | .30203        | .63726        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2650.4 | 5030.2 | 73037. | 10804. |
| #2 | 2661.2 | 5040.3 | 73440. | 10685. |
| #3 | 2657.0 | 5046.9 | 73396. | 10804. |

Sample Name: CCB8      Acquired: 5/6/2015 14:24:06      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00045        | .01856        | .00245        | .00268        | .00043        | .00026        |
| Stddev | .00020        | .01144        | .00042        | .00043        | .00011        | .00006        |
| %RSD   | 44.489        | 61.606        | 17.052        | 15.897        | 26.766        | 22.716        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .00025 | .00684 | .00221 | .00293 | .00029 | .00032 |
| #2 | .00045 | .01915 | .00222 | .00291 | .00048 | .00023 |
| #3 | .00065 | .02969 | .00294 | .00219 | .00050 | .00021 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .01834        | .00007        | .00021        | -.00019       | .00053        | .00848        |
| Stddev | .00062        | .00013        | .00004        | .00024        | .00094        | .00284        |
| %RSD   | 3.3644        | 181.34        | 18.633        | 128.80        | 178.85        | 33.532        |

|    |        |         |        |         |         |        |
|----|--------|---------|--------|---------|---------|--------|
| #1 | .01764 | .00010  | .00025 | -.00037 | .00080  | .00560 |
| #2 | .01855 | .00018  | .00018 | -.00027 | .00131  | .00855 |
| #3 | .01882 | -.00007 | .00021 | .00008  | -.00052 | .01128 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB8      Acquired: 5/6/2015 14:24:06      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .12273        | .00103        | -.00334       | .00021        | .00228        | .07693        |
| Stddev | .01606        | .00069        | .02027        | .00004        | .00040        | .00350        |
| %RSD   | 13.089        | 67.642        | 606.71        | 19.874        | 17.579        | 4.5498        |

|    |        |        |         |        |        |        |
|----|--------|--------|---------|--------|--------|--------|
| #1 | .11385 | .00084 | .00695  | .00025 | .00272 | .07361 |
| #2 | .14127 | .00180 | .00972  | .00019 | .00218 | .08059 |
| #3 | .11307 | .00045 | -.02669 | .00018 | .00194 | .07658 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00035        | .00066        | -.00141       | .00103        | .00381        | .00035        |
| Stddev | .00036        | .00064        | .00055        | .00269        | .00156        | .00058        |
| %RSD   | 101.98        | 96.468        | 39.059        | 261.32        | 40.900        | 169.07        |

|    |         |         |         |         |        |         |
|----|---------|---------|---------|---------|--------|---------|
| #1 | .00043  | -.00002 | -.00120 | .00005  | .00310 | .00046  |
| #2 | .00067  | .00076  | -.00204 | -.00103 | .00274 | -.00029 |
| #3 | -.00004 | .00124  | -.00100 | .00408  | .00560 | .00086  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB8      Acquired: 5/6/2015 14:24:06      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00423</b> | <b>.00039</b> | <b>.00221</b> | <b>.00230</b> | <b>.00034</b> |
| Stddev | .00082         | .00012        | .00035        | .00249        | .00008        |
| %RSD   | 19.267         | 30.407        | 15.771        | 108.41        | 23.633        |

|    |                |               |               |               |               |
|----|----------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00511</b> | <b>.00033</b> | <b>.00181</b> | <b>.00003</b> | <b>.00029</b> |
| #2 | <b>-.00410</b> | <b>.00032</b> | <b>.00241</b> | <b>.00190</b> | <b>.00030</b> |
| #3 | <b>-.00349</b> | <b>.00053</b> | <b>.00242</b> | <b>.00497</b> | <b>.00044</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3306.4</b> | <b>5508.5</b> | <b>80620.</b> | <b>11094.</b> |
| Stddev    | 7.5           | 13.3          | 252.          | 17.           |
| %RSD      | .22582        | .24153        | .31241        | .15622        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>3297.8</b> | <b>5493.4</b> | <b>80338.</b> | <b>11078.</b> |
| #2 | <b>3310.9</b> | <b>5513.5</b> | <b>80823.</b> | <b>11112.</b> |
| #3 | <b>3310.5</b> | <b>5518.5</b> | <b>80699.</b> | <b>11090.</b> |



Sample Name: 180-43408-K-4-E      Acquired: 5/6/2015 14:29:17      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00248</b> | <b>35.069</b> | <b>.01793</b> | <b>.02370</b> | <b>.89360</b> | <b>.01160</b> |
| Stddev | .00015         | .025          | .00141        | .00015        | .00157        | .00014        |
| %RSD   | 6.1795         | .07085        | 7.8563        | .65299        | .17608        | 1.2459        |

|    |                |               |               |               |               |               |
|----|----------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00248</b> | <b>35.080</b> | <b>.01906</b> | <b>.02386</b> | <b>.89193</b> | <b>.01165</b> |
| #2 | <b>-.00232</b> | <b>35.087</b> | <b>.01635</b> | <b>.02356</b> | <b>.89505</b> | <b>.01170</b> |
| #3 | <b>-.00262</b> | <b>35.041</b> | <b>.01839</b> | <b>.02368</b> | <b>.89383</b> | <b>.01143</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (ln2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>49.899</b> | <b>.01020</b> | <b>.17131</b> | <b>.17030</b> | <b>.48675</b> | <b>145.15</b> |
| Stddev | .110          | .00004        | .00040        | .00016        | .00305        | .66           |
| %RSD   | .22056        | .37113        | .23116        | .09544        | .62709        | .45543        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>50.024</b> | <b>.01023</b> | <b>.17175</b> | <b>.17015</b> | <b>.48924</b> | <b>145.62</b> |
| #2 | <b>49.815</b> | <b>.01022</b> | <b>.17099</b> | <b>.17027</b> | <b>.48766</b> | <b>145.44</b> |
| #3 | <b>49.858</b> | <b>.01016</b> | <b>.17120</b> | <b>.17047</b> | <b>.48335</b> | <b>144.40</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

Sample Name: 180-43408-K-4-E      Acquired: 5/6/2015 14:29:17      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |                |               |
|--------|---------------|---------------|---------------|---------------|----------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo             | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467}  | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)       | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm            | ppm           |
| Avg    | <b>2.8041</b> | <b>.02505</b> | <b>21.265</b> | <b>3.9159</b> | <b>-.00025</b> | <b>3.0296</b> |
| Stddev | .0251         | .00098        | .158          | .0228         | .00013         | .0039         |
| %RSD   | .89468        | 3.9016        | .74156        | .58287        | 54.407         | .12817        |

|    |               |               |               |               |                |               |
|----|---------------|---------------|---------------|---------------|----------------|---------------|
| #1 | <b>2.7834</b> | <b>.02542</b> | <b>21.413</b> | <b>3.9397</b> | <b>-.00020</b> | <b>3.0254</b> |
| #2 | <b>2.8320</b> | <b>.02579</b> | <b>21.283</b> | <b>3.9137</b> | <b>-.00040</b> | <b>3.0331</b> |
| #3 | <b>2.7970</b> | <b>.02394</b> | <b>21.099</b> | <b>3.8942</b> | <b>-.00015</b> | <b>3.0304</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.26696</b> | <b>.94472</b> | <b>.00066</b> | <b>.00063</b> | <b>14.545</b> | <b>.01600</b> |
| Stddev | .00099        | .00256        | .00216        | .00127        | .061          | .00023        |
| %RSD   | .37017        | .27065        | 324.99        | 201.37        | .41961        | 1.4302        |

|    |               |               |                |                |               |               |
|----|---------------|---------------|----------------|----------------|---------------|---------------|
| #1 | <b>.26582</b> | <b>.94521</b> | <b>-.00057</b> | <b>.00082</b>  | <b>14.588</b> | <b>.01579</b> |
| #2 | <b>.26758</b> | <b>.94700</b> | <b>-.00060</b> | <b>-.00072</b> | <b>14.572</b> | <b>.01624</b> |
| #3 | <b>.26747</b> | <b>.94195</b> | <b>.00316</b>  | <b>.00180</b>  | <b>14.475</b> | <b>.01596</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43408-K-4-E      Acquired: 5/6/2015 14:29:17      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |                |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti             | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>.18352</b> | <b>.48120</b> | <b>-.00162</b> | <b>.24663</b> | <b>2.6417</b> |
| Stddev | .00172        | .00144        | .00101         | .00237        | .0024         |
| %RSD   | .93624        | .29851        | 62.167         | .95899        | .09123        |

|    |        |        |         |        |        |
|----|--------|--------|---------|--------|--------|
| #1 | .18223 | .48233 | -.00277 | .24832 | 2.6403 |
| #2 | .18547 | .48169 | -.00088 | .24764 | 2.6445 |
| #3 | .18286 | .47958 | -.00121 | .24393 | 2.6404 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3072.4</b> | <b>6885.6</b> | <b>98026.</b> | <b>14135.</b> |
| Stddev    | 4.4           | 15.7          | 244.          | 48.           |
| %RSD      | .14318        | .22806        | .24845        | .34119        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3076.8 | 6902.7 | 97951. | 14080. |
| #2 | 3072.3 | 6882.6 | 98298. | 14160. |
| #3 | 3068.1 | 6871.7 | 97829. | 14166. |

Sample Name: 180-43408-L-5-B      Acquired: 5/6/2015 14:34:20      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .01110        | 35.537        | .01477        | .04457        | 1.1913        | .00699        |
| Stddev | .00040        | .071          | .00159        | .00071        | .0040         | .00004        |
| %RSD   | 3.6061        | .20121        | 10.741        | 1.5923        | .33185        | .63925        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .01140 | 35.473 | .01467 | .04377 | 1.1878 | .00701 |
| #2 | .01065 | 35.523 | .01323 | .04512 | 1.1905 | .00694 |
| #3 | .01126 | 35.614 | .01640 | .04483 | 1.1956 | .00702 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 181.93        | .02399        | .07770        | .28296        | .29584        | 108.91        |
| Stddev | .71           | .00013        | .00050        | .00159        | .00209        | .10           |
| %RSD   | .38911        | .52785        | .64235        | .56258        | .70715        | .08808        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 181.12 | .02385 | .07720 | .28172 | .29806 | 108.97 |
| #2 | 182.26 | .02409 | .07770 | .28241 | .29557 | 108.80 |
| #3 | 182.42 | .02403 | .07820 | .28476 | .29390 | 108.95 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43408-L-5-B      Acquired: 5/6/2015 14:34:20      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |                |               |
|--------|---------------|---------------|---------------|---------------|----------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo             | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467}  | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)       | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm            | ppm           |
| Avg    | <b>2.7711</b> | <b>.02325</b> | <b>39.372</b> | <b>3.5393</b> | <b>-.00037</b> | <b>3.1249</b> |
| Stddev | .0135         | .00133        | .060          | .0159         | .00023         | .0128         |
| %RSD   | .48862        | 5.7318        | .15141        | .44940        | 61.940         | .40995        |

|    |               |               |               |               |                |               |
|----|---------------|---------------|---------------|---------------|----------------|---------------|
| #1 | <b>2.7769</b> | <b>.02262</b> | <b>39.309</b> | <b>3.5562</b> | <b>-.00017</b> | <b>3.1125</b> |
| #2 | <b>2.7556</b> | <b>.02235</b> | <b>39.379</b> | <b>3.5372</b> | <b>-.00032</b> | <b>3.1239</b> |
| #3 | <b>2.7808</b> | <b>.02478</b> | <b>39.428</b> | <b>3.5246</b> | <b>-.00062</b> | <b>3.1381</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.28741</b> | <b>9.7962</b> | <b>.00142</b> | <b>.00637</b> | <b>18.917</b> | <b>.13027</b> |
| Stddev | .00054        | .0355         | .00103        | .00312        | .061          | .00078        |
| %RSD   | .18644        | .36293        | 72.564        | 49.076        | .32305        | .59519        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.28679</b> | <b>9.7568</b> | <b>.00088</b> | <b>.00314</b> | <b>18.874</b> | <b>.12978</b> |
| #2 | <b>.28773</b> | <b>9.8060</b> | <b>.00077</b> | <b>.00938</b> | <b>18.890</b> | <b>.12986</b> |
| #3 | <b>.28771</b> | <b>9.8259</b> | <b>.00261</b> | <b>.00658</b> | <b>18.987</b> | <b>.13116</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43408-L-5-B      Acquired: 5/6/2015 14:34:20      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .44490        | .60606        | .00036        | .16391        | 6.4341        |
| Stddev | .00179        | .00344        | .00030        | .00312        | .0021         |
| %RSD   | .40174        | .56743        | 84.217        | 1.9024        | .03233        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .44692 | .60958 | .00056 | .16158 | 6.4357 |
| #2 | .44425 | .60590 | .00001 | .16270 | 6.4317 |
| #3 | .44353 | .60270 | .00051 | .16745 | 6.4349 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2838.4        | 5787.7        | 84268.        | 12355.        |
| Stddev    | 6.7           | 9.1           | 382.          | 31.           |
| %RSD      | .23694        | .15665        | .45324        | .24914        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2843.9 | 5797.5 | 84593. | 12328. |
| #2 | 2840.5 | 5786.0 | 84363. | 12347. |
| #3 | 2830.9 | 5779.6 | 83847. | 12389. |

Sample Name: 180-43411-A-1-C      Acquired: 5/6/2015 14:39:30      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00115        | 8.6366        | .02030        | .05284        | .05817        | .00260        |
| Stddev | .00035        | .0350         | .00032        | .00029        | .00004        | .00004        |
| %RSD   | 30.228        | .40548        | 1.5628        | .55601        | .06758        | 1.4511        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .00084 | 8.6765 | .02015 | .05317 | .05813 | .00261 |
| #2 | .00108 | 8.6223 | .02067 | .05272 | .05819 | .00256 |
| #3 | .00152 | 8.6110 | .02009 | .05262 | .05820 | .00264 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 12.565        | .07195        | .03964        | 1.9712        | .26384        | 129.98        |
| Stddev | .051          | .00004        | .00020        | .0048         | .00256        | .12           |
| %RSD   | .40543        | .05479        | .50729        | .24357        | .96949        | .09284        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 12.538 | .07196 | .03969 | 1.9690 | .26240 | 129.92 |
| #2 | 12.534 | .07199 | .03981 | 1.9680 | .26233 | 130.12 |
| #3 | 12.624 | .07191 | .03942 | 1.9767 | .26679 | 129.91 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43411-A-1-C      Acquired: 5/6/2015 14:39:30      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.7901        | .00597        | 7.6286        | 1.4153        | -.00038       | 11.863        |
| Stddev | .0142         | .00086        | .0158         | .0112         | .00003        | .016          |
| %RSD   | .79210        | 14.397        | .20715        | .79351        | 7.1025        | .13581        |

|    |        |        |        |        |         |        |
|----|--------|--------|--------|--------|---------|--------|
| #1 | 1.8060 | .00501 | 7.6108 | 1.4073 | -.00041 | 11.881 |
| #2 | 1.7853 | .00625 | 7.6340 | 1.4106 | -.00035 | 11.859 |
| #3 | 1.7788 | .00665 | 7.6409 | 1.4282 | -.00037 | 11.850 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .09962        | .40354        | -.00039       | .00160        | 10.990        | .62708        |
| Stddev | .00041        | .00164        | .00096        | .00295        | .017          | .00156        |
| %RSD   | .41526        | .40627        | 244.16        | 184.54        | .15100        | .24922        |

|    |        |        |         |         |        |        |
|----|--------|--------|---------|---------|--------|--------|
| #1 | .09915 | .40518 | .00029  | .00042  | 10.988 | .62888 |
| #2 | .09976 | .40190 | -.00148 | .00496  | 10.974 | .62624 |
| #3 | .09994 | .40353 | .00002  | -.00058 | 11.007 | .62611 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43411-A-1-C      Acquired: 5/6/2015 14:39:30      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .11855        | .14263        | .00395        | .24291        | 12.178        |
| Stddev | .00114        | .00119        | .00060        | .00436        | .016          |
| %RSD   | .96134        | .83436        | 15.271        | 1.7966        | .13195        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .11803 | .14173 | .00432 | .24690 | 12.193 |
| #2 | .11985 | .14217 | .00428 | .24358 | 12.161 |
| #3 | .11776 | .14398 | .00325 | .23825 | 12.180 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3127.2        | 5627.2        | 81856.        | 11786.        |
| Stddev    | 5.4           | 8.6           | 69.           | 83.           |
| %RSD      | .17255        | .15286        | .08407        | .70461        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3133.4 | 5634.0 | 81862. | 11841. |
| #2 | 3125.1 | 5630.1 | 81784. | 11826. |
| #3 | 3123.3 | 5617.6 | 81922. | 11690. |

Sample Name: 180-43411-A-2-J      Acquired: 5/6/2015 14:44:27      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00025</b> | <b>22.352</b> | <b>.01666</b> | <b>.12448</b> | <b>.35527</b> | <b>.00294</b> |
| Stddev | .00038         | .051          | .00110        | .00070        | .00098        | .00007        |
| %RSD   | 151.30         | .22859        | 6.6004        | .55962        | .27527        | 2.4660        |

|    |                |               |               |               |               |               |
|----|----------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00042</b> | <b>22.409</b> | <b>.01568</b> | <b>.12498</b> | <b>.35550</b> | <b>.00298</b> |
| #2 | <b>-.00053</b> | <b>22.312</b> | <b>.01785</b> | <b>.12369</b> | <b>.35420</b> | <b>.00298</b> |
| #3 | <b>.00019</b>  | <b>22.334</b> | <b>.01645</b> | <b>.12478</b> | <b>.35611</b> | <b>.00286</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

|        |               |               |               |               |               |                 |
|--------|---------------|---------------|---------------|---------------|---------------|-----------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe              |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130}   |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)        |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm             |
| Avg    | <b>171.24</b> | <b>.08484</b> | <b>.05515</b> | <b>11.833</b> | <b>.62237</b> | <b>F 684.07</b> |
| Stddev | .70           | .00047        | .00016        | .040          | .00359        | 5.79            |
| %RSD   | .40614        | .55382        | .29905        | .33938        | .57698        | .84708          |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>170.90</b> | <b>.08471</b> | <b>.05501</b> | <b>11.867</b> | <b>.62444</b> | <b>683.52</b> |
| #2 | <b>172.04</b> | <b>.08445</b> | <b>.05533</b> | <b>11.789</b> | <b>.62445</b> | <b>690.13</b> |
| #3 | <b>170.78</b> | <b>.08536</b> | <b>.05511</b> | <b>11.843</b> | <b>.61823</b> | <b>678.58</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Fail</b> |
| High Limit |                 |                 |                 |                 |                 | <b>500.00</b>   |
| Low Limit  |                 |                 |                 |                 |                 | <b>-.10000</b>  |

Sample Name: 180-43411-A-2-J      Acquired: 5/6/2015 14:44:27      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 2.8663        | .01543        | 23.048        | 5.1757        | -.00090       | 22.644        |
| Stddev | .0106         | .00107        | .092          | .0183         | .00024        | .030          |
| %RSD   | .37046        | 6.9345        | .39991        | .35424        | 27.039        | .13310        |

|    |        |        |        |        |         |        |
|----|--------|--------|--------|--------|---------|--------|
| #1 | 2.8786 | .01666 | 23.081 | 5.1963 | -.00073 | 22.674 |
| #2 | 2.8595 | .01467 | 23.118 | 5.1612 | -.00079 | 22.614 |
| #3 | 2.8610 | .01497 | 22.943 | 5.1694 | -.00118 | 22.643 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .46067        | .93827        | -.00637       | .01077        | F 36.083      | 3.4528        |
| Stddev | .00236        | .00243        | .00094        | .00051        | .064          | .0059         |
| %RSD   | .51161        | .25913        | 14.723        | 4.7768        | .17709        | .17177        |

|    |        |        |         |        |        |        |
|----|--------|--------|---------|--------|--------|--------|
| #1 | .45963 | .93692 | -.00576 | .01105 | 36.049 | 3.4522 |
| #2 | .45902 | .93680 | -.00589 | .01108 | 36.157 | 3.4472 |
| #3 | .46337 | .94107 | -.00745 | .01017 | 36.043 | 3.4590 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit |          |          |          |          | 25.000   |          |
| Low Limit  |          |          |          |          | -.50000  |          |

Sample Name: 180-43411-A-2-J      Acquired: 5/6/2015 14:44:27      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.54940</b> | <b>.50997</b> | <b>.00824</b> | <b>.53197</b> | <b>16.126</b> |
| Stddev | .00200        | .00162        | .00145        | .00220        | .028          |
| %RSD   | .36493        | .31855        | 17.560        | .41422        | .17565        |

|    |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.55153</b> | <b>.51020</b> | <b>.00870</b> | <b>.53198</b> | <b>16.102</b> |
| #2 | <b>.54913</b> | <b>.51147</b> | <b>.00940</b> | <b>.53418</b> | <b>16.121</b> |
| #3 | <b>.54755</b> | <b>.50825</b> | <b>.00662</b> | <b>.52977</b> | <b>16.157</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2918.2</b> | <b>5276.1</b> | <b>76603.</b> | <b>11488.</b> |
| Stddev    | 6.2           | 10.2          | 141.          | 53.           |
| %RSD      | .21378        | .19261        | .18421        | .46208        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>2924.4</b> | <b>5284.1</b> | <b>76454.</b> | <b>11459.</b> |
| #2 | <b>2918.2</b> | <b>5279.5</b> | <b>76734.</b> | <b>11456.</b> |
| #3 | <b>2912.0</b> | <b>5264.6</b> | <b>76621.</b> | <b>11550.</b> |

Sample Name: 180-43458-B-2-G      Acquired: 5/6/2015 14:49:45      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | Ag             | Al            | As            | B_            | Ba            | Be            |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00267</b> | <b>33.210</b> | <b>.01919</b> | <b>.02269</b> | <b>.89194</b> | <b>.01260</b> |
| Stddev | .00015         | .031          | .00089        | .00045        | .00142        | .00008        |
| %RSD   | 5.6446         | .09205        | 4.6483        | 1.9839        | .15948        | .60295        |

|    |                |               |               |               |               |               |
|----|----------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00264</b> | <b>33.193</b> | <b>.01962</b> | <b>.02267</b> | <b>.89350</b> | <b>.01251</b> |
| #2 | <b>-.00283</b> | <b>33.192</b> | <b>.01817</b> | <b>.02225</b> | <b>.89160</b> | <b>.01265</b> |
| #3 | <b>-.00253</b> | <b>33.245</b> | <b>.01979</b> | <b>.02315</b> | <b>.89072</b> | <b>.01263</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>39.988</b> | <b>.01070</b> | <b>.18479</b> | <b>.17130</b> | <b>.43735</b> | <b>155.94</b> |
| Stddev | .051          | .00006        | .00060        | .00043        | .00276        | .67           |
| %RSD   | .12870        | .57016        | .32323        | .24822        | .63067        | .42903        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>39.929</b> | <b>.01064</b> | <b>.18414</b> | <b>.17102</b> | <b>.43509</b> | <b>155.19</b> |
| #2 | <b>40.019</b> | <b>.01076</b> | <b>.18493</b> | <b>.17179</b> | <b>.43655</b> | <b>156.48</b> |
| #3 | <b>40.017</b> | <b>.01069</b> | <b>.18531</b> | <b>.17109</b> | <b>.44042</b> | <b>156.15</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

Sample Name: 180-43458-B-2-G      Acquired: 5/6/2015 14:49:45      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |                |               |
|--------|---------------|---------------|---------------|---------------|----------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo             | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467}  | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)       | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm            | ppm           |
| Avg    | <b>2.7329</b> | <b>.02290</b> | <b>18.103</b> | <b>3.2119</b> | <b>-.00069</b> | <b>3.3334</b> |
| Stddev | .0240         | .00015        | .076          | .0284         | .00015         | .0083         |
| %RSD   | .87981        | .67406        | .41970        | .88295        | 21.339         | .24970        |

|    |               |               |               |               |                |               |
|----|---------------|---------------|---------------|---------------|----------------|---------------|
| #1 | <b>2.7333</b> | <b>.02300</b> | <b>18.018</b> | <b>3.1812</b> | <b>-.00052</b> | <b>3.3238</b> |
| #2 | <b>2.7567</b> | <b>.02272</b> | <b>18.164</b> | <b>3.2370</b> | <b>-.00080</b> | <b>3.3373</b> |
| #3 | <b>2.7086</b> | <b>.02298</b> | <b>18.127</b> | <b>3.2176</b> | <b>-.00075</b> | <b>3.3390</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.27406</b> | <b>.97051</b> | <b>.00071</b> | <b>.00136</b> | <b>13.565</b> | <b>.01521</b> |
| Stddev | .00045        | .00413        | .00104        | .00186        | .067          | .00069        |
| %RSD   | .16541        | .42602        | 147.17        | 137.32        | .49512        | 4.5545        |

|    |               |               |               |                |               |               |
|----|---------------|---------------|---------------|----------------|---------------|---------------|
| #1 | <b>.27399</b> | <b>.96713</b> | <b>.00190</b> | <b>.00241</b>  | <b>13.508</b> | <b>.01592</b> |
| #2 | <b>.27365</b> | <b>.96928</b> | <b>.00012</b> | <b>-.00079</b> | <b>13.639</b> | <b>.01453</b> |
| #3 | <b>.27454</b> | <b>.97512</b> | <b>.00009</b> | <b>.00245</b>  | <b>13.548</b> | <b>.01517</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43458-B-2-G      Acquired: 5/6/2015 14:49:45      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |                |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti             | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>.15873</b> | <b>.37798</b> | <b>-.00221</b> | <b>.24219</b> | <b>2.7127</b> |
| Stddev | .00287        | .00236        | .00070         | .00269        | .0062         |
| %RSD   | 1.8051        | .62424        | 31.923         | 1.1114        | .22864        |

|    |        |        |         |        |        |
|----|--------|--------|---------|--------|--------|
| #1 | .15914 | .37527 | -.00248 | .24002 | 2.7071 |
| #2 | .15568 | .37902 | -.00274 | .24520 | 2.7115 |
| #3 | .16137 | .37963 | -.00141 | .24134 | 2.7194 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3054.0</b> | <b>6783.2</b> | <b>97436.</b> | <b>14097.</b> |
| Stddev    | 8.1           | 13.4          | 163.          | 100.          |
| %RSD      | .26379        | .19757        | .16727        | .70636        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3058.1 | 6786.7 | 97527. | 14212. |
| #2 | 3059.3 | 6794.4 | 97248. | 14043. |
| #3 | 3044.8 | 6768.4 | 97533. | 14037. |

Sample Name: 180-43458-C-3-B      Acquired: 5/6/2015 14:54:48      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00020</b> | <b>23.629</b> | <b>.01184</b> | <b>.02474</b> | <b>.46059</b> | <b>.00666</b> |
| Stddev | .00011         | .081          | .00075        | .00011        | .00080        | .00001        |
| %RSD   | 53.288         | .34385        | 6.3242        | .44049        | .17293        | .22035        |

|    |                |               |               |               |               |               |
|----|----------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00009</b> | <b>23.695</b> | <b>.01261</b> | <b>.02486</b> | <b>.45982</b> | <b>.00665</b> |
| #2 | <b>-.00030</b> | <b>23.538</b> | <b>.01178</b> | <b>.02464</b> | <b>.46053</b> | <b>.00665</b> |
| #3 | <b>-.00022</b> | <b>23.653</b> | <b>.01112</b> | <b>.02473</b> | <b>.46141</b> | <b>.00667</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>82.697</b> | <b>.00249</b> | <b>.07640</b> | <b>.04024</b> | <b>.13878</b> | <b>69.696</b> |
| Stddev | .040          | .00009        | .00006        | .00050        | .00030        | .050          |
| %RSD   | .04818        | 3.7379        | .07905        | 1.2375        | .21503        | .07135        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>82.720</b> | <b>.00254</b> | <b>.07637</b> | <b>.04075</b> | <b>.13910</b> | <b>69.656</b> |
| #2 | <b>82.651</b> | <b>.00238</b> | <b>.07647</b> | <b>.03976</b> | <b>.13872</b> | <b>69.752</b> |
| #3 | <b>82.719</b> | <b>.00254</b> | <b>.07636</b> | <b>.04021</b> | <b>.13851</b> | <b>69.680</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43458-C-3-B      Acquired: 5/6/2015 14:54:48      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.3589        | .02385        | 23.905        | 3.6447        | -.00009       | 2.3752        |
| Stddev | .0136         | .00103        | .058          | .0072         | .00020        | .0019         |
| %RSD   | .99948        | 4.3309        | .24082        | .19675        | 222.44        | .07948        |

|    |        |        |        |        |         |        |
|----|--------|--------|--------|--------|---------|--------|
| #1 | 1.3481 | .02310 | 23.967 | 3.6383 | -.00026 | 2.3739 |
| #2 | 1.3544 | .02503 | 23.854 | 3.6432 | .00013  | 2.3744 |
| #3 | 1.3741 | .02342 | 23.893 | 3.6525 | -.00014 | 2.3774 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .12295        | .27197        | -.00042       | .00035        | F 28.198      | .01002        |
| Stddev | .00016        | .00335        | .00187        | .00019        | .075          | .00033        |
| %RSD   | .13153        | 1.2300        | 448.10        | 54.087        | .26707        | 3.3253        |

|    |        |        |         |        |        |        |
|----|--------|--------|---------|--------|--------|--------|
| #1 | .12312 | .27581 | -.00085 | .00057 | 28.238 | .00982 |
| #2 | .12279 | .27046 | -.00204 | .00023 | 28.245 | .01041 |
| #3 | .12295 | .26965 | .00163  | .00026 | 28.111 | .00983 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit |          |          |          |          | 25.000   |          |
| Low Limit  |          |          |          |          | -.50000  |          |

Sample Name: 180-43458-C-3-B      Acquired: 5/6/2015 14:54:48      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .15506        | .34241        | .00137        | .07285        | .77479        |
| Stddev | .00529        | .00088        | .00139        | .00038        | .00268        |
| %RSD   | 3.4086        | .25801        | 101.42        | .52037        | .34655        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .15240 | .34338 | .00129 | .07258 | .77774 |
| #2 | .16115 | .34164 | .00280 | .07269 | .77250 |
| #3 | .15164 | .34221 | .00002 | .07328 | .77413 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2955.7        | 5635.1        | 82273.        | 11963.        |
| Stddev    | 2.1           | 5.4           | 114.          | 18.           |
| %RSD      | .07229        | .09642        | .13866        | .15171        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2956.1 | 5639.0 | 82399. | 11952. |
| #2 | 2957.6 | 5637.5 | 82177. | 11984. |
| #3 | 2953.4 | 5628.9 | 82243. | 11952. |

Sample Name: 180-43458-C-4-B      Acquired: 5/6/2015 14:59:56      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00186</b> | <b>31.079</b> | <b>.01720</b> | <b>.03332</b> | <b>.88721</b> | <b>.00930</b> |
| Stddev | .00004         | .116          | .00158        | .00020        | .00324        | .00008        |
| %RSD   | 2.4055         | .37258        | 9.1704        | .60753        | .36473        | .81364        |

|    |                |               |               |               |               |               |
|----|----------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00182</b> | <b>31.052</b> | <b>.01717</b> | <b>.03308</b> | <b>.88937</b> | <b>.00925</b> |
| #2 | <b>-.00184</b> | <b>30.980</b> | <b>.01879</b> | <b>.03342</b> | <b>.88349</b> | <b>.00927</b> |
| #3 | <b>-.00191</b> | <b>31.206</b> | <b>.01564</b> | <b>.03345</b> | <b>.88877</b> | <b>.00939</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>90.172</b> | <b>.00840</b> | <b>.14131</b> | <b>.17030</b> | <b>.33324</b> | <b>145.38</b> |
| Stddev | .141          | .00016        | .00108        | .00053        | .00122        | .65           |
| %RSD   | .15673        | 1.8842        | .76305        | .30867        | .36610        | .44436        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>90.280</b> | <b>.00827</b> | <b>.14086</b> | <b>.16976</b> | <b>.33238</b> | <b>145.60</b> |
| #2 | <b>90.012</b> | <b>.00836</b> | <b>.14053</b> | <b>.17034</b> | <b>.33270</b> | <b>145.88</b> |
| #3 | <b>90.225</b> | <b>.00857</b> | <b>.14254</b> | <b>.17081</b> | <b>.33464</b> | <b>144.65</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43458-C-4-B      Acquired: 5/6/2015 14:59:56      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |                |               |
|--------|---------------|---------------|---------------|---------------|----------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo             | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467}  | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)       | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm            | ppm           |
| Avg    | <b>2.8561</b> | <b>.02349</b> | <b>23.853</b> | <b>2.7490</b> | <b>-.00082</b> | <b>2.9470</b> |
| Stddev | .0247         | .00015        | .121          | .0040         | .00036         | .0019         |
| %RSD   | .86594        | .63276        | .50552        | .14485        | 44.274         | .06408        |

|    |               |               |               |               |                |               |
|----|---------------|---------------|---------------|---------------|----------------|---------------|
| #1 | <b>2.8756</b> | <b>.02349</b> | <b>23.818</b> | <b>2.7445</b> | <b>-.00122</b> | <b>2.9491</b> |
| #2 | <b>2.8644</b> | <b>.02364</b> | <b>23.988</b> | <b>2.7504</b> | <b>-.00051</b> | <b>2.9461</b> |
| #3 | <b>2.8283</b> | <b>.02335</b> | <b>23.754</b> | <b>2.7521</b> | <b>-.00074</b> | <b>2.9457</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |                |               |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb             | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455}  | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>.26172</b> | <b>1.5219</b> | <b>-.00168</b> | <b>.00335</b> | <b>14.955</b> | <b>.01579</b> |
| Stddev | .00184        | .0052         | .00136         | .00244        | .026          | .00050        |
| %RSD   | .70311        | .34089        | 81.163         | 72.974        | .17233        | 3.1554        |

|    |               |               |                |               |               |               |
|----|---------------|---------------|----------------|---------------|---------------|---------------|
| #1 | <b>.26021</b> | <b>1.5184</b> | <b>-.00017</b> | <b>.00614</b> | <b>14.980</b> | <b>.01528</b> |
| #2 | <b>.26118</b> | <b>1.5195</b> | <b>-.00282</b> | <b>.00162</b> | <b>14.958</b> | <b>.01627</b> |
| #3 | <b>.26377</b> | <b>1.5279</b> | <b>-.00205</b> | <b>.00228</b> | <b>14.928</b> | <b>.01583</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43458-C-4-B      Acquired: 5/6/2015 14:59:56      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |                |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti             | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>.27700</b> | <b>.54925</b> | <b>-.00153</b> | <b>.23676</b> | <b>2.9314</b> |
| Stddev | .00149        | .00218        | .00186         | .00467        | .0073         |
| %RSD   | .53809        | .39650        | 121.87         | 1.9704        | .24910        |

|    |               |               |                |               |               |
|----|---------------|---------------|----------------|---------------|---------------|
| #1 | <b>.27528</b> | <b>.54675</b> | <b>-.00254</b> | <b>.24066</b> | <b>2.9264</b> |
| #2 | <b>.27776</b> | <b>.55078</b> | <b>.00062</b>  | <b>.23159</b> | <b>2.9282</b> |
| #3 | <b>.27796</b> | <b>.55020</b> | <b>-.00267</b> | <b>.23803</b> | <b>2.9398</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2943.9</b> | <b>6355.1</b> | <b>91745.</b> | <b>13300.</b> |
| Stddev    | 8.3           | 16.4          | 131.          | 41.           |
| %RSD      | .28169        | .25792        | .14305        | .31186        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>2948.7</b> | <b>6370.2</b> | <b>91648.</b> | <b>13347.</b> |
| #2 | <b>2948.8</b> | <b>6357.5</b> | <b>91895.</b> | <b>13268.</b> |
| #3 | <b>2934.3</b> | <b>6337.7</b> | <b>91693.</b> | <b>13285.</b> |

Sample Name: MB 180-140568/1-A      Acquired: 5/6/2015 15:05:00      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |                |
|--------|----------------|---------------|---------------|---------------|---------------|----------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be             |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108}  |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)       |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm            |
| Avg    | <b>-.00015</b> | <b>.00918</b> | <b>.00223</b> | <b>.00031</b> | <b>.00042</b> | <b>-.00005</b> |
| Stddev | .00009         | .00818        | .00090        | .00029        | .00004        | .00003         |
| %RSD   | 61.322         | 89.064        | 40.212        | 92.990        | 9.2386        | 53.129         |

|    |                |               |               |               |               |                |
|----|----------------|---------------|---------------|---------------|---------------|----------------|
| #1 | <b>-.00006</b> | <b>.00731</b> | <b>.00197</b> | <b>.00062</b> | <b>.00038</b> | <b>-.00002</b> |
| #2 | <b>-.00024</b> | <b>.01814</b> | <b>.00322</b> | <b>.00028</b> | <b>.00041</b> | <b>-.00007</b> |
| #3 | <b>-.00016</b> | <b>.00211</b> | <b>.00149</b> | <b>.00004</b> | <b>.00046</b> | <b>-.00007</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |                |               |                |                |               |
|--------|---------------|----------------|---------------|----------------|----------------|---------------|
| Elem   | Ca            | Cd             | Co            | Cr             | Cu             | Fe            |
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447} | 267.716 {126}  | 327.396 {103}  | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (In2306)      | (Y_3600)       | (Y_3710)       | (Y_3710)      |
| Units  | ppm           | ppm            | ppm           | ppm            | ppm            | ppm           |
| Avg    | <b>.02315</b> | <b>-.00021</b> | <b>.00005</b> | <b>-.00010</b> | <b>-.00019</b> | <b>.05285</b> |
| Stddev | .00306        | .00002         | .00017        | .00017         | .00052         | .00290        |
| %RSD   | 13.235        | 10.898         | 364.57        | 177.55         | 274.83         | 5.4899        |

|    |               |                |                |                |                |               |
|----|---------------|----------------|----------------|----------------|----------------|---------------|
| #1 | <b>.02546</b> | <b>-.00023</b> | <b>-.00009</b> | <b>-.00006</b> | <b>-.00022</b> | <b>.05466</b> |
| #2 | <b>.02432</b> | <b>-.00019</b> | <b>-.00001</b> | <b>.00005</b>  | <b>.00035</b>  | <b>.05439</b> |
| #3 | <b>.01967</b> | <b>-.00020</b> | <b>.00023</b>  | <b>-.00028</b> | <b>-.00069</b> | <b>.04950</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: MB 180-140568/1-A      Acquired: 5/6/2015 15:05:00      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .04336        | -.00070       | .01709        | .00101        | -.00033       | .02823        |
| Stddev | .02762        | .00098        | .01597        | .00004        | .00022        | .00382        |
| %RSD   | 63.698        | 140.57        | 93.405        | 4.3906        | 65.361        | 13.512        |

|    |        |         |         |        |         |        |
|----|--------|---------|---------|--------|---------|--------|
| #1 | .07405 | -.00074 | .03132  | .00106 | -.00008 | .03100 |
| #2 | .02052 | -.00167 | -.00017 | .00097 | -.00047 | .02982 |
| #3 | .03550 | .00030  | .02013  | .00101 | -.00044 | .02388 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00022       | .00044        | -.00130       | .00067        | .01521        | .00118        |
| Stddev | .00017        | .00009        | .00130        | .00134        | .00657        | .00025        |
| %RSD   | 76.778        | 19.435        | 99.396        | 199.02        | 43.198        | 21.197        |

|    |         |        |         |         |        |        |
|----|---------|--------|---------|---------|--------|--------|
| #1 | -.00020 | .00035 | -.00192 | .00218  | .02268 | .00093 |
| #2 | -.00039 | .00047 | .00019  | -.00035 | .01035 | .00143 |
| #3 | -.00006 | .00051 | -.00218 | .00018  | .01259 | .00118 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: MB 180-140568/1-A      Acquired: 5/6/2015 15:05:00      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |                |
|--------|----------------|---------------|---------------|---------------|----------------|
| Elem   | Sr             | Ti            | Ti            | V_            | Zn             |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463}  |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)       |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm            |
| Avg    | <b>-.00220</b> | <b>.00021</b> | <b>.00148</b> | <b>.00290</b> | <b>-.00026</b> |
| Stddev | .00056         | .00011        | .00134        | .00162        | .00023         |
| %RSD   | 25.467         | 53.130        | 90.299        | 55.874        | 88.626         |

|    |                |               |               |               |                |
|----|----------------|---------------|---------------|---------------|----------------|
| #1 | <b>-.00221</b> | <b>.00023</b> | <b>.00175</b> | <b>.00431</b> | <b>-.00002</b> |
| #2 | <b>-.00276</b> | <b>.00031</b> | <b>.00003</b> | <b>.00327</b> | <b>-.00027</b> |
| #3 | <b>-.00163</b> | <b>.00009</b> | <b>.00267</b> | <b>.00113</b> | <b>-.00048</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3416.5</b> | <b>5614.5</b> | <b>81374.</b> | <b>11356.</b> |
| Stddev    | 5.3           | 5.5           | 56.           | 79.           |
| %RSD      | .15476        | .09788        | .06904        | .69383        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3422.5 | 5619.1 | 81315. | 11377. |
| #2 | 3414.8 | 5608.4 | 81426. | 11423. |
| #3 | 3412.4 | 5616.0 | 81383. | 11270. |



Sample Name: LCS 180-140568/2-A      Acquired: 5/6/2015 15:10:09      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05407        | 2.0210        | .53367        | 1.0782        | 2.0195        | .04987        |
| Stddev | .00019        | .0209         | .00038        | .0027         | .0326         | .00059        |
| %RSD   | .35024        | 1.0355        | .07133        | .25240        | 1.6168        | 1.1909        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .05426 | 2.0046 | .53326 | 1.0751 | 1.9954 | .04930 |
| #2 | .05388 | 2.0446 | .53372 | 1.0792 | 2.0566 | .05048 |
| #3 | .05407 | 2.0138 | .53402 | 1.0802 | 2.0065 | .04984 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 50.550        | .05187        | .51115        | .20231        | .24524        | 1.0732        |
| Stddev | .712          | .00017        | .00124        | .00071        | .00087        | .0149         |
| %RSD   | 1.4076        | .33049        | .24294        | .35286        | .35671        | 1.3900        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 50.112 | .05174 | .51224 | .20300 | .24445 | 1.0562 |
| #2 | 51.371 | .05206 | .51140 | .20235 | .24618 | 1.0842 |
| #3 | 50.167 | .05180 | .50980 | .20158 | .24510 | 1.0792 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: LCS 180-140568/2-A      Acquired: 5/6/2015 15:10:09      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>51.894</b> | <b>1.0258</b> | <b>51.157</b> | <b>.48592</b> | <b>1.0158</b> | <b>52.521</b> |
| Stddev | .611          | .0143         | .396          | .00444        | .0057         | .707          |
| %RSD   | 1.1769        | 1.3923        | .77385        | .91298        | .56650        | 1.3452        |
| #1     | 51.342        | 1.0135        | 50.874        | .48277        | 1.0093        | 51.997        |
| #2     | 52.550        | 1.0414        | 51.609        | .49100        | 1.0184        | 53.324        |
| #3     | 51.791        | 1.0224        | 50.987        | .48400        | 1.0198        | 52.242        |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.51186</b> | <b>.51245</b> | <b>.53750</b> | <b>.54776</b> | <b>10.185</b> | <b>2.0165</b> |
| Stddev | .00052        | .00158        | .00320        | .00155        | .158          | .0050         |
| %RSD   | .10118        | .30739        | .59444        | .28278        | 1.5487        | .24754        |
| #1     | .51166        | .51261        | .54093        | .54802        | 10.084        | 2.0107        |
| #2     | .51245        | .51394        | .53697        | .54916        | 10.366        | 2.0196        |
| #3     | .51147        | .51080        | .53460        | .54609        | 10.104        | 2.0192        |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: LCS 180-140568/2-A      Acquired: 5/6/2015 15:10:09      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.98300</b> | <b>.97347</b> | <b>.50778</b> | <b>.53671</b> | <b>.51139</b> |
| Stddev | .00801        | .00714        | .00223        | .00028        | .00130        |
| %RSD   | .81470        | .73363        | .43825        | .05224        | .25498        |

|    |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.97840</b> | <b>.96960</b> | <b>.50642</b> | <b>.53650</b> | <b>.51083</b> |
| #2 | <b>.99225</b> | <b>.98171</b> | <b>.51035</b> | <b>.53703</b> | <b>.51288</b> |
| #3 | <b>.97836</b> | <b>.96910</b> | <b>.50656</b> | <b>.53660</b> | <b>.51046</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2864.8</b> | <b>5190.0</b> | <b>75604.</b> | <b>11051.</b> |
| Stddev    | 3.8           | 11.4          | 169.          | 95.           |
| %RSD      | .13348        | .22035        | .22322        | .86171        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2868.5 | 5201.1 | 75540. | 11084. |
| #2 | 2865.2 | 5190.8 | 75476. | 10944. |
| #3 | 2860.8 | 5178.2 | 75795. | 11125. |

Sample Name: 180-43671-A-1-A      Acquired: 5/6/2015 15:14:57      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00003        | .02598        | .00227        | .03063        | .03592        | .00017        |
| Stddev | .00047        | .01386        | .00156        | .00011        | .00011        | .00002        |
| %RSD   | 1595.4        | 53.343        | 68.713        | .35051        | .29292        | 11.598        |

|    |         |        |        |        |        |        |
|----|---------|--------|--------|--------|--------|--------|
| #1 | .00039  | .01335 | .00198 | .03075 | .03584 | .00016 |
| #2 | -.00049 | .04080 | .00396 | .03058 | .03604 | .00015 |
| #3 | .00019  | .02378 | .00088 | .03056 | .03588 | .00019 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 23.425        | -.00025       | .00063        | .00010        | .06108        | .03317        |
| Stddev | .086          | .00003        | .00027        | .00021        | .00071        | .00173        |
| %RSD   | .36574        | 12.311        | 42.446        | 216.51        | 1.1605        | 5.2042        |

|    |        |         |        |         |        |        |
|----|--------|---------|--------|---------|--------|--------|
| #1 | 23.517 | -.00024 | .00075 | .00005  | .06177 | .03500 |
| #2 | 23.409 | -.00022 | .00032 | -.00009 | .06111 | .03157 |
| #3 | 23.348 | -.00028 | .00081 | .00033  | .06036 | .03295 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43671-A-1-A      Acquired: 5/6/2015 15:14:57      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 5.9877        | .00412        | 5.3368        | .00880        | .00375        | 95.233        |
| Stddev | .0132         | .00099        | .0232         | .00004        | .00067        | .104          |
| %RSD   | .21962        | 24.050        | .43511        | .42835        | 17.910        | .10911        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 6.0029 | .00316 | 5.3574 | .00881 | .00447 | 95.203 |
| #2 | 5.9809 | .00407 | 5.3413 | .00883 | .00364 | 95.348 |
| #3 | 5.9794 | .00514 | 5.3116 | .00876 | .00314 | 95.147 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05505        | .00297        | -.00124       | .00093        | 2.7866        | .01298        |
| Stddev | .00033        | .00036        | .00181        | .00264        | .0224         | .00055        |
| %RSD   | .60845        | 12.266        | 146.39        | 282.83        | .80407        | 4.2674        |

|    |        |        |         |         |        |        |
|----|--------|--------|---------|---------|--------|--------|
| #1 | .05466 | .00270 | -.00322 | .00365  | 2.8069 | .01362 |
| #2 | .05524 | .00339 | -.00082 | -.00162 | 2.7902 | .01259 |
| #3 | .05525 | .00284 | .00033  | .00077  | 2.7626 | .01273 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43671-A-1-A      Acquired: 5/6/2015 15:14:57      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .08171        | .00042        | .00191        | .00159        | .00594        |
| Stddev | .00359        | .00006        | .00124        | .00235        | .00021        |
| %RSD   | 4.3929        | 14.380        | 64.856        | 147.39        | 3.5848        |

|    |        |        |        |         |        |
|----|--------|--------|--------|---------|--------|
| #1 | .07839 | .00041 | .00310 | .00399  | .00617 |
| #2 | .08551 | .00036 | .00063 | -.00070 | .00589 |
| #3 | .08122 | .00048 | .00201 | .00149  | .00575 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2969.3        | 5267.8        | 76643.        | 11210.        |
| Stddev    | 3.3           | 3.1           | 262.          | 80.           |
| %RSD      | .11033        | .05810        | .34191        | .71128        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2973.1 | 5271.2 | 76395. | 11131. |
| #2 | 2968.0 | 5267.0 | 76917. | 11208. |
| #3 | 2966.9 | 5265.3 | 76617. | 11291. |

Sample Name: CCV 1551842      Acquired: 5/6/2015 15:20:06      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>1.0843</b> | <b>25.823</b> | <b>.52746</b> | <b>2.1191</b> | <b>2.0500</b> | <b>2.0383</b> |
| Stddev | .0056         | .047          | .00261        | .0020         | .0033         | .0117         |
| %RSD   | .51463        | .18322        | .49464        | .09593        | .16212        | .57238        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.0844 | 25.869 | .52984 | 2.1169 | 2.0532 | 2.0462 |
| #2 | 1.0787 | 25.775 | .52467 | 2.1193 | 2.0500 | 2.0249 |
| #3 | 1.0899 | 25.824 | .52788 | 2.1209 | 2.0466 | 2.0438 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>51.980</b> | <b>.52345</b> | <b>2.1094</b> | <b>2.0516</b> | <b>1.9527</b> | <b>26.368</b> |
| Stddev | .166          | .00041        | .0017         | .0068         | .0154         | .149          |
| %RSD   | .31866        | .07757        | .07963        | .32941        | .78842        | .56455        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 51.797 | .52337 | 2.1107 | 2.0532 | 1.9422 | 26.420 |
| #2 | 52.023 | .52309 | 2.1101 | 2.0442 | 1.9456 | 26.200 |
| #3 | 52.120 | .52389 | 2.1075 | 2.0575 | 1.9704 | 26.483 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/6/2015 15:20:06      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 130.65        | 2.0728        | 51.592        | 1.9153        | 2.0215        | 131.97        |
| Stddev | .67           | .0057         | .221          | .0056         | .0012         | .34           |
| %RSD   | .51009        | .27448        | .42802        | .29436        | .05790        | .25654        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 131.25 | 2.0792 | 51.644 | 1.9103 | 2.0206 | 132.30 |
| #2 | 129.93 | 2.0708 | 51.350 | 1.9143 | 2.0229 | 131.62 |
| #3 | 130.76 | 2.0684 | 51.782 | 1.9214 | 2.0212 | 131.97 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 2.0860        | .51650        | .52017        | .52145        | 2.0768        | 1.9591        |
| Stddev | .0043         | .00246        | .00220        | .00383        | .0206         | .0023         |
| %RSD   | .20799        | .47709        | .42335        | .73413        | .99064        | .11773        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 2.0862 | .51599 | .52205 | .52579 | 2.0705 | 1.9606 |
| #2 | 2.0903 | .51918 | .52071 | .51855 | 2.0601 | 1.9603 |
| #3 | 2.0816 | .51432 | .51775 | .52002 | 2.0998 | 1.9564 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |



Sample Name: CCV 1551842      Acquired: 5/6/2015 15:20:06      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>1.9692</b> | <b>1.9329</b> | <b>.98275</b> | <b>2.1962</b> | <b>2.0050</b> |
| Stddev | .0043         | .0091         | .00115        | .0030         | .0038         |
| %RSD   | .21977        | .46858        | .11690        | .13576        | .19101        |

|    |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>1.9739</b> | <b>1.9263</b> | <b>.98376</b> | <b>2.1943</b> | <b>2.0093</b> |
| #2 | <b>1.9653</b> | <b>1.9293</b> | <b>.98299</b> | <b>2.1997</b> | <b>2.0038</b> |
| #3 | <b>1.9686</b> | <b>1.9433</b> | <b>.98150</b> | <b>2.1947</b> | <b>2.0020</b> |

|         |                 |                 |                 |                 |                 |
|---------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ? | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| Value   |                 |                 |                 |                 |                 |
| Range   |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2684.6</b> | <b>5106.2</b> | <b>72689.</b> | <b>10767.</b> |
| Stddev    | 3.3           | 3.5           | 246.          | 56.           |
| %RSD      | .12175        | .06828        | .33812        | .52472        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>2685.6</b> | <b>5106.7</b> | <b>72532.</b> | <b>10783.</b> |
| #2 | <b>2681.0</b> | <b>5102.5</b> | <b>72972.</b> | <b>10814.</b> |
| #3 | <b>2687.3</b> | <b>5109.4</b> | <b>72563.</b> | <b>10705.</b> |

Sample Name: CCB9      Acquired: 5/6/2015 15:24:53      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00035        | .00599        | .00150        | .00308        | .00042        | .00029        |
| Stddev | .00049        | .01588        | .00055        | .00044        | .00011        | .00005        |
| %RSD   | 140.12        | 265.03        | 36.580        | 14.408        | 26.804        | 15.454        |

|    |         |         |        |        |        |        |
|----|---------|---------|--------|--------|--------|--------|
| #1 | .00062  | -.01060 | .00098 | .00324 | .00035 | .00030 |
| #2 | .00064  | .02104  | .00207 | .00342 | .00055 | .00034 |
| #3 | -.00022 | .00753  | .00143 | .00258 | .00037 | .00025 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .02039        | .00010        | .00023        | -.00016       | .00060        | .00947        |
| Stddev | .00150        | .00010        | .00015        | .00030        | .00037        | .00330        |
| %RSD   | 7.3560        | 106.12        | 63.478        | 189.11        | 61.895        | 34.894        |

|    |        |        |        |         |        |        |
|----|--------|--------|--------|---------|--------|--------|
| #1 | .02096 | .00004 | .00012 | -.00030 | .00077 | .01144 |
| #2 | .01869 | .00003 | .00019 | -.00037 | .00017 | .01131 |
| #3 | .02152 | .00021 | .00040 | .00019  | .00085 | .00565 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB9      Acquired: 5/6/2015 15:24:53      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .13360        | .00187        | .00970        | .00038        | .00373        | .07095        |
| Stddev | .02992        | .00056        | .01834        | .00002        | .00054        | .00294        |
| %RSD   | 22.394        | 30.093        | 189.02        | 6.1439        | 14.437        | 4.1376        |

|    |        |        |         |        |        |        |
|----|--------|--------|---------|--------|--------|--------|
| #1 | .11550 | .00249 | .00982  | .00036 | .00429 | .06857 |
| #2 | .16813 | .00173 | -.00869 | .00040 | .00369 | .07004 |
| #3 | .11716 | .00139 | .02799  | .00039 | .00322 | .07423 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00041        | .00072        | -.00202       | .00192        | .00926        | .00106        |
| Stddev | .00026        | .00025        | .00076        | .00229        | .00694        | .00024        |
| %RSD   | 64.833        | 33.958        | 37.501        | 119.53        | 74.936        | 22.514        |

|    |        |        |         |         |        |        |
|----|--------|--------|---------|---------|--------|--------|
| #1 | .00013 | .00095 | -.00233 | -.00028 | .01482 | .00124 |
| #2 | .00066 | .00076 | -.00116 | .00429  | .01149 | .00079 |
| #3 | .00043 | .00046 | -.00258 | .00173  | .00148 | .00115 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB9      Acquired: 5/6/2015 15:24:53      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00277</b> | <b>.00050</b> | <b>.00206</b> | <b>.00217</b> | <b>.00048</b> |
| Stddev | .00235         | .00014        | .00056        | .00255        | .00003        |
| %RSD   | 84.918         | 27.396        | 27.046        | 117.71        | 6.9820        |

|    |                |               |               |                |               |
|----|----------------|---------------|---------------|----------------|---------------|
| #1 | <b>-.00328</b> | <b>.00059</b> | <b>.00231</b> | <b>.00391</b>  | <b>.00046</b> |
| #2 | <b>-.00481</b> | <b>.00035</b> | <b>.00244</b> | <b>-.00076</b> | <b>.00052</b> |
| #3 | <b>-.00020</b> | <b>.00057</b> | <b>.00142</b> | <b>.00336</b>  | <b>.00046</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3290.2</b> | <b>5434.1</b> | <b>79618.</b> | <b>11010.</b> |
| Stddev    | 3.1           | 9.5           | 395.          | 34.           |
| %RSD      | .09323        | .17558        | .49606        | .30803        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3293.7 | 5442.6 | 80034. | 10973. |
| #2 | 3288.2 | 5435.8 | 79248. | 11039. |
| #3 | 3288.7 | 5423.8 | 79573. | 11019. |

Sample Name: 180-43671-A-1-A SD@5      Acquired: 5/6/2015 15:30:05      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00037        | .01816        | .00153        | .00667        | .00733        | .00006        |
| Stddev | .00032        | .00592        | .00136        | .00029        | .00014        | .00003        |
| %RSD   | 87.104        | 32.606        | 89.013        | 4.3374        | 1.8534        | 40.818        |

|    |        |        |         |        |        |        |
|----|--------|--------|---------|--------|--------|--------|
| #1 | .00014 | .01972 | .00227  | .00662 | .00718 | .00009 |
| #2 | .00074 | .02314 | .00236  | .00698 | .00741 | .00004 |
| #3 | .00023 | .01161 | -.00004 | .00640 | .00741 | .00006 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 4.8046        | .00002        | .00022        | -.00025       | .01309        | .00630        |
| Stddev | .0757         | .00011        | .00008        | .00043        | .00025        | .00151        |
| %RSD   | 1.5758        | 593.15        | 38.378        | 175.51        | 1.9062        | 24.040        |

|    |        |         |        |         |        |        |
|----|--------|---------|--------|---------|--------|--------|
| #1 | 4.7531 | .00003  | .00029 | -.00061 | .01286 | .00764 |
| #2 | 4.7692 | .00012  | .00025 | .00023  | .01336 | .00465 |
| #3 | 4.8916 | -.00010 | .00013 | -.00035 | .01305 | .00661 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43671-A-1-A SD@5      Acquired: 5/6/2015 15:30:05      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.2595        | .00164        | 1.0775        | .00182        | .00102        | 19.420        |
| Stddev | .0129         | .00052        | .0052         | .00009        | .00033        | .291          |
| %RSD   | 1.0248        | 31.542        | .47927        | 4.8550        | 31.873        | 1.4980        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.2455 | .00156 | 1.0793 | .00172 | .00138 | 19.254 |
| #2 | 1.2621 | .00117 | 1.0716 | .00184 | .00076 | 19.249 |
| #3 | 1.2709 | .00220 | 1.0815 | .00189 | .00092 | 19.756 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .01106        | .00046        | -.00137       | -.00002       | .56539        | .00281        |
| Stddev | .00019        | .00116        | .00063        | .00185        | .01074        | .00052        |
| %RSD   | 1.7240        | 251.17        | 46.099        | 9968.0        | 1.8994        | 18.403        |

|    |        |         |         |         |        |        |
|----|--------|---------|---------|---------|--------|--------|
| #1 | .01106 | .00001  | -.00204 | -.00071 | .56002 | .00319 |
| #2 | .01125 | -.00041 | -.00126 | .00208  | .55839 | .00222 |
| #3 | .01087 | .00178  | -.00079 | -.00142 | .57775 | .00301 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43671-A-1-A SD@5      Acquired: 5/6/2015 15:30:05      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .01769        | .00007        | .00124        | .00379        | .00248        |
| Stddev | .00196        | .00008        | .00079        | .00251        | .00013        |
| %RSD   | 11.072        | 128.49        | 63.467        | 66.166        | 5.0797        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .01563 | .00001 | .00203 | .00533 | .00243 |
| #2 | .01792 | .00002 | .00045 | .00515 | .00263 |
| #3 | .01953 | .00016 | .00124 | .00090 | .00239 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3154.8        | 5386.1        | 79137.        | 11121.        |
| Stddev    | 5.9           | 9.7           | 260.          | 174.          |
| %RSD      | .18856        | .17977        | .32868        | 1.5653        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3150.6 | 5375.2 | 79287. | 11232. |
| #2 | 3152.3 | 5389.5 | 78836. | 11210. |
| #3 | 3161.6 | 5393.7 | 79287. | 10920. |

Sample Name: 180-43671-A-1-B MS      Acquired: 5/6/2015 15:35:14      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05751        | 2.1634        | .57055        | 1.1513        | 2.1613        | .05211        |
| Stddev | .00046        | .0217         | .00319        | .0022         | .0051         | .00012        |
| %RSD   | .79860        | 1.0019        | .55919        | .19193        | .23729        | .22888        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .05705 | 2.1733 | .56778 | 1.1491 | 2.1635 | .05218 |
| #2 | .05797 | 2.1385 | .56982 | 1.1513 | 2.1554 | .05217 |
| #3 | .05750 | 2.1783 | .57404 | 1.1536 | 2.1649 | .05197 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 77.681        | .05408        | .54712        | .21445        | .31920        | 1.1334        |
| Stddev | .174          | .00012        | .00017        | .00168        | .00159        | .0044         |
| %RSD   | .22346        | .22008        | .03168        | .78381        | .49822        | .38753        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 77.720 | .05402 | .54692 | .21356 | .31811 | 1.1337 |
| #2 | 77.492 | .05401 | .54719 | .21340 | .32103 | 1.1377 |
| #3 | 77.832 | .05422 | .54724 | .21639 | .31848 | 1.1289 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43671-A-1-B MS      Acquired: 5/6/2015 15:35:14      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem       | K_            | Li            | Mg            | Mn            | Mo            | Na            |
|------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line       | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref     | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units      | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg        | <b>60.995</b> | <b>1.0801</b> | <b>59.524</b> | <b>.50737</b> | <b>1.0570</b> | <b>152.34</b> |
| Stddev     | .028          | .0036         | .110          | .00027        | .0048         | .35           |
| %RSD       | .04531        | .33614        | .18441        | .05331        | .45411        | .22976        |
| #1         | 60.985        | 1.0828        | 59.551        | .50730        | 1.0529        | 152.70        |
| #2         | 61.026        | 1.0760        | 59.618        | .50766        | 1.0559        | 152.00        |
| #3         | 60.974        | 1.0815        | 59.404        | .50713        | 1.0623        | 152.33        |
| Check ?    | Chk Pass      | Chk Pass      | Chk Pass      | Chk Pass      | Chk Pass      | Chk Pass      |
| High Limit |               |               |               |               |               |               |
| Low Limit  |               |               |               |               |               |               |

| Elem       | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
|------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line       | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref     | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units      | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg        | <b>.59755</b> | <b>.53264</b> | <b>.57030</b> | <b>.57230</b> | <b>13.513</b> | <b>2.1030</b> |
| Stddev     | .00165        | .00114        | .00080        | .00281        | .028          | .0009         |
| %RSD       | .27606        | .21492        | .14022        | .49043        | .20611        | .04104        |
| #1         | .59936        | .53224        | .56938        | .57138        | 13.537        | 2.1037        |
| #2         | .59716        | .53393        | .57084        | .57008        | 13.520        | 2.1020        |
| #3         | .59614        | .53176        | .57069        | .57546        | 13.483        | 2.1032        |
| Check ?    | Chk Pass      | Chk Pass      | Chk Pass      | Chk Pass      | Chk Pass      | Chk Pass      |
| High Limit |               |               |               |               |               |               |
| Low Limit  |               |               |               |               |               |               |

Sample Name: 180-43671-A-1-B MS      Acquired: 5/6/2015 15:35:14      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>1.1044</b> | <b>.99730</b> | <b>.51425</b> | <b>.57789</b> | <b>.54075</b> |
| Stddev | .0027         | .00122        | .00166        | .00117        | .00089        |
| %RSD   | .24389        | .12279        | .32198        | .20280        | .16390        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | 1.1041 | .99594 | .51603 | .57675 | .54141 |
| #2 | 1.1072 | .99766 | .51395 | .57782 | .54110 |
| #3 | 1.1018 | .99831 | .51276 | .57909 | .53974 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2777.6</b> | <b>5150.3</b> | <b>74392.</b> | <b>11126.</b> |
| Stddev    | 1.5           | 2.5           | 217.          | 26.           |
| %RSD      | .05578        | .04867        | .29164        | .23702        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2775.9 | 5150.5 | 74599. | 11155. |
| #2 | 2779.0 | 5152.7 | 74410. | 11118. |
| #3 | 2778.0 | 5147.7 | 74166. | 11105. |

Sample Name: 180-43671-A-1-C MSD      Acquired: 5/6/2015 15:40:02      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05673        | 2.1172        | .55443        | 1.1206        | 2.1120        | .05052        |
| Stddev | .00052        | .0227         | .00054        | .0015         | .0045         | .00015        |
| %RSD   | .91309        | 1.0740        | .09701        | .13395        | .21505        | .30108        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .05652 | 2.1228 | .55442 | 1.1193 | 2.1167 | .05048 |
| #2 | .05635 | 2.1366 | .55497 | 1.1202 | 2.1117 | .05069 |
| #3 | .05732 | 2.0922 | .55389 | 1.1222 | 2.1076 | .05039 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 75.692        | .05334        | .53169        | .21189        | .31594        | 1.0995        |
| Stddev | .230          | .00016        | .00084        | .00149        | .00062        | .0033         |
| %RSD   | .30380        | .29134        | .15839        | .70230        | .19738        | .30220        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 75.898 | .05350 | .53189 | .21043 | .31614 | 1.0987 |
| #2 | 75.735 | .05333 | .53077 | .21340 | .31644 | 1.1032 |
| #3 | 75.444 | .05319 | .53242 | .21184 | .31524 | 1.0968 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43671-A-1-C MSD      Acquired: 5/6/2015 15:40:02      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>58.887</b> | <b>1.0624</b> | <b>57.347</b> | <b>.49696</b> | <b>1.0341</b> | <b>147.52</b> |
| Stddev | .249          | .0051         | .248          | .00164        | .0026         | .47           |
| %RSD   | .42249        | .47603        | .43194        | .33075        | .24871        | .32196        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 58.950 | 1.0655 | 57.401 | .49885 | 1.0313 | 147.86 |
| #2 | 59.098 | 1.0652 | 57.563 | .49617 | 1.0362 | 147.71 |
| #3 | 58.612 | 1.0566 | 57.076 | .49586 | 1.0350 | 146.97 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.58465</b> | <b>.51614</b> | <b>.55095</b> | <b>.55756</b> | <b>13.135</b> | <b>2.0544</b> |
| Stddev | .00066        | .00308        | .00199        | .00468        | .059          | .0040         |
| %RSD   | .11363        | .59759        | .36031        | .83994        | .44909        | .19718        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .58524 | .51968 | .54867 | .55505 | 13.178 | 2.0590 |
| #2 | .58393 | .51476 | .55229 | .55467 | 13.159 | 2.0525 |
| #3 | .58477 | .51399 | .55189 | .56296 | 13.068 | 2.0516 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43671-A-1-C MSD      Acquired: 5/6/2015 15:40:02      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>1.0762</b> | <b>.97881</b> | <b>.50574</b> | <b>.56539</b> | <b>.52434</b> |
| Stddev | .0106         | .00274        | .00140        | .00488        | .00208        |
| %RSD   | .98839        | .28029        | .27700        | .86302        | .39753        |

|    |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>1.0879</b> | <b>.98197</b> | <b>.50484</b> | <b>.57081</b> | <b>.52639</b> |
| #2 | <b>1.0736</b> | <b>.97743</b> | <b>.50736</b> | <b>.56136</b> | <b>.52223</b> |
| #3 | <b>1.0671</b> | <b>.97703</b> | <b>.50503</b> | <b>.56399</b> | <b>.52441</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2794.4</b> | <b>5155.5</b> | <b>74249.</b> | <b>11085.</b> |
| Stddev    | 5.7           | 10.3          | 88.           | 30.           |
| %RSD      | .20564        | .20017        | .11858        | .27453        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>2795.2</b> | <b>5163.6</b> | <b>74346.</b> | <b>11055.</b> |
| #2 | <b>2799.6</b> | <b>5159.0</b> | <b>74175.</b> | <b>11084.</b> |
| #3 | <b>2788.2</b> | <b>5143.9</b> | <b>74225.</b> | <b>11115.</b> |

Sample Name: 180-43671-A-2-A      Acquired: 5/6/2015 15:44:50      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00029        | .05796        | .00296        | .02724        | .04264        | .00028        |
| Stddev | .00018        | .00408        | .00166        | .00051        | .00005        | .00005        |
| %RSD   | 63.244        | 7.0359        | 56.210        | 1.8586        | .11730        | 18.302        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .00016 | .05702 | .00323 | .02758 | .04258 | .00033 |
| #2 | .00021 | .05443 | .00117 | .02666 | .04267 | .00025 |
| #3 | .00050 | .06242 | .00446 | .02748 | .04266 | .00024 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 21.522        | -.00013       | .00060        | .00065        | .59931        | .06339        |
| Stddev | .095          | .00009        | .00015        | .00039        | .00107        | .00181        |
| %RSD   | .43962        | 67.026        | 24.240        | 60.242        | .17872        | 2.8573        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | 21.454 | -.00022 | .00043 | .00077 | .59809 | .06410 |
| #2 | 21.480 | -.00012 | .00069 | .00021 | .59973 | .06133 |
| #3 | 21.630 | -.00005 | .00067 | .00097 | .60011 | .06473 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43671-A-2-A      Acquired: 5/6/2015 15:44:50      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>33.411</b> | <b>.00364</b> | <b>4.7360</b> | <b>.03604</b> | <b>.00561</b> | <b>84.307</b> |
| Stddev | .084          | .00052        | .0249         | .00016        | .00077        | .277          |
| %RSD   | .25063        | 14.300        | .52609        | .44574        | 13.745        | .32842        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 33.367 | .00401 | 4.7373 | .03591 | .00642 | 84.098 |
| #2 | 33.358 | .00387 | 4.7104 | .03599 | .00551 | 84.201 |
| #3 | 33.507 | .00305 | 4.7602 | .03622 | .00489 | 84.621 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |                |               |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb             | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455}  | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>.04582</b> | <b>.02185</b> | <b>-.00196</b> | <b>.00249</b> | <b>2.5417</b> | <b>.07304</b> |
| Stddev | .00061        | .00065        | .00149         | .00246        | .0204         | .00053        |
| %RSD   | 1.3384        | 2.9686        | 75.818         | 98.607        | .80262        | .71952        |

|    |        |        |         |         |        |        |
|----|--------|--------|---------|---------|--------|--------|
| #1 | .04514 | .02177 | -.00096 | -.00024 | 2.5233 | .07244 |
| #2 | .04634 | .02253 | -.00126 | .00320  | 2.5382 | .07326 |
| #3 | .04597 | .02124 | -.00367 | .00451  | 2.5637 | .07341 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43671-A-2-A      Acquired: 5/6/2015 15:44:50      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .07188        | .00068        | .00169        | .00239        | .02268        |
| Stddev | .00287        | .00002        | .00037        | .00016        | .00007        |
| %RSD   | 3.9989        | 2.7004        | 21.649        | 6.8818        | .30395        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .07470 | .00069 | .00145 | .00249 | .02274 |
| #2 | .06895 | .00070 | .00151 | .00220 | .02260 |
| #3 | .07199 | .00066 | .00211 | .00247 | .02270 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2955.2        | 5266.1        | 77041.        | 11296.        |
| Stddev    | 13.2          | 21.5          | 229.          | 58.           |
| %RSD      | .44786        | .40842        | .29693        | .51059        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2969.5 | 5290.5 | 77298. | 11347. |
| #2 | 2943.3 | 5250.1 | 76858. | 11307. |
| #3 | 2952.8 | 5257.6 | 76968. | 11233. |



Sample Name: 180-43671-A-3-A      Acquired: 5/6/2015 15:49:56      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00022        | .05114        | .00558        | .03221        | .03205        | .00022        |
| Stddev | .00005        | .01192        | .00037        | .00048        | .00040        | .00003        |
| %RSD   | 23.996        | 23.304        | 6.6440        | 1.4856        | 1.2603        | 15.309        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .00026 | .05481 | .00600 | .03276 | .03221 | .00024 |
| #2 | .00016 | .03782 | .00530 | .03187 | .03235 | .00024 |
| #3 | .00023 | .06078 | .00544 | .03200 | .03159 | .00018 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 21.434        | -.00020       | .00041        | -.00013       | .18381        | .01416        |
| Stddev | .100          | .00007        | .00016        | .00049        | .00116        | .00293        |
| %RSD   | .46736        | 32.891        | 37.500        | 372.37        | .63050        | 20.679        |

|    |        |         |        |         |        |        |
|----|--------|---------|--------|---------|--------|--------|
| #1 | 21.474 | -.00028 | .00025 | -.00069 | .18302 | .01204 |
| #2 | 21.320 | -.00015 | .00044 | .00022  | .18328 | .01295 |
| #3 | 21.508 | -.00018 | .00056 | .00008  | .18514 | .01750 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43671-A-3-A      Acquired: 5/6/2015 15:49:56      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>3.8350</b> | <b>.00338</b> | <b>4.7474</b> | <b>.03507</b> | <b>.00154</b> | <b>89.662</b> |
| Stddev | .0082         | .00087        | .0312         | .00031        | .00023        | .079          |
| %RSD   | .21469        | 25.799        | .65732        | .88791        | 14.608        | .08795        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>3.8265</b> | <b>.00393</b> | <b>4.7183</b> | <b>.03511</b> | <b>.00174</b> | <b>89.594</b> |
| #2 | <b>3.8429</b> | <b>.00385</b> | <b>4.7435</b> | <b>.03475</b> | <b>.00159</b> | <b>89.645</b> |
| #3 | <b>3.8357</b> | <b>.00238</b> | <b>4.7803</b> | <b>.03537</b> | <b>.00129</b> | <b>89.748</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |                |                |               |               |
|--------|---------------|---------------|----------------|----------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb             | Se             | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455}  | 196.090 {472}  | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)       | (Y_2243)       | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm            | ppm           | ppm           |
| Avg    | <b>.03421</b> | <b>.00339</b> | <b>-.00023</b> | <b>-.00122</b> | <b>2.6111</b> | <b>.03989</b> |
| Stddev | .00045        | .00067        | .00181         | .00100         | .0148         | .00065        |
| %RSD   | 1.3035        | 19.670        | 796.87         | 82.381         | .56798        | 1.6394        |

|    |               |               |                |                |               |               |
|----|---------------|---------------|----------------|----------------|---------------|---------------|
| #1 | <b>.03382</b> | <b>.00369</b> | <b>-.00192</b> | <b>-.00201</b> | <b>2.6076</b> | <b>.03932</b> |
| #2 | <b>.03470</b> | <b>.00263</b> | <b>-.00044</b> | <b>-.00154</b> | <b>2.5983</b> | <b>.04060</b> |
| #3 | <b>.03412</b> | <b>.00386</b> | <b>.00168</b>  | <b>-.00009</b> | <b>2.6273</b> | <b>.03974</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43671-A-3-A      Acquired: 5/6/2015 15:49:56      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .07335        | .00027        | .00213        | .00313        | .00236        |
| Stddev | .00407        | .00007        | .00131        | .00544        | .00010        |
| %RSD   | 5.5501        | 26.050        | 61.291        | 174.09        | 4.2599        |

|    |        |        |        |         |        |
|----|--------|--------|--------|---------|--------|
| #1 | .07633 | .00019 | .00136 | -.00314 | .00233 |
| #2 | .06871 | .00027 | .00365 | .00667  | .00228 |
| #3 | .07500 | .00033 | .00140 | .00585  | .00248 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2978.9        | 5288.6        | 76711.        | 11219.        |
| Stddev    | 3.7           | 8.9           | 144.          | 85.           |
| %RSD      | .12587        | .16749        | .18747        | .75656        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2981.0 | 5281.7 | 76607. | 11222. |
| #2 | 2974.6 | 5298.6 | 76875. | 11302. |
| #3 | 2981.1 | 5285.5 | 76651. | 11132. |

Sample Name: 180-43671-A-4-A      Acquired: 5/6/2015 15:55:02      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .03846        | .05598        | .00324        | .08503        | .03765        | .00013        |
| Stddev | .00019        | .00546        | .00083        | .00048        | .00003        | .00005        |
| %RSD   | .50155        | 9.7549        | 25.724        | .56001        | .08932        | 36.083        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .03856 | .06020 | .00241 | .08472 | .03762 | .00015 |
| #2 | .03824 | .04981 | .00408 | .08558 | .03768 | .00016 |
| #3 | .03859 | .05792 | .00321 | .08480 | .03767 | .00008 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 21.696        | -.00020       | .00032        | .00065        | .25942        | .06652        |
| Stddev | .127          | .00008        | .00021        | .00016        | .00183        | .00198        |
| %RSD   | .58501        | 38.921        | 66.278        | 24.638        | .70617        | 2.9754        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | 21.840 | -.00011 | .00008 | .00083 | .26074 | .06525 |
| #2 | 21.650 | -.00023 | .00044 | .00053 | .26019 | .06880 |
| #3 | 21.599 | -.00026 | .00044 | .00059 | .25733 | .06551 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43671-A-4-A      Acquired: 5/6/2015 15:55:02      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>4.3135</b> | <b>.00423</b> | <b>4.9350</b> | <b>.03725</b> | <b>.00105</b> | <b>119.30</b> |
| Stddev | .0311         | .00080        | .0346         | .00039        | .00015        | .47           |
| %RSD   | .72065        | 18.991        | .70189        | 1.0369        | 14.299        | .39421        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 4.2990 | .00508 | 4.9323 | .03764 | .00098 | 119.82 |
| #2 | 4.3491 | .00414 | 4.9709 | .03725 | .00122 | 119.19 |
| #3 | 4.2922 | .00348 | 4.9018 | .03687 | .00095 | 118.90 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ni            | Pb            | Sb             | Se             | Si            | Sn            |
|--------|---------------|---------------|----------------|----------------|---------------|---------------|
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455}  | 196.090 {472}  | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)       | (Y_2243)       | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm            | ppm           | ppm           |
| Avg    | <b>.02432</b> | <b>.00747</b> | <b>-.00111</b> | <b>-.00026</b> | <b>2.5520</b> | <b>.07183</b> |
| Stddev | .00031        | .00022        | .00095         | .00249         | .0105         | .00067        |
| %RSD   | 1.2603        | 2.9147        | 85.569         | 945.23         | .41053        | .93683        |

|    |        |        |         |         |        |        |
|----|--------|--------|---------|---------|--------|--------|
| #1 | .02416 | .00729 | -.00219 | -.00277 | 2.5564 | .07118 |
| #2 | .02467 | .00742 | -.00047 | .00220  | 2.5595 | .07178 |
| #3 | .02412 | .00771 | -.00065 | -.00022 | 2.5400 | .07252 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43671-A-4-A      Acquired: 5/6/2015 15:55:02      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .07405        | .00051        | .00102        | .00246        | .01249        |
| Stddev | .00130        | .00009        | .00051        | .00210        | .00009        |
| %RSD   | 1.7520        | 18.209        | 50.137        | 85.196        | .69460        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .07477 | .00061 | .00157 | .00021 | .01255 |
| #2 | .07256 | .00042 | .00057 | .00282 | .01254 |
| #3 | .07483 | .00050 | .00091 | .00436 | .01239 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2974.4        | 5331.6        | 76202.        | 11178.        |
| Stddev    | 4.6           | 7.5           | 228.          | 95.           |
| %RSD      | .15548        | .14077        | .29872        | .85223        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2979.7 | 5340.2 | 75976. | 11092. |
| #2 | 2972.7 | 5327.7 | 76200. | 11161. |
| #3 | 2970.9 | 5326.8 | 76432. | 11281. |

Sample Name: 180-43671-A-5-A      Acquired: 5/6/2015 16:00:08      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00020        | .07317        | .00322        | .04191        | .06627        | .00023        |
| Stddev | .00025        | .01865        | .00167        | .00038        | .00028        | .00000        |
| %RSD   | 123.71        | 25.485        | 51.840        | .91369        | .42566        | 1.6647        |

|    |         |        |        |        |        |        |
|----|---------|--------|--------|--------|--------|--------|
| #1 | .00031  | .05216 | .00515 | .04148 | .06626 | .00023 |
| #2 | -.00008 | .07958 | .00212 | .04208 | .06599 | .00023 |
| #3 | .00038  | .08776 | .00241 | .04219 | .06655 | .00023 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 25.302        | -.00019       | .00065        | .00008        | .19958        | .04519        |
| Stddev | .038          | .00011        | .00016        | .00008        | .00126        | .00189        |
| %RSD   | .15132        | 57.504        | 24.247        | 99.617        | .63220        | 4.1932        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | 25.341 | -.00031 | .00048 | .00004 | .19992 | .04719 |
| #2 | 25.264 | -.00013 | .00070 | .00003 | .19818 | .04343 |
| #3 | 25.301 | -.00012 | .00078 | .00016 | .20063 | .04494 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43671-A-5-A      Acquired: 5/6/2015 16:00:08      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>46.776</b> | <b>.00433</b> | <b>5.7517</b> | <b>.07828</b> | <b>.00071</b> | <b>117.54</b> |
| Stddev | .121          | .00065        | .0192         | .00054        | .00011        | .15           |
| %RSD   | .25803        | 15.014        | .33294        | .69038        | 15.427        | .12873        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 46.745 | .00366 | 5.7727 | .07877 | .00075 | 117.66 |
| #2 | 46.673 | .00496 | 5.7352 | .07770 | .00059 | 117.37 |
| #3 | 46.909 | .00437 | 5.7473 | .07838 | .00079 | 117.60 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ni            | Pb            | Sb             | Se            | Si            | Sn            |
|--------|---------------|---------------|----------------|---------------|---------------|---------------|
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455}  | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>.03753</b> | <b>.01400</b> | <b>-.00128</b> | <b>.00140</b> | <b>2.7634</b> | <b>.16048</b> |
| Stddev | .00045        | .00038        | .00099         | .00035        | .0087         | .00153        |
| %RSD   | 1.1938        | 2.7439        | 77.510         | 24.879        | .31418        | .95637        |

|    |        |        |         |        |        |        |
|----|--------|--------|---------|--------|--------|--------|
| #1 | .03715 | .01397 | -.00041 | .00175 | 2.7682 | .15874 |
| #2 | .03803 | .01440 | -.00108 | .00139 | 2.7533 | .16103 |
| #3 | .03741 | .01363 | -.00236 | .00105 | 2.7685 | .16166 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43671-A-5-A      Acquired: 5/6/2015 16:00:08      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .08599        | .00078        | .00137        | .00399        | .03697        |
| Stddev | .00263        | .00019        | .00068        | .00331        | .00021        |
| %RSD   | 3.0529        | 24.460        | 49.566        | 83.166        | .56169        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .08383 | .00058 | .00174 | .00048 | .03674 |
| #2 | .08523 | .00095 | .00058 | .00440 | .03715 |
| #3 | .08891 | .00081 | .00177 | .00707 | .03702 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2905.6        | 5228.8        | 75779.        | 11203.        |
| Stddev    | 10.0          | 18.6          | 133.          | 56.           |
| %RSD      | .34379        | .35647        | .17591        | .49689        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2917.1 | 5250.3 | 75836. | 11156. |
| #2 | 2900.7 | 5219.3 | 75627. | 11264. |
| #3 | 2899.0 | 5216.9 | 75874. | 11188. |

Sample Name: 180-43723-I-1-A      Acquired: 5/6/2015 16:05:14      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00003        | .33404        | .00222        | .01792        | .02644        | .00001        |
| Stddev | .00054        | .02044        | .00105        | .00027        | .00020        | .00000        |
| %RSD   | 1916.2        | 6.1191        | 47.275        | 1.5254        | .76773        | 40.034        |

|    |         |        |        |        |        |        |
|----|---------|--------|--------|--------|--------|--------|
| #1 | -.00046 | .32148 | .00163 | .01821 | .02622 | .00001 |
| #2 | -.00006 | .35762 | .00343 | .01767 | .02649 | .00001 |
| #3 | .00061  | .32301 | .00160 | .01788 | .02661 | .00001 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 16.665        | -.00010       | .00017        | -.00006       | .00456        | .41585        |
| Stddev | .002          | .00013        | .00013        | .00005        | .00009        | .00316        |
| %RSD   | .01457        | 123.95        | 77.680        | 88.570        | 2.0012        | .76076        |

|    |        |         |        |         |        |        |
|----|--------|---------|--------|---------|--------|--------|
| #1 | 16.668 | .00004  | .00013 | -.00007 | .00463 | .41597 |
| #2 | 16.663 | -.00014 | .00032 | -.00010 | .00445 | .41895 |
| #3 | 16.665 | -.00020 | .00006 | -.00000 | .00459 | .41263 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43723-I-1-A      Acquired: 5/6/2015 16:05:14      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.7399        | .00195        | 3.3288        | .03581        | .00048        | 35.453        |
| Stddev | .0082         | .00033        | .0100         | .00017        | .00007        | .075          |
| %RSD   | .47162        | 16.806        | .30137        | .48808        | 14.874        | .21150        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.7307 | .00194 | 3.3176 | .03566 | .00056 | 35.369 |
| #2 | 1.7425 | .00228 | 3.3318 | .03600 | .00043 | 35.515 |
| #3 | 1.7465 | .00163 | 3.3370 | .03578 | .00045 | 35.475 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00000       | .00152        | -.00224       | .00112        | 4.7008        | .00103        |
| Stddev | .00009        | .00200        | .00208        | .00046        | .0277         | .00034        |
| %RSD   | 2164.8        | 131.91        | 93.204        | 41.412        | .58830        | 32.713        |

|    |         |         |         |        |        |        |
|----|---------|---------|---------|--------|--------|--------|
| #1 | -.00007 | .00182  | -.00139 | .00085 | 4.6895 | .00142 |
| #2 | -.00004 | -.00062 | -.00070 | .00165 | 4.7324 | .00081 |
| #3 | .00010  | .00336  | -.00461 | .00085 | 4.6806 | .00086 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43723-I-1-A      Acquired: 5/6/2015 16:05:14      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05729        | .00329        | .00223        | .00613        | .01201        |
| Stddev | .00673        | .00021        | .00099        | .00126        | .00007        |
| %RSD   | 11.752        | 6.3117        | 44.596        | 20.558        | .54422        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .06431 | .00350 | .00112 | .00636 | .01194 |
| #2 | .05089 | .00328 | .00253 | .00477 | .01206 |
| #3 | .05667 | .00308 | .00304 | .00726 | .01204 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3073.2        | 5310.8        | 78333.        | 11260.        |
| Stddev    | 4.1           | 5.1           | 107.          | 40.           |
| %RSD      | .13190        | .09596        | .13704        | .35720        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3068.5 | 5306.2 | 78217. | 11307. |
| #2 | 3075.4 | 5316.3 | 78428. | 11236. |
| #3 | 3075.6 | 5309.9 | 78354. | 11238. |

Sample Name: 180-43723-J-1-A      Acquired: 5/6/2015 16:10:20      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00018        | .36626        | .00377        | .01767        | .02690        | .00001        |
| Stddev | .00004        | .01196        | .00109        | .00014        | .00006        | .00004        |
| %RSD   | 21.908        | 3.2656        | 29.024        | .80357        | .22908        | 644.10        |

|    |        |        |        |        |        |         |
|----|--------|--------|--------|--------|--------|---------|
| #1 | .00013 | .35344 | .00277 | .01778 | .02697 | -.00003 |
| #2 | .00019 | .36823 | .00360 | .01751 | .02686 | .00005  |
| #3 | .00021 | .37711 | .00493 | .01772 | .02687 | .00000  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 16.937        | -.00017       | .00037        | -.00034       | .00507        | .44225        |
| Stddev | .051          | .00013        | .00009        | .00013        | .00064        | .00215        |
| %RSD   | .30204        | 77.346        | 25.087        | 39.624        | 12.668        | .48571        |

|    |        |         |        |         |        |        |
|----|--------|---------|--------|---------|--------|--------|
| #1 | 16.901 | -.00008 | .00027 | -.00047 | .00533 | .44262 |
| #2 | 16.915 | -.00012 | .00039 | -.00033 | .00434 | .43993 |
| #3 | 16.996 | -.00033 | .00046 | -.00021 | .00554 | .44418 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43723-J-1-A      Acquired: 5/6/2015 16:10:20      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.7561        | .00206        | 3.3771        | .03557        | .00026        | 35.786        |
| Stddev | .0132         | .00113        | .0108         | .00012        | .00017        | .037          |
| %RSD   | .75299        | 54.812        | .31903        | .33404        | 64.085        | .10438        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.7448 | .00335 | 3.3895 | .03566 | .00020 | 35.829 |
| #2 | 1.7528 | .00124 | 3.3717 | .03544 | .00045 | 35.766 |
| #3 | 1.7706 | .00160 | 3.3701 | .03561 | .00014 | 35.763 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00058        | .00118        | -.00092       | -.00092       | 4.7758        | .00084        |
| Stddev | .00046        | .00053        | .00037        | .00203        | .0140         | .00012        |
| %RSD   | 79.175        | 44.871        | 40.491        | 221.54        | .29319        | 14.816        |

|    |        |        |         |         |        |        |
|----|--------|--------|---------|---------|--------|--------|
| #1 | .00025 | .00179 | -.00051 | -.00281 | 4.7692 | .00093 |
| #2 | .00111 | .00083 | -.00103 | .00123  | 4.7919 | .00088 |
| #3 | .00039 | .00092 | -.00123 | -.00117 | 4.7663 | .00070 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43723-J-1-A      Acquired: 5/6/2015 16:10:20      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05958        | .00420        | .00191        | .00361        | .01088        |
| Stddev | .00329        | .00022        | .00074        | .00039        | .00006        |
| %RSD   | 5.5273        | 5.3460        | 38.822        | 10.854        | .53137        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .06320 | .00423 | .00141 | .00396 | .01094 |
| #2 | .05676 | .00440 | .00156 | .00318 | .01083 |
| #3 | .05877 | .00396 | .00276 | .00368 | .01088 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3120.8        | 5399.8        | 78336.        | 11226.        |
| Stddev    | 1.1           | 2.1           | 96.           | 44.           |
| %RSD      | .03658        | .03974        | .12231        | .39230        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3120.4 | 5399.8 | 78438. | 11248. |
| #2 | 3122.1 | 5397.6 | 78323. | 11254. |
| #3 | 3119.9 | 5401.9 | 78247. | 11175. |

Sample Name: 180-43723-J-2-A      Acquired: 5/6/2015 16:15:27      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00001        | 7.8201        | .00283        | .01932        | .03468        | .00009        |
| Stddev | .00046        | .0182         | .00151        | .00039        | .00013        | .00008        |
| %RSD   | 3258.2        | .23278        | 53.203        | 2.0261        | .36492        | 84.253        |

|    |         |        |        |        |        |        |
|----|---------|--------|--------|--------|--------|--------|
| #1 | .00047  | 7.8051 | .00439 | .01917 | .03454 | .00000 |
| #2 | .00002  | 7.8403 | .00272 | .01902 | .03470 | .00014 |
| #3 | -.00045 | 7.8148 | .00138 | .01976 | .03479 | .00014 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 16.345        | -.00019       | .00099        | .00033        | .01913        | 1.1628        |
| Stddev | .009          | .00005        | .00011        | .00042        | .00038        | .0066         |
| %RSD   | .05243        | 26.283        | 11.010        | 126.03        | 1.9875        | .56344        |

|    |        |         |        |         |        |        |
|----|--------|---------|--------|---------|--------|--------|
| #1 | 16.336 | -.00025 | .00104 | -.00000 | .01953 | 1.1559 |
| #2 | 16.352 | -.00016 | .00106 | .00020  | .01908 | 1.1690 |
| #3 | 16.349 | -.00017 | .00087 | .00080  | .01877 | 1.1636 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43723-J-2-A      Acquired: 5/6/2015 16:15:27      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>1.8408</b> | <b>.00190</b> | <b>3.0857</b> | <b>.16276</b> | <b>.00082</b> | <b>30.652</b> |
| Stddev | .0226         | .00089        | .0344         | .00045        | .00023        | .074          |
| %RSD   | 1.2278        | 46.689        | 1.1151        | .27432        | 27.621        | .24010        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>1.8197</b> | <b>.00275</b> | <b>3.0459</b> | <b>.16226</b> | <b>.00059</b> | <b>30.570</b> |
| #2 | <b>1.8646</b> | <b>.00098</b> | <b>3.1060</b> | <b>.16312</b> | <b>.00081</b> | <b>30.676</b> |
| #3 | <b>1.8381</b> | <b>.00196</b> | <b>3.1051</b> | <b>.16289</b> | <b>.00105</b> | <b>30.711</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |                |               |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb             | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455}  | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>.00135</b> | <b>.00176</b> | <b>-.00042</b> | <b>.00102</b> | <b>4.1140</b> | <b>.00101</b> |
| Stddev | .00012        | .00011        | .00103         | .00285        | .0198         | .00028        |
| %RSD   | 8.7328        | 6.0614        | 243.16         | 278.48        | .48188        | 27.167        |

|    |               |               |                |                |               |               |
|----|---------------|---------------|----------------|----------------|---------------|---------------|
| #1 | <b>.00148</b> | <b>.00164</b> | <b>-.00156</b> | <b>.00425</b>  | <b>4.1220</b> | <b>.00074</b> |
| #2 | <b>.00129</b> | <b>.00183</b> | <b>-.00017</b> | <b>-.00112</b> | <b>4.1285</b> | <b>.00129</b> |
| #3 | <b>.00127</b> | <b>.00182</b> | <b>.00045</b>  | <b>-.00007</b> | <b>4.0914</b> | <b>.00101</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43723-J-2-A      Acquired: 5/6/2015 16:15:27      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .06036        | .00673        | .00115        | .00490        | .01407        |
| Stddev | .00461        | .00042        | .00051        | .00359        | .00021        |
| %RSD   | 7.6366        | 6.2969        | 44.430        | 73.248        | 1.5187        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .06176 | .00664 | .00061 | .00866 | .01406 |
| #2 | .05521 | .00719 | .00163 | .00452 | .01428 |
| #3 | .06411 | .00636 | .00121 | .00151 | .01385 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3142.3        | 5487.9        | 78985.        | 11331.        |
| Stddev    | 6.6           | 10.6          | 149.          | 32.           |
| %RSD      | .20912        | .19258        | .18901        | .28394        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3149.2 | 5500.0 | 78812. | 11363. |
| #2 | 3136.1 | 5483.8 | 79071. | 11299. |
| #3 | 3141.7 | 5480.1 | 79071. | 11332. |

Sample Name: CCV 1551842      Acquired: 5/6/2015 16:20:34      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>1.0707</b> | <b>25.925</b> | <b>.54397</b> | <b>2.1678</b> | <b>2.0711</b> | <b>2.0773</b> |
| Stddev | .0050         | .102          | .00092        | .0040         | .0080         | .0029         |
| %RSD   | .46187        | .39246        | .16868        | .18285        | .38567        | .13943        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.0750 | 25.917 | .54502 | 2.1723 | 2.0672 | 2.0798 |
| #2 | 1.0718 | 25.827 | .54352 | 2.1650 | 2.0658 | 2.0741 |
| #3 | 1.0653 | 26.030 | .54336 | 2.1659 | 2.0803 | 2.0781 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>51.909</b> | <b>.53317</b> | <b>2.1378</b> | <b>2.0323</b> | <b>1.9413</b> | <b>26.800</b> |
| Stddev | .066          | .00033        | .0035         | .0099         | .0143         | .050          |
| %RSD   | .12668        | .06215        | .16514        | .48549        | .73727        | .18711        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 51.954 | .53355 | 2.1370 | 2.0431 | 1.9509 | 26.855 |
| #2 | 51.834 | .53293 | 2.1347 | 2.0237 | 1.9480 | 26.787 |
| #3 | 51.940 | .53305 | 2.1416 | 2.0302 | 1.9248 | 26.757 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/6/2015 16:20:34      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>132.41</b> | <b>2.0954</b> | <b>52.056</b> | <b>1.9223</b> | <b>2.0533</b> | <b>133.17</b> |
| Stddev | .20           | .0036         | .096          | .0141         | .0031         | .25           |
| %RSD   | .14937        | .17290        | .18492        | .73562        | .15216        | .18742        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 132.60 | 2.0943 | 52.164 | 1.9377 | 2.0511 | 133.18 |
| #2 | 132.21 | 2.0924 | 52.025 | 1.9100 | 2.0519 | 132.91 |
| #3 | 132.43 | 2.0995 | 51.979 | 1.9190 | 2.0569 | 133.41 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>2.1258</b> | <b>.52295</b> | <b>.53398</b> | <b>.53661</b> | <b>2.0861</b> | <b>1.9747</b> |
| Stddev | .0045         | .00129        | .00302        | .00289        | .0039         | .0025         |
| %RSD   | .21339        | .24734        | .56547        | .53805        | .18776        | .12741        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 2.1213 | .52409 | .53745 | .53620 | 2.0837 | 1.9733 |
| #2 | 2.1256 | .52154 | .53192 | .53394 | 2.0840 | 1.9731 |
| #3 | 2.1303 | .52321 | .53258 | .53967 | 2.0906 | 1.9776 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/6/2015 16:20:34      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 2.0016        | 1.9356        | .99974        | F 2.2120      | 2.0371        |
| Stddev | .0076         | .0090         | .00342        | .0171         | .0035         |
| %RSD   | .38110        | .46718        | .34192        | .77395        | .17393        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | 2.0063 | 1.9451 | .99698 | 2.1925 | 2.0342 |
| #2 | 1.9928 | 1.9346 | .99868 | 2.2189 | 2.0361 |
| #3 | 2.0057 | 1.9271 | 1.0036 | 2.2246 | 2.0411 |

|         |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value   |          |          |          | 2.0000   |          |
| Range   |          |          |          | 10.000%  |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2637.6        | 5006.2        | 72800.        | 10813.        |
| Stddev    | 2.6           | 1.4           | 71.           | 61.           |
| %RSD      | .09777        | .02742        | .09723        | .56204        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2639.2 | 5004.8 | 72738. | 10745. |
| #2 | 2638.9 | 5007.5 | 72785. | 10833. |
| #3 | 2634.6 | 5006.4 | 72877. | 10862. |

Sample Name: CCB10      Acquired: 5/6/2015 16:25:21      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00030        | -.00642       | .00037        | .00237        | .00045        | .00041        |
| Stddev | .00038        | .01351        | .00125        | .00013        | .00016        | .00004        |
| %RSD   | 127.67        | 210.48        | 335.39        | 5.3313        | 36.152        | 8.8203        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | .00073 | .00897  | .00081  | .00244 | .00028 | .00044 |
| #2 | .00003 | -.01189 | -.00104 | .00222 | .00049 | .00037 |
| #3 | .00013 | -.01633 | .00135  | .00245 | .00060 | .00043 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .02182        | .00005        | .00029        | -.00002       | .00113        | .01156        |
| Stddev | .00457        | .00004        | .00026        | .00006        | .00062        | .00072        |
| %RSD   | 20.930        | 69.675        | 90.364        | 298.34        | 54.733        | 6.2322        |

|    |        |        |        |         |        |        |
|----|--------|--------|--------|---------|--------|--------|
| #1 | .02156 | .00006 | .00033 | .00005  | .00070 | .01224 |
| #2 | .01739 | .00009 | .00001 | -.00005 | .00183 | .01080 |
| #3 | .02651 | .00002 | .00053 | -.00005 | .00084 | .01165 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB10      Acquired: 5/6/2015 16:25:21      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.16788</b> | <b>.00115</b> | <b>.02041</b> | <b>.00047</b> | <b>.00263</b> | <b>.07841</b> |
| Stddev | .00661        | .00121        | .00186        | .00004        | .00044        | .00422        |
| %RSD   | 3.9361        | 104.83        | 9.1039        | 8.2122        | 16.633        | 5.3838        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .17291 | .00248 | .01856 | .00048 | .00312 | .08325 |
| #2 | .17033 | .00089 | .02228 | .00043 | .00248 | .07644 |
| #3 | .16040 | .00010 | .02039 | .00050 | .00228 | .07553 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |                |               |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb             | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455}  | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>.00061</b> | <b>.00025</b> | <b>-.00139</b> | <b>.00046</b> | <b>.00554</b> | <b>.00142</b> |
| Stddev | .00006        | .00167        | .00211         | .00403        | .00257        | .00068        |
| %RSD   | 10.194        | 669.43        | 152.48         | 880.72        | 46.410        | 48.116        |

|    |        |         |         |         |        |        |
|----|--------|---------|---------|---------|--------|--------|
| #1 | .00054 | -.00007 | .00047  | .00468  | .00329 | .00192 |
| #2 | .00063 | -.00124 | -.00368 | -.00335 | .00835 | .00064 |
| #3 | .00065 | .00206  | -.00095 | .00004  | .00498 | .00170 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB10      Acquired: 5/6/2015 16:25:21      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00072</b> | <b>.00056</b> | <b>.00153</b> | <b>.00227</b> | <b>.00050</b> |
| Stddev | .00401         | .00006        | .00056        | .00123        | .00009        |
| %RSD   | 557.89         | 11.562        | 36.761        | 54.284        | 18.233        |

|    |                |               |               |               |               |
|----|----------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00249</b> | <b>.00062</b> | <b>.00089</b> | <b>.00236</b> | <b>.00060</b> |
| #2 | <b>-.00355</b> | <b>.00049</b> | <b>.00176</b> | <b>.00346</b> | <b>.00046</b> |
| #3 | <b>.00387</b>  | <b>.00056</b> | <b>.00194</b> | <b>.00100</b> | <b>.00044</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3282.4</b> | <b>5447.5</b> | <b>79796.</b> | <b>11294.</b> |
| Stddev    | 9.0           | 9.5           | 285.          | 413.          |
| %RSD      | .27300        | .17477        | .35677        | 3.6568        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>3272.2</b> | <b>5436.7</b> | <b>80099.</b> | <b>11043.</b> |
| #2 | <b>3288.8</b> | <b>5454.5</b> | <b>79756.</b> | <b>11771.</b> |
| #3 | <b>3286.2</b> | <b>5451.3</b> | <b>79534.</b> | <b>11068.</b> |



Sample Name: 180-43723-I-2-A      Acquired: 5/6/2015 16:30:33      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00024        | 9.8903        | .00448        | .02002        | .03796        | .00018        |
| Stddev | .00011        | .0089         | .00154        | .00017        | .00011        | .00005        |
| %RSD   | 45.699        | .09042        | 34.395        | .87202        | .27807        | 24.483        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .00033 | 9.8918 | .00517 | .01990 | .03805 | .00023 |
| #2 | .00026 | 9.8807 | .00271 | .01996 | .03784 | .00015 |
| #3 | .00012 | 9.8984 | .00554 | .02022 | .03799 | .00017 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 16.481        | -.00007       | .00131        | .00070        | .02517        | 1.6207        |
| Stddev | .062          | .00004        | .00005        | .00020        | .00028        | .0093         |
| %RSD   | .37471        | 62.187        | 3.9679        | 27.971        | 1.1321        | .57591        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | 16.512 | -.00004 | .00126 | .00053 | .02536 | 1.6251 |
| #2 | 16.410 | -.00004 | .00136 | .00066 | .02485 | 1.6271 |
| #3 | 16.521 | -.00012 | .00132 | .00092 | .02532 | 1.6100 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43723-I-2-A      Acquired: 5/6/2015 16:30:33      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.9569        | .00203        | 3.0978        | .20683        | .00144        | 30.655        |
| Stddev | .0470         | .00055        | .0341         | .00153        | .00011        | .068          |
| %RSD   | 2.4020        | 27.029        | 1.1014        | .73808        | 7.4162        | .22028        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.9984 | .00266 | 3.1232 | .20684 | .00143 | 30.688 |
| #2 | 1.9664 | .00166 | 3.0590 | .20530 | .00134 | 30.577 |
| #3 | 1.9059 | .00176 | 3.1112 | .20835 | .00156 | 30.699 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00213        | .00370        | -.00044       | .00064        | 4.3869        | .00086        |
| Stddev | .00031        | .00020        | .00022        | .00068        | .0147         | .00009        |
| %RSD   | 14.562        | 5.4730        | 48.959        | 105.70        | .33465        | 10.686        |

|    |        |        |         |        |        |        |
|----|--------|--------|---------|--------|--------|--------|
| #1 | .00177 | .00378 | -.00020 | .00142 | 4.3996 | .00075 |
| #2 | .00232 | .00347 | -.00054 | .00022 | 4.3708 | .00092 |
| #3 | .00229 | .00385 | -.00060 | .00028 | 4.3904 | .00090 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43723-I-2-A      Acquired: 5/6/2015 16:30:33      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .06073        | .01340        | .00203        | .00865        | .02372        |
| Stddev | .00173        | .00050        | .00057        | .00170        | .00019        |
| %RSD   | 2.8499        | 3.7508        | 28.040        | 19.646        | .80929        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .06088 | .01395 | .00225 | .00923 | .02391 |
| #2 | .06238 | .01329 | .00245 | .00674 | .02352 |
| #3 | .05892 | .01297 | .00138 | .00999 | .02373 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3159.8        | 5544.6        | 79416.        | 11400.        |
| Stddev    | 6.7           | 14.4          | 101.          | 79.           |
| %RSD      | .21277        | .26019        | .12709        | .69330        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3156.4 | 5540.7 | 79410. | 11415. |
| #2 | 3167.5 | 5560.6 | 79319. | 11471. |
| #3 | 3155.4 | 5532.5 | 79520. | 11315. |

Sample Name: MB 180-140592/1-A      Acquired: 5/6/2015 16:35:37      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00015        | -.01457       | .00135        | .00074        | .00014        | .00003        |
| Stddev | .00012        | .01574        | .00137        | .00008        | .00009        | .00001        |
| %RSD   | 81.389        | 108.00        | 101.74        | 11.340        | 66.900        | 37.675        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | .00028 | .00183  | .00292 | .00065 | .00020 | .00003 |
| #2 | .00005 | -.02955 | .00069 | .00080 | .00018 | .00004 |
| #3 | .00011 | -.01601 | .00042 | .00078 | .00003 | .00002 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00597       | -.00019       | .00028        | -.00072       | .00014        | .00194        |
| Stddev | .00121        | .00011        | .00012        | .00035        | .00030        | .00270        |
| %RSD   | 20.267        | 55.253        | 44.792        | 48.647        | 207.94        | 139.20        |

|    |         |         |        |         |         |         |
|----|---------|---------|--------|---------|---------|---------|
| #1 | -.00574 | -.00022 | .00015 | -.00037 | .00045  | .00373  |
| #2 | -.00489 | -.00028 | .00029 | -.00107 | -.00015 | .00324  |
| #3 | -.00728 | -.00008 | .00039 | -.00070 | .00013  | -.00116 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: MB 180-140592/1-A      Acquired: 5/6/2015 16:35:37      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .04010        | .00099        | -.00760       | -.00000       | .00028        | .03146        |
| Stddev | .03771        | .00043        | .00665        | .00003        | .00021        | .00463        |
| %RSD   | 94.036        | 43.364        | 87.582        | 1974.3        | 72.627        | 14.708        |

|    |         |        |         |         |        |        |
|----|---------|--------|---------|---------|--------|--------|
| #1 | .06904  | .00051 | -.01516 | .00003  | .00010 | .03460 |
| #2 | .05382  | .00114 | -.00499 | -.00004 | .00024 | .03364 |
| #3 | -.00255 | .00133 | -.00264 | -.00000 | .00051 | .02615 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00040       | .00026        | .00055        | .00118        | .00919        | .00068        |
| Stddev | .00020        | .00030        | .00084        | .00350        | .00430        | .00054        |
| %RSD   | 49.427        | 113.86        | 150.75        | 296.85        | 46.750        | 80.211        |

|    |         |         |         |         |        |        |
|----|---------|---------|---------|---------|--------|--------|
| #1 | -.00024 | .00055  | .00092  | -.00266 | .00978 | .00111 |
| #2 | -.00062 | -.00005 | .00115  | .00200  | .01316 | .00007 |
| #3 | -.00035 | .00028  | -.00040 | .00420  | .00463 | .00086 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: MB 180-140592/1-A      Acquired: 5/6/2015 16:35:37      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |                |
|--------|----------------|---------------|---------------|---------------|----------------|
| Elem   | Sr             | Ti            | Ti            | V_            | Zn             |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463}  |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)       |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm            |
| Avg    | <b>-.00466</b> | <b>.00006</b> | <b>.00193</b> | <b>.00271</b> | <b>-.00033</b> |
| Stddev | .00192         | .00010        | .00094        | .00159        | .00003         |
| %RSD   | 41.284         | 170.33        | 48.493        | 58.873        | 8.7189         |

|    |                |                |               |               |                |
|----|----------------|----------------|---------------|---------------|----------------|
| #1 | <b>-.00385</b> | <b>-.00005</b> | <b>.00144</b> | <b>.00157</b> | <b>-.00036</b> |
| #2 | <b>-.00327</b> | <b>.00012</b>  | <b>.00301</b> | <b>.00202</b> | <b>-.00032</b> |
| #3 | <b>-.00685</b> | <b>.00010</b>  | <b>.00134</b> | <b>.00453</b> | <b>-.00031</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3295.9</b> | <b>5435.4</b> | <b>80448.</b> | <b>11294.</b> |
| Stddev    | 8.4           | 11.0          | 137.          | 66.           |
| %RSD      | .25467        | .20207        | .16971        | .58679        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3305.0 | 5448.1 | 80295. | 11235. |
| #2 | 3294.0 | 5429.5 | 80558. | 11366. |
| #3 | 3288.5 | 5428.7 | 80491. | 11282. |

Sample Name: LCS 180-140592/2-A      Acquired: 5/6/2015 16:40:48      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05326        | 2.0423        | .54330        | 1.1421        | 2.0483        | .05134        |
| Stddev | .00073        | .0261         | .00017        | .0013         | .0047         | .00006        |
| %RSD   | 1.3638        | 1.2761        | .03197        | .11433        | .22857        | .10974        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .05294 | 2.0503 | .54318 | 1.1414 | 2.0478 | .05139 |
| #2 | .05409 | 2.0132 | .54323 | 1.1412 | 2.0438 | .05133 |
| #3 | .05274 | 2.0635 | .54350 | 1.1436 | 2.0532 | .05128 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 51.444        | .05181        | .52336        | .20377        | .24430        | 1.1035        |
| Stddev | .092          | .00018        | .00123        | .00024        | .00036        | .0089         |
| %RSD   | .17805        | .35588        | .23513        | .11999        | .14636        | .80728        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 51.426 | .05173 | .52199 | .20348 | .24469 | 1.1133 |
| #2 | 51.363 | .05202 | .52439 | .20392 | .24398 | 1.0958 |
| #3 | 51.543 | .05168 | .52369 | .20389 | .24422 | 1.1015 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: LCS 180-140592/2-A      Acquired: 5/6/2015 16:40:48      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>53.294</b> | <b>1.0412</b> | <b>52.497</b> | <b>.48968</b> | <b>1.0297</b> | <b>53.727</b> |
| Stddev | .125          | .0032         | .148          | .00123        | .0013         | .049          |
| %RSD   | .23363        | .30339        | .28242        | .25126        | .12669        | .09162        |
| #1     | 53.433        | 1.0439        | 52.668        | .49077        | 1.0305        | 53.745        |
| #2     | 53.191        | 1.0377        | 52.421        | .48835        | 1.0282        | 53.671        |
| #3     | 53.259        | 1.0420        | 52.403        | .48992        | 1.0304        | 53.764        |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.52073</b> | <b>.51265</b> | <b>.54466</b> | <b>.54916</b> | <b>10.236</b> | <b>2.0081</b> |
| Stddev | .00100        | .00085        | .00077        | .00091        | .029          | .0018         |
| %RSD   | .19241        | .16553        | .14107        | .16541        | .28481        | .08826        |
| #1     | .52021        | .51221        | .54392        | .54994        | 10.250        | 2.0101        |
| #2     | .52189        | .51211        | .54546        | .54816        | 10.203        | 2.0071        |
| #3     | .52011        | .51363        | .54459        | .54938        | 10.256        | 2.0070        |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: LCS 180-140592/2-A      Acquired: 5/6/2015 16:40:48      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .99546        | .97128        | .50957        | .54818        | .51712        |
| Stddev | .00806        | .00245        | .00166        | .00106        | .00140        |
| %RSD   | .80988        | .25194        | .32550        | .19338        | .27008        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | 1.0046 | .97404 | .51093 | .54776 | .51592 |
| #2 | .99247 | .96938 | .50772 | .54939 | .51866 |
| #3 | .98932 | .97042 | .51005 | .54740 | .51679 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2804.0        | 5134.4        | 75265.        | 11104.        |
| Stddev    | 1.3           | 4.8           | 204.          | 57.           |
| %RSD      | .04585        | .09425        | .27161        | .51717        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2802.8 | 5130.6 | 75033. | 11038. |
| #2 | 2805.3 | 5139.8 | 75344. | 11142. |
| #3 | 2804.0 | 5132.8 | 75418. | 11133. |

Sample Name: 180-43660-A-1-A      Acquired: 5/6/2015 16:45:36      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00021        | .00200        | .29945        | .03238        | .13920        | -.00000       |
| Stddev | .00032        | .00450        | .00315        | .00017        | .00023        | .00007        |
| %RSD   | 149.80        | 224.89        | 1.0530        | .53788        | .16309        | 3875.3        |
| #1     | .00004        | -.00103       | .30093        | .03251        | .13931        | .00002        |
| #2     | .00058        | -.00014       | .30158        | .03245        | .13894        | .00006        |
| #3     | .00002        | .00717        | .29582        | .03218        | .13934        | -.00008       |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 77.371        | -.00107       | -.00012       | .08278        | .00159        | .00622        |
| Stddev | .138          | .00002        | .00029        | .00029        | .00056        | .00143        |
| %RSD   | .17874        | 2.2978        | 240.08        | .34969        | 35.531        | 23.073        |
| #1     | 77.344        | -.00105       | -.00036       | .08244        | .00217        | .00497        |
| #2     | 77.248        | -.00109       | -.00020       | .08293        | .00155        | .00778        |
| #3     | 77.521        | -.00108       | .00020        | .08295        | .00105        | .00590        |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-1-A      Acquired: 5/6/2015 16:45:36      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.5198        | .01456        | 33.660        | .00216        | .06762        | 22.584        |
| Stddev | .0272         | .00115        | .210          | .00001        | .00041        | .086          |
| %RSD   | 1.7892        | 7.9143        | .62489        | .27079        | .59957        | .38217        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.4921 | .01513 | 33.724 | .00215 | .06808 | 22.581 |
| #2 | 1.5464 | .01323 | 33.425 | .00216 | .06742 | 22.499 |
| #3 | 1.5211 | .01531 | 33.831 | .00216 | .06735 | 22.672 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00002        | .00159        | -.00153       | .00207        | 16.966        | .00075        |
| Stddev | .00034        | .00060        | .00150        | .00181        | .122          | .00029        |
| %RSD   | 1457.8        | 37.425        | 97.729        | 87.269        | .71857        | 38.686        |

|    |         |        |         |        |        |        |
|----|---------|--------|---------|--------|--------|--------|
| #1 | .00040  | .00106 | -.00308 | .00357 | 16.941 | .00092 |
| #2 | -.00008 | .00223 | -.00009 | .00258 | 16.858 | .00092 |
| #3 | -.00025 | .00148 | -.00143 | .00006 | 17.098 | .00042 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-1-A      Acquired: 5/6/2015 16:45:36      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .29209        | .00015        | .00227        | .00532        | .00510        |
| Stddev | .00399        | .00004        | .00027        | .00385        | .00021        |
| %RSD   | 1.3669        | 28.969        | 12.087        | 72.443        | 4.1016        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .29205 | .00020 | .00201 | .00419 | .00498 |
| #2 | .28812 | .00012 | .00256 | .00216 | .00497 |
| #3 | .29611 | .00013 | .00224 | .00961 | .00534 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2960.0        | 5291.8        | 77059.        | 11211.        |
| Stddev    | 3.7           | 6.0           | 131.          | 16.           |
| %RSD      | .12615        | .11256        | .16988        | .13874        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2960.4 | 5290.3 | 77210. | 11197. |
| #2 | 2956.1 | 5286.8 | 76986. | 11227. |
| #3 | 2963.5 | 5298.4 | 76981. | 11208. |

Sample Name: 180-43660-A-1-A SD@5      Acquired: 5/6/2015 16:50:44      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00015        | .00215        | .05831        | .00603        | .02773        | -.00004       |
| Stddev | .00017        | .00282        | .00247        | .00020        | .00019        | .00008        |
| %RSD   | 112.38        | 130.82        | 4.2353        | 3.2546        | .67929        | 232.35        |

|    |        |         |        |        |        |         |
|----|--------|---------|--------|--------|--------|---------|
| #1 | .00006 | -.00025 | .05653 | .00611 | .02794 | -.00013 |
| #2 | .00035 | .00146  | .05727 | .00581 | .02758 | -.00002 |
| #3 | .00004 | .00525  | .06113 | .00618 | .02767 | .00004  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 15.503        | -.00021       | -.00020       | .01651        | .00060        | .00155        |
| Stddev | .014          | .00008        | .00018        | .00013        | .00034        | .00213        |
| %RSD   | .08858        | 37.615        | 90.603        | .80154        | 56.646        | 137.24        |

|    |        |         |         |        |        |         |
|----|--------|---------|---------|--------|--------|---------|
| #1 | 15.509 | -.00019 | -.00012 | .01662 | .00034 | .00322  |
| #2 | 15.513 | -.00014 | -.00040 | .01654 | .00099 | -.00084 |
| #3 | 15.488 | -.00029 | -.00007 | .01636 | .00048 | .00227  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-1-A SD@5      Acquired: 5/6/2015 16:50:44      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .35860        | .00360        | 6.6743        | .00045        | .01407        | 4.5047        |
| Stddev | .02329        | .00174        | .0461         | .00004        | .00025        | .0141         |
| %RSD   | 6.4944        | 48.310        | .69094        | 9.3544        | 1.8019        | .31211        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .33174 | .00229 | 6.6274 | .00048 | .01381 | 4.4955 |
| #2 | .37325 | .00294 | 6.7196 | .00046 | .01408 | 4.4977 |
| #3 | .37080 | .00558 | 6.6761 | .00040 | .01431 | 4.5209 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00021       | .00069        | -.00011       | .00098        | 3.3431        | .00068        |
| Stddev | .00017        | .00110        | .00094        | .00282        | .0268         | .00042        |
| %RSD   | 78.160        | 160.50        | 821.90        | 288.61        | .80091        | 61.674        |

|    |         |         |         |         |        |        |
|----|---------|---------|---------|---------|--------|--------|
| #1 | -.00002 | -.00059 | -.00082 | .00037  | 3.3122 | .00025 |
| #2 | -.00028 | .00130  | -.00048 | -.00149 | 3.3586 | .00070 |
| #3 | -.00033 | .00135  | .00095  | .00404  | 3.3585 | .00109 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-1-A SD@5      Acquired: 5/6/2015 16:50:44      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05699        | .00007        | .00139        | .00318        | .00171        |
| Stddev | .00171        | .00004        | .00105        | .00258        | .00014        |
| %RSD   | 3.0011        | 54.258        | 75.758        | 81.146        | 8.0827        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .05621 | .00011 | .00219 | .00586 | .00165 |
| #2 | .05895 | .00007 | .00020 | .00296 | .00161 |
| #3 | .05581 | .00003 | .00179 | .00071 | .00187 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3198.0        | 5443.6        | 79645.        | 11223.        |
| Stddev    | 4.8           | 7.7           | 272.          | 18.           |
| %RSD      | .15011        | .14074        | .34144        | .15837        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3201.0 | 5452.4 | 79879. | 11244. |
| #2 | 3192.4 | 5439.9 | 79710. | 11214. |
| #3 | 3200.4 | 5438.4 | 79347. | 11211. |

Sample Name: 180-43660-A-1-B MS      Acquired: 5/6/2015 16:55:51      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05406        | 2.0298        | .85339        | 1.1597        | 2.1836        | .05031        |
| Stddev | .00037        | .0140         | .00107        | .0052         | .0062         | .00021        |
| %RSD   | .68786        | .68738        | .12506        | .44716        | .28274        | .42533        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .05446 | 2.0378 | .85224 | 1.1541 | 2.1793 | .05052 |
| #2 | .05399 | 2.0379 | .85360 | 1.1643 | 2.1808 | .05009 |
| #3 | .05372 | 2.0137 | .85434 | 1.1608 | 2.1907 | .05033 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 128.46        | .05095        | .52492        | .28512        | .24328        | 1.0624        |
| Stddev | .08           | .00028        | .00048        | .00061        | .00129        | .0066         |
| %RSD   | .06408        | .55384        | .09182        | .21363        | .52851        | .62211        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 128.49 | .05074 | .52469 | .28460 | .24454 | 1.0689 |
| #2 | 128.37 | .05085 | .52547 | .28579 | .24334 | 1.0627 |
| #3 | 128.52 | .05127 | .52460 | .28496 | .24197 | 1.0557 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43660-A-1-B MS      Acquired: 5/6/2015 16:55:51      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>54.402</b> | <b>1.0604</b> | <b>85.584</b> | <b>.47335</b> | <b>1.0981</b> | <b>76.450</b> |
| Stddev | .194          | .0023         | .437          | .00231        | .0042         | .156          |
| %RSD   | .35706        | .21271        | .51012        | .48776        | .38313        | .20355        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 54.526 | 1.0609 | 86.056 | .47572 | 1.0943 | 76.512 |
| #2 | 54.178 | 1.0580 | 85.196 | .47111 | 1.0973 | 76.273 |
| #3 | 54.502 | 1.0624 | 85.499 | .47322 | 1.1026 | 76.565 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |                 |               |
|--------|---------------|---------------|---------------|---------------|-----------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si              | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134}   | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)        | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm             | ppm           |
| Avg    | <b>.52067</b> | <b>.51344</b> | <b>.54882</b> | <b>.54641</b> | <b>F 27.311</b> | <b>1.9914</b> |
| Stddev | .00214        | .00033        | .00240        | .00244        | .050            | .0039         |
| %RSD   | .41153        | .06450        | .43783        | .44716        | .18244          | .19601        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .52203 | .51326 | .54612 | .54662 | 27.366 | 1.9877 |
| #2 | .51820 | .51323 | .55072 | .54874 | 27.268 | 1.9910 |
| #3 | .52178 | .51382 | .54962 | .54386 | 27.300 | 1.9955 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit |          |          |          |          | 25.000   |          |
| Low Limit  |          |          |          |          | -.50000  |          |

Sample Name: 180-43660-A-1-B MS      Acquired: 5/6/2015 16:55:51      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>1.2653</b> | <b>.95613</b> | <b>.48788</b> | <b>.55347</b> | <b>.50798</b> |
| Stddev | .0043         | .00503        | .00229        | .00599        | .00048        |
| %RSD   | .34025        | .52605        | .46980        | 1.0823        | .09379        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | 1.2650 | .96192 | .48951 | .54704 | .50760 |
| #2 | 1.2611 | .95366 | .48526 | .55446 | .50852 |
| #3 | 1.2697 | .95282 | .48887 | .55889 | .50783 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2699.5</b> | <b>5053.2</b> | <b>74364.</b> | <b>11178.</b> |
| Stddev    | 1.4           | 12.0          | 82.           | 48.           |
| %RSD      | .05112        | .23829        | .11040        | .42544        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2701.0 | 5066.6 | 74459. | 11125. |
| #2 | 2699.3 | 5043.3 | 74322. | 11216. |
| #3 | 2698.3 | 5049.7 | 74311. | 11194. |

Sample Name: 180-43660-A-1-C MSD      Acquired: 5/6/2015 17:00:39      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05266        | 2.0172        | .82418        | 1.1329        | 2.1650        | .05032        |
| Stddev | .00089        | .0380         | .00456        | .0042         | .0043         | .00018        |
| %RSD   | 1.6824        | 1.8857        | .55384        | .37194        | .19627        | .35652        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .05337 | 2.0390 | .82740 | 1.1351 | 2.1699 | .05053 |
| #2 | .05294 | 2.0392 | .82618 | 1.1356 | 2.1632 | .05019 |
| #3 | .05167 | 1.9732 | .81895 | 1.1281 | 2.1621 | .05026 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 126.28        | .04950        | .51776        | .27802        | .24375        | 1.0650        |
| Stddev | .48           | .00013        | .00132        | .00050        | .00057        | .0029         |
| %RSD   | .37699        | .26012        | .25413        | .17950        | .23418        | .26873        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 126.77 | .04956 | .51844 | .27843 | .24364 | 1.0661 |
| #2 | 126.25 | .04936 | .51860 | .27816 | .24437 | 1.0618 |
| #3 | 125.82 | .04960 | .51625 | .27747 | .24325 | 1.0672 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-1-C MSD      Acquired: 5/6/2015 17:00:39      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>54.138</b> | <b>1.0520</b> | <b>84.863</b> | <b>.47345</b> | <b>1.0795</b> | <b>75.355</b> |
| Stddev | .183          | .0006         | .385          | .00445        | .0023         | .231          |
| %RSD   | .33877        | .06056        | .45317        | .94013        | .21630        | .30637        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 54.337 | 1.0523 | 85.302 | .47857 | 1.0809 | 75.621 |
| #2 | 53.977 | 1.0524 | 84.701 | .47045 | 1.0809 | 75.231 |
| #3 | 54.098 | 1.0512 | 84.586 | .47135 | 1.0768 | 75.212 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |                 |               |
|--------|---------------|---------------|---------------|---------------|-----------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si              | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134}   | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)        | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm             | ppm           |
| Avg    | <b>.51119</b> | <b>.50330</b> | <b>.53480</b> | <b>.52720</b> | <b>F 26.858</b> | <b>1.9459</b> |
| Stddev | .00068        | .00258        | .00218        | .00330        | .153            | .0022         |
| %RSD   | .13359        | .51314        | .40712        | .62563        | .56958          | .11302        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .51192 | .50090 | .53650 | .52798 | 26.995 | 1.9453 |
| #2 | .51109 | .50603 | .53555 | .53003 | 26.887 | 1.9483 |
| #3 | .51056 | .50296 | .53235 | .52358 | 26.693 | 1.9440 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit |          |          |          |          | 25.000   |          |
| Low Limit  |          |          |          |          | -.50000  |          |

Sample Name: 180-43660-A-1-C MSD      Acquired: 5/6/2015 17:00:39      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>1.2514</b> | <b>.95814</b> | <b>.47908</b> | <b>.54532</b> | <b>.50124</b> |
| Stddev | .0045         | .00509        | .00170        | .00522        | .00140        |
| %RSD   | .35940        | .53127        | .35581        | .95679        | .28026        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | 1.2563 | .96386 | .48098 | .54109 | .50215 |
| #2 | 1.2506 | .95649 | .47767 | .55115 | .50194 |
| #3 | 1.2474 | .95408 | .47860 | .54371 | .49962 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2702.7</b> | <b>5072.8</b> | <b>74130.</b> | <b>10973.</b> |
| Stddev    | 5.6           | 11.8          | 148.          | 76.           |
| %RSD      | .20573        | .23208        | .19940        | .69437        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2697.7 | 5060.1 | 73964. | 10886. |
| #2 | 2701.6 | 5074.9 | 74246. | 11014. |
| #3 | 2708.7 | 5083.4 | 74180. | 11021. |

Sample Name: 180-43660-A-2-A      Acquired: 5/6/2015 17:05:26      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00047        | -.00617       | .09259        | .05178        | .05959        | .00001        |
| Stddev | .00005        | .02055        | .00123        | .00028        | .00037        | .00004        |
| %RSD   | 10.988        | 333.23        | 1.3301        | .53869        | .62874        | 313.31        |

|    |        |         |        |        |        |         |
|----|--------|---------|--------|--------|--------|---------|
| #1 | .00051 | .01075  | .09395 | .05168 | .05937 | .00000  |
| #2 | .00050 | -.00021 | .09155 | .05210 | .05937 | -.00002 |
| #3 | .00041 | -.02904 | .09227 | .05157 | .06002 | .00005  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 43.491        | -.00033       | .00116        | -.00015       | .01916        | 1.8090        |
| Stddev | .228          | .00009        | .00016        | .00032        | .00059        | .0052         |
| %RSD   | .52536        | 26.802        | 14.149        | 209.18        | 3.0863        | .28582        |

|    |        |         |        |         |        |        |
|----|--------|---------|--------|---------|--------|--------|
| #1 | 43.335 | -.00039 | .00107 | -.00050 | .01857 | 1.8089 |
| #2 | 43.385 | -.00023 | .00106 | -.00011 | .01975 | 1.8038 |
| #3 | 43.753 | -.00037 | .00135 | .00014  | .01914 | 1.8142 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-2-A      Acquired: 5/6/2015 17:05:26      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .97642        | .02122        | 14.009        | .24727        | .00629        | 40.176        |
| Stddev | .00900        | .00042        | .049          | .00116        | .00020        | .252          |
| %RSD   | .92157        | 1.9885        | .34854        | .47044        | 3.1486        | .62623        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .96698 | .02090 | 13.973 | .24631 | .00651 | 40.101 |
| #2 | .98489 | .02107 | 13.991 | .24695 | .00621 | 39.970 |
| #3 | .97739 | .02170 | 14.065 | .24857 | .00614 | 40.456 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00143        | .00118        | -.00164       | -.00011       | 4.5438        | .00077        |
| Stddev | .00053        | .00060        | .00114        | .00088        | .0090         | .00035        |
| %RSD   | 36.753        | 50.982        | 69.341        | 801.26        | .19732        | 45.095        |

|    |        |        |         |         |        |        |
|----|--------|--------|---------|---------|--------|--------|
| #1 | .00114 | .00182 | -.00114 | .00015  | 4.5359 | .00038 |
| #2 | .00204 | .00107 | -.00084 | -.00110 | 4.5420 | .00086 |
| #3 | .00111 | .00064 | -.00294 | .00061  | 4.5536 | .00106 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-2-A      Acquired: 5/6/2015 17:05:26      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.15816</b> | <b>.00031</b> | <b>.00282</b> | <b>.00475</b> | <b>.34062</b> |
| Stddev | .00172        | .00011        | .00051        | .00314        | .00079        |
| %RSD   | 1.0852        | 36.660        | 18.149        | 66.054        | .23153        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .15733 | .00029 | .00292 | .00822 | .34117 |
| #2 | .16013 | .00020 | .00327 | .00393 | .34098 |
| #3 | .15702 | .00043 | .00226 | .00211 | .33972 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2996.3</b> | <b>5284.2</b> | <b>76732.</b> | <b>11159.</b> |
| Stddev    | 6.8           | 8.2           | 258.          | 32.           |
| %RSD      | .22829        | .15542        | .33602        | .28633        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2991.9 | 5283.8 | 76875. | 11176. |
| #2 | 2992.8 | 5276.2 | 76885. | 11178. |
| #3 | 3004.2 | 5292.6 | 76434. | 11122. |



Sample Name: 180-43660-A-3-A      Acquired: 5/6/2015 17:10:30      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00039        | .00391        | .01740        | .03918        | .05504        | .00000        |
| Stddev | .00021        | .00702        | .00225        | .00016        | .00056        | .00001        |
| %RSD   | 54.695        | 179.57        | 12.937        | .41751        | 1.0162        | 274.94        |

|    |        |         |        |        |        |         |
|----|--------|---------|--------|--------|--------|---------|
| #1 | .00018 | -.00062 | .01599 | .03937 | .05457 | -.00001 |
| #2 | .00039 | .01199  | .02000 | .03909 | .05490 | .00000  |
| #3 | .00060 | .00035  | .01621 | .03909 | .05566 | .00001  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 32.568        | -.00016       | -.00012       | .00298        | .00488        | .05168        |
| Stddev | .162          | .00002        | .00009        | .00027        | .00024        | .00201        |
| %RSD   | .49894        | 14.115        | 70.398        | 9.0332        | 4.9256        | 3.8816        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | 32.380 | -.00014 | -.00020 | .00299 | .00510 | .05010 |
| #2 | 32.653 | -.00015 | -.00003 | .00324 | .00462 | .05101 |
| #3 | 32.670 | -.00019 | -.00015 | .00270 | .00492 | .05394 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-3-A      Acquired: 5/6/2015 17:10:30      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.26355</b> | <b>.01235</b> | <b>20.305</b> | <b>.00083</b> | <b>.00177</b> | <b>16.423</b> |
| Stddev | .03618        | .00078        | .142          | .00004        | .00021        | .067          |
| %RSD   | 13.728        | 6.3047        | .69693        | 4.6721        | 11.843        | .40973        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.24838</b> | <b>.01145</b> | <b>20.144</b> | <b>.00087</b> | <b>.00155</b> | <b>16.345</b> |
| #2 | <b>.30485</b> | <b>.01276</b> | <b>20.364</b> | <b>.00083</b> | <b>.00179</b> | <b>16.468</b> |
| #3 | <b>.23742</b> | <b>.01284</b> | <b>20.408</b> | <b>.00079</b> | <b>.00197</b> | <b>16.456</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |                |               |                |               |               |               |
|--------|----------------|---------------|----------------|---------------|---------------|---------------|
| Elem   | Ni             | Pb            | Sb             | Se            | Si            | Sn            |
| Line   | 231.604 {446}  | 220.353 {453} | 217.581 {455}  | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)       | (In2306)      | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>-.00037</b> | <b>.00260</b> | <b>-.00191</b> | <b>.00056</b> | <b>16.636</b> | <b>.00100</b> |
| Stddev | .00036         | .00007        | .00193         | .00123        | .080          | .00047        |
| %RSD   | 96.920         | 2.8473        | 101.25         | 220.57        | .48121        | 47.118        |

|    |                |               |                |                |               |               |
|----|----------------|---------------|----------------|----------------|---------------|---------------|
| #1 | <b>.00001</b>  | <b>.00257</b> | <b>-.00413</b> | <b>-.00086</b> | <b>16.544</b> | <b>.00046</b> |
| #2 | <b>-.00071</b> | <b>.00254</b> | <b>-.00069</b> | <b>.00118</b>  | <b>16.693</b> | <b>.00125</b> |
| #3 | <b>-.00042</b> | <b>.00268</b> | <b>-.00089</b> | <b>.00135</b>  | <b>16.670</b> | <b>.00130</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-3-A      Acquired: 5/6/2015 17:10:30      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.10583</b> | <b>.00011</b> | <b>.00134</b> | <b>.00396</b> | <b>.02768</b> |
| Stddev | .00272        | .00004        | .00091        | .00088        | .00005        |
| %RSD   | 2.5670        | 32.490        | 67.793        | 22.176        | .18609        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .10792 | .00014 | .00179 | .00438 | .02773 |
| #2 | .10276 | .00007 | .00194 | .00455 | .02763 |
| #3 | .10682 | .00013 | .00029 | .00295 | .02767 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3050.4</b> | <b>5328.0</b> | <b>77966.</b> | <b>11186.</b> |
| Stddev    | 9.5           | 13.7          | 351.          | 109.          |
| %RSD      | .31054        | .25731        | .45001        | .97683        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3060.5 | 5342.8 | 78362. | 11312. |
| #2 | 3049.0 | 5325.6 | 77843. | 11135. |
| #3 | 3041.8 | 5315.7 | 77694. | 11112. |

Sample Name: 180-43660-A-4-A      Acquired: 5/6/2015 17:15:37      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00036        | .01176        | .01372        | .08340        | .11838        | -.00001       |
| Stddev | .00013        | .01006        | .00050        | .00061        | .00043        | .00006        |
| %RSD   | 36.439        | 85.562        | 3.6260        | .73121        | .36204        | 567.61        |

|    |        |        |        |        |        |         |
|----|--------|--------|--------|--------|--------|---------|
| #1 | .00043 | .01135 | .01395 | .08270 | .11888 | .00006  |
| #2 | .00043 | .02201 | .01406 | .08372 | .11809 | -.00005 |
| #3 | .00021 | .00191 | .01315 | .08379 | .11819 | -.00005 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 28.680        | -.00019       | .00003        | .49656        | .00146        | .00575        |
| Stddev | .099          | .00007        | .00024        | .00226        | .00018        | .00027        |
| %RSD   | .34569        | 36.458        | 762.81        | .45493        | 12.614        | 4.7316        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | 28.764 | -.00022 | -.00020 | .49513 | .00139 | .00596 |
| #2 | 28.705 | -.00024 | .00002  | .49537 | .00166 | .00545 |
| #3 | 28.570 | -.00011 | .00028  | .49916 | .00131 | .00585 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-4-A      Acquired: 5/6/2015 17:15:37      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .84011        | .00858        | 15.569        | .00008        | .00192        | 12.058        |
| Stddev | .01220        | .00083        | .092          | .00002        | .00004        | .045          |
| %RSD   | 1.4518        | 9.6962        | .59114        | 30.774        | 2.2758        | .37594        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .85286 | .00763 | 15.632 | .00008 | .00190 | 12.110 |
| #2 | .83894 | .00918 | 15.611 | .00010 | .00190 | 12.026 |
| #3 | .82855 | .00892 | 15.463 | .00005 | .00197 | 12.039 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00041       | .00219        | -.00098       | .00161        | 14.764        | .00051        |
| Stddev | .00023        | .00010        | .00120        | .00182        | .038          | .00009        |
| %RSD   | 55.488        | 4.3713        | 122.69        | 113.21        | .25893        | 18.073        |

|    |         |        |         |         |        |        |
|----|---------|--------|---------|---------|--------|--------|
| #1 | -.00029 | .00230 | -.00223 | .00248  | 14.793 | .00052 |
| #2 | -.00068 | .00215 | .00016  | .00282  | 14.779 | .00041 |
| #3 | -.00028 | .00212 | -.00086 | -.00048 | 14.721 | .00059 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-4-A      Acquired: 5/6/2015 17:15:37      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .13870        | .00007        | .00286        | .00176        | .00304        |
| Stddev | .00068        | .00009        | .00070        | .00217        | .00017        |
| %RSD   | .48924        | 117.90        | 24.433        | 122.85        | 5.6736        |

|    |        |        |        |         |        |
|----|--------|--------|--------|---------|--------|
| #1 | .13791 | .00017 | .00214 | -.00068 | .00314 |
| #2 | .13909 | .00001 | .00291 | .00250  | .00313 |
| #3 | .13908 | .00004 | .00353 | .00346  | .00284 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3050.5        | 5305.1        | 77857.        | 11166.        |
| Stddev    | 8.2           | 13.2          | 139.          | 59.           |
| %RSD      | .26748        | .24788        | .17869        | .53055        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3051.6 | 5304.7 | 78014. | 11163. |
| #2 | 3041.8 | 5292.1 | 77750. | 11108. |
| #3 | 3058.0 | 5318.4 | 77807. | 11226. |

Sample Name: CCV 1551842      Acquired: 5/6/2015 17:20:44      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.0790        | 25.960        | .53526        | 2.1320        | 2.0573        | 2.0518        |
| Stddev | .0025         | .051          | .00094        | .0063         | .0026         | .0055         |
| %RSD   | .23023        | .19494        | .17581        | .29474        | .12434        | .26955        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.0794 | 25.904 | .53439 | 2.1365 | 2.0560 | 2.0454 |
| #2 | 1.0763 | 25.974 | .53512 | 2.1248 | 2.0556 | 2.0552 |
| #3 | 1.0812 | 26.002 | .53626 | 2.1346 | 2.0602 | 2.0547 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 52.187        | .52679        | 2.1427        | 2.0604        | 1.9514        | 26.814        |
| Stddev | .115          | .00128        | .0042         | .0060         | .0062         | .089          |
| %RSD   | .21961        | .24257        | .19452        | .28956        | .31535        | .33245        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 52.063 | .52707 | 2.1418 | 2.0559 | 1.9450 | 26.716 |
| #2 | 52.290 | .52539 | 2.1390 | 2.0580 | 1.9573 | 26.836 |
| #3 | 52.208 | .52790 | 2.1472 | 2.0671 | 1.9521 | 26.891 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/6/2015 17:20:44      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>131.69</b> | <b>2.0792</b> | <b>51.982</b> | <b>1.9364</b> | <b>2.0216</b> | <b>132.48</b> |
| Stddev | .30           | .0029         | .283          | .0148         | .0065         | .18           |
| %RSD   | .22632        | .13872        | .54442        | .76647        | .32169        | .13404        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 131.39 | 2.0766 | 51.658 | 1.9216 | 2.0199 | 132.30 |
| #2 | 131.99 | 2.0788 | 52.183 | 1.9513 | 2.0161 | 132.66 |
| #3 | 131.68 | 2.0823 | 52.104 | 1.9362 | 2.0288 | 132.47 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>2.1077</b> | <b>.51837</b> | <b>.52690</b> | <b>.52180</b> | <b>2.0842</b> | <b>1.9594</b> |
| Stddev | .0049         | .00371        | .00303        | .00607        | .0165         | .0043         |
| %RSD   | .23340        | .71595        | .57450        | 1.1631        | .79008        | .22001        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 2.1060 | .51772 | .52660 | .52879 | 2.0652 | 1.9561 |
| #2 | 2.1038 | .51503 | .52403 | .51861 | 2.0933 | 1.9579 |
| #3 | 2.1132 | .52237 | .53006 | .51799 | 2.0941 | 1.9643 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |



Sample Name: CCV 1551842      Acquired: 5/6/2015 17:20:44      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.9758        | 1.9442        | .98848        | F 2.2075      | 2.0400        |
| Stddev | .0042         | .0105         | .00392        | .0188         | .0013         |
| %RSD   | .21476        | .53851        | .39642        | .85135        | .06395        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | 1.9724 | 1.9347 | .98426 | 2.2192 | 2.0392 |
| #2 | 1.9806 | 1.9554 | .98918 | 2.1858 | 2.0393 |
| #3 | 1.9745 | 1.9426 | .99201 | 2.2175 | 2.0415 |

|         |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value   |          |          |          | 2.0000   |          |
| Range   |          |          |          | 10.000%  |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2671.1        | 5100.6        | 73172.        | 10788.        |
| Stddev    | 5.6           | 11.4          | 130.          | 90.           |
| %RSD      | .20895        | .22400        | .17783        | .83548        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2670.1 | 5096.9 | 73287. | 10869. |
| #2 | 2677.1 | 5113.5 | 73031. | 10691. |
| #3 | 2666.0 | 5091.6 | 73197. | 10805. |

Sample Name: CCB11      Acquired: 5/6/2015 17:25:31      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00066        | .02352        | .00191        | .00323        | .00047        | .00043        |
| Stddev | .00012        | .01757        | .00106        | .00037        | .00004        | .00002        |
| %RSD   | 17.414        | 74.707        | 55.836        | 11.394        | 8.2595        | 5.0330        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .00055 | .04297 | .00300 | .00365 | .00042 | .00045 |
| #2 | .00078 | .00880 | .00184 | .00294 | .00048 | .00041 |
| #3 | .00066 | .01879 | .00087 | .00311 | .00050 | .00044 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .02379        | .00002        | .00051        | .00007        | .00053        | .01288        |
| Stddev | .00218        | .00011        | .00014        | .00015        | .00060        | .00055        |
| %RSD   | 9.1713        | 756.95        | 27.913        | 203.13        | 113.19        | 4.2706        |

|    |        |         |        |         |         |        |
|----|--------|---------|--------|---------|---------|--------|
| #1 | .02508 | -.00006 | .00036 | .00017  | .00093  | .01320 |
| #2 | .02502 | -.00004 | .00065 | -.00010 | .00080  | .01224 |
| #3 | .02127 | .00015  | .00052 | .00016  | -.00016 | .01320 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB11      Acquired: 5/6/2015 17:25:31      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .15504        | .00182        | .01450        | .00059        | .00305        | .06950        |
| Stddev | .02553        | .00044        | .00318        | .00002        | .00046        | .00537        |
| %RSD   | 16.468        | 23.974        | 21.902        | 3.1184        | 15.058        | 7.7326        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .12697 | .00219 | .01128 | .00060 | .00355 | .07324 |
| #2 | .16125 | .00193 | .01459 | .00057 | .00296 | .06335 |
| #3 | .17689 | .00134 | .01763 | .00059 | .00264 | .07192 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00048        | .00040        | -.00005       | .00098        | .00422        | .00144        |
| Stddev | .00014        | .00130        | .00163        | .00135        | .00262        | .00052        |
| %RSD   | 28.556        | 324.17        | 3393.0        | 138.75        | 62.170        | 35.782        |

|    |        |         |         |         |        |        |
|----|--------|---------|---------|---------|--------|--------|
| #1 | .00033 | -.00081 | .00102  | .00175  | .00149 | .00189 |
| #2 | .00060 | .00024  | -.00192 | -.00059 | .00672 | .00157 |
| #3 | .00050 | .00178  | .00076  | .00177  | .00444 | .00088 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB11      Acquired: 5/6/2015 17:25:31      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00056</b> | <b>.00070</b> | <b>.00278</b> | <b>.00482</b> | <b>.00059</b> |
| Stddev | .00264         | .00005        | .00033        | .00049        | .00009        |
| %RSD   | 474.53         | 6.5705        | 11.884        | 10.159        | 15.054        |

|    |         |        |        |        |        |
|----|---------|--------|--------|--------|--------|
| #1 | .00010  | .00073 | .00241 | .00431 | .00049 |
| #2 | .00169  | .00065 | .00289 | .00528 | .00067 |
| #3 | -.00346 | .00072 | .00304 | .00488 | .00059 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3301.5</b> | <b>5470.1</b> | <b>80040.</b> | <b>11041.</b> |
| Stddev    | 5.0           | 14.8          | 129.          | 27.           |
| %RSD      | .15035        | .26970        | .16136        | .24856        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3305.5 | 5485.3 | 80183. | 11009. |
| #2 | 3302.9 | 5469.0 | 79932. | 11061. |
| #3 | 3295.9 | 5455.9 | 80007. | 11052. |

Sample Name: 180-43660-A-5-A      Acquired: 5/6/2015 17:30:43      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00002</b> | <b>.00634</b> | <b>.00503</b> | <b>.09381</b> | <b>.09044</b> | <b>.00009</b> |
| Stddev | .00032         | .00704        | .00055        | .00015        | .00017        | .00004        |
| %RSD   | 1466.0         | 111.16        | 11.035        | .16397        | .19104        | 41.746        |

|    |                |                |               |               |               |               |
|----|----------------|----------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00026</b> | <b>.01173</b>  | <b>.00541</b> | <b>.09368</b> | <b>.09037</b> | <b>.00006</b> |
| #2 | <b>-.00014</b> | <b>-.00163</b> | <b>.00528</b> | <b>.09398</b> | <b>.09063</b> | <b>.00008</b> |
| #3 | <b>.00034</b>  | <b>.00891</b>  | <b>.00439</b> | <b>.09378</b> | <b>.09030</b> | <b>.00013</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |                |                |               |               |               |
|--------|---------------|----------------|----------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd             | Co             | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447}  | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (In2306)       | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm            | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>42.336</b> | <b>-.00006</b> | <b>-.00002</b> | <b>.00496</b> | <b>.00161</b> | <b>.00465</b> |
| Stddev | .029          | .00013         | .00009         | .00037        | .00077        | .00198        |
| %RSD   | .06797        | 231.43         | 450.21         | 7.3538        | 47.713        | 42.520        |

|    |               |                |                |               |               |               |
|----|---------------|----------------|----------------|---------------|---------------|---------------|
| #1 | <b>42.356</b> | <b>.00007</b>  | <b>.00006</b>  | <b>.00457</b> | <b>.00240</b> | <b>.00618</b> |
| #2 | <b>42.348</b> | <b>-.00019</b> | <b>-.00000</b> | <b>.00502</b> | <b>.00086</b> | <b>.00242</b> |
| #3 | <b>42.303</b> | <b>-.00005</b> | <b>-.00012</b> | <b>.00530</b> | <b>.00159</b> | <b>.00535</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-5-A      Acquired: 5/6/2015 17:30:43      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.26540</b> | <b>.01330</b> | <b>27.404</b> | <b>.01205</b> | <b>.00322</b> | <b>24.112</b> |
| Stddev | .01726        | .00085        | .052          | .00007        | .00011        | .008          |
| %RSD   | 6.5025        | 6.3595        | .18885        | .61453        | 3.3398        | .03431        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.25739</b> | <b>.01274</b> | <b>27.399</b> | <b>.01207</b> | <b>.00332</b> | <b>24.108</b> |
| #2 | <b>.25360</b> | <b>.01288</b> | <b>27.458</b> | <b>.01210</b> | <b>.00323</b> | <b>24.122</b> |
| #3 | <b>.28520</b> | <b>.01427</b> | <b>27.355</b> | <b>.01196</b> | <b>.00310</b> | <b>24.107</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |                |               |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb             | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455}  | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>.00020</b> | <b>.00274</b> | <b>-.00174</b> | <b>.00045</b> | <b>17.772</b> | <b>.00106</b> |
| Stddev | .00043        | .00056        | .00141         | .00134        | .039          | .00031        |
| %RSD   | 211.23        | 20.446        | 81.407         | 297.94        | .21994        | 28.813        |

|    |                |               |                |                |               |               |
|----|----------------|---------------|----------------|----------------|---------------|---------------|
| #1 | <b>-.00028</b> | <b>.00326</b> | <b>-.00047</b> | <b>-.00064</b> | <b>17.735</b> | <b>.00107</b> |
| #2 | <b>.00034</b>  | <b>.00214</b> | <b>-.00326</b> | <b>.00005</b>  | <b>17.813</b> | <b>.00075</b> |
| #3 | <b>.00054</b>  | <b>.00282</b> | <b>-.00148</b> | <b>.00194</b>  | <b>17.768</b> | <b>.00136</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-5-A      Acquired: 5/6/2015 17:30:43      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .23449        | .00020        | .00094        | .00537        | .00553        |
| Stddev | .00561        | .00002        | .00004        | .00277        | .00018        |
| %RSD   | 2.3906        | 9.0505        | 4.1698        | 51.574        | 3.2340        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .24033 | .00022 | .00092 | .00763 | .00533 |
| #2 | .23399 | .00019 | .00099 | .00620 | .00558 |
| #3 | .22916 | .00020 | .00092 | .00228 | .00567 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2980.5        | 5262.6        | 77551.        | 11077.        |
| Stddev    | 6.8           | 17.6          | 372.          | 29.           |
| %RSD      | .22895        | .33535        | .47979        | .25878        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2982.0 | 5255.1 | 77136. | 11044. |
| #2 | 2973.0 | 5250.0 | 77661. | 11096. |
| #3 | 2986.4 | 5282.8 | 77855. | 11091. |

Sample Name: 180-43660-A-6-A      Acquired: 5/6/2015 17:35:50      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00028        | .01364        | .01103        | .02161        | .08088        | .00006        |
| Stddev | .00010        | .00663        | .00082        | .00024        | .00015        | .00005        |
| %RSD   | 36.909        | 48.575        | 7.4628        | 1.1122        | .18308        | 89.292        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .00030 | .02059 | .01091 | .02145 | .08072 | .00000 |
| #2 | .00037 | .01295 | .01027 | .02189 | .08100 | .00010 |
| #3 | .00017 | .00739 | .01191 | .02150 | .08093 | .00006 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 32.165        | -.00005       | -.00017       | .06599        | .00126        | .00436        |
| Stddev | .063          | .00012        | .00019        | .00074        | .00055        | .00092        |
| %RSD   | .19471        | 231.39        | 107.69        | 1.1262        | 44.073        | 20.989        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | 32.237 | -.00017 | -.00027 | .06682 | .00157 | .00339 |
| #2 | 32.126 | .00007  | .00004  | .06577 | .00158 | .00448 |
| #3 | 32.132 | -.00006 | -.00029 | .06539 | .00062 | .00521 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43660-A-6-A      Acquired: 5/6/2015 17:35:50      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .27619        | .01111        | 20.019        | .00009        | .00067        | 28.375        |
| Stddev | .02468        | .00038        | .146          | .00001        | .00031        | .018          |
| %RSD   | 8.9349        | 3.4157        | .72909        | 12.449        | 46.343        | .06477        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .24897 | .01068 | 19.951 | .00010 | .00081 | 28.395 |
| #2 | .29710 | .01130 | 20.186 | .00010 | .00032 | 28.373 |
| #3 | .28250 | .01137 | 19.919 | .00008 | .00089 | 28.358 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00023       | .00189        | -.00095       | .00070        | 15.375        | .00120        |
| Stddev | .00038        | .00112        | .00076        | .00104        | .030          | .00028        |
| %RSD   | 165.95        | 59.268        | 79.877        | 147.96        | .19808        | 23.521        |

|    |         |        |         |         |        |        |
|----|---------|--------|---------|---------|--------|--------|
| #1 | -.00052 | .00077 | -.00009 | -.00048 | 15.388 | .00088 |
| #2 | .00020  | .00301 | -.00153 | .00146  | 15.396 | .00132 |
| #3 | -.00038 | .00188 | -.00124 | .00114  | 15.340 | .00141 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-6-A      Acquired: 5/6/2015 17:35:50      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .10170        | .00013        | .00056        | .00257        | .00305        |
| Stddev | .00535        | .00008        | .00085        | .00052        | .00007        |
| %RSD   | 5.2647        | 61.859        | 152.27        | 20.003        | 2.2207        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .10383 | .00012 | .00154 | .00277 | .00311 |
| #2 | .09561 | .00022 | .00003 | .00199 | .00306 |
| #3 | .10567 | .00006 | .00011 | .00296 | .00297 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3019.3        | 5322.5        | 77657.        | 11218.        |
| Stddev    | 6.1           | 8.4           | 238.          | 20.           |
| %RSD      | .20235        | .15843        | .30630        | .18103        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3012.3 | 5312.7 | 77471. | 11215. |
| #2 | 3023.2 | 5327.4 | 77576. | 11199. |
| #3 | 3022.4 | 5327.3 | 77925. | 11239. |

Sample Name: 180-43660-A-7-A      Acquired: 5/6/2015 17:40:56      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00033        | .02117        | .00336        | .02622        | .04307        | -.00002       |
| Stddev | .00022        | .00271        | .00165        | .00039        | .00023        | .00003        |
| %RSD   | 67.842        | 12.793        | 49.077        | 1.4946        | .53585        | 166.58        |

|    |        |        |        |        |        |         |
|----|--------|--------|--------|--------|--------|---------|
| #1 | .00023 | .02039 | .00443 | .02667 | .04329 | .00002  |
| #2 | .00017 | .01895 | .00146 | .02597 | .04283 | -.00003 |
| #3 | .00058 | .02419 | .00419 | .02601 | .04307 | -.00005 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 17.718        | -.00013       | .00004        | .09886        | .00544        | .03783        |
| Stddev | .024          | .00015        | .00019        | .00027        | .00047        | .00169        |
| %RSD   | .13405        | 114.18        | 504.48        | .26832        | 8.6460        | 4.4800        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | 17.726 | -.00030 | .00017  | .09892 | .00555 | .03955 |
| #2 | 17.738 | -.00006 | -.00018 | .09909 | .00492 | .03616 |
| #3 | 17.692 | -.00003 | .00012  | .09857 | .00584 | .03778 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-7-A      Acquired: 5/6/2015 17:40:56      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .72498        | .00623        | 10.397        | .00518        | .00071        | 52.781        |
| Stddev | .00275        | .00056        | .050          | .00001        | .00009        | .188          |
| %RSD   | .37882        | 8.9654        | .48432        | .27548        | 12.444        | .35545        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .72736 | .00664 | 10.410 | .00518 | .00068 | 52.997 |
| #2 | .72560 | .00645 | 10.440 | .00517 | .00064 | 52.662 |
| #3 | .72197 | .00559 | 10.341 | .00520 | .00081 | 52.684 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00057        | .00192        | -.00126       | .00050        | 6.8593        | .00076        |
| Stddev | .00042        | .00145        | .00049        | .00223        | .0144         | .00049        |
| %RSD   | 73.811        | 75.267        | 39.112        | 449.30        | .20918        | 64.428        |

|    |        |        |         |         |        |        |
|----|--------|--------|---------|---------|--------|--------|
| #1 | .00094 | .00051 | -.00116 | .00157  | 6.8741 | .00064 |
| #2 | .00011 | .00340 | -.00179 | -.00207 | 6.8585 | .00035 |
| #3 | .00065 | .00185 | -.00082 | .00199  | 6.8454 | .00131 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-7-A      Acquired: 5/6/2015 17:40:56      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05729        | .00125        | .00068        | .00302        | .00669        |
| Stddev | .00539        | .00014        | .00065        | .00213        | .00007        |
| %RSD   | 9.4076        | 10.835        | 95.758        | 70.760        | 1.0849        |

|    |        |        |         |        |        |
|----|--------|--------|---------|--------|--------|
| #1 | .05780 | .00126 | -.00005 | .00063 | .00669 |
| #2 | .05166 | .00111 | .00088  | .00474 | .00676 |
| #3 | .06241 | .00139 | .00120  | .00368 | .00661 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3038.7        | 5346.3        | 77140.        | 11227.        |
| Stddev    | 7.3           | 8.5           | 257.          | 30.           |
| %RSD      | .24155        | .15819        | .33263        | .26736        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3034.7 | 5336.9 | 76987. | 11250. |
| #2 | 3034.2 | 5348.6 | 76996. | 11193. |
| #3 | 3047.1 | 5353.3 | 77436. | 11238. |

Sample Name: 180-43660-A-8-A      Acquired: 5/6/2015 17:46:03      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |                |
|--------|----------------|---------------|---------------|---------------|---------------|----------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be             |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108}  |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)       |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm            |
| Avg    | <b>-.00008</b> | <b>.01000</b> | <b>.00965</b> | <b>.00545</b> | <b>.06493</b> | <b>-.00000</b> |
| Stddev | .00011         | .00972        | .00147        | .00038        | .00042        | .00005         |
| %RSD   | 142.26         | 97.183        | 15.270        | 6.9584        | .63971        | 5941.2         |

|    |                |                |               |               |               |                |
|----|----------------|----------------|---------------|---------------|---------------|----------------|
| #1 | <b>-.00003</b> | <b>-.00014</b> | <b>.00821</b> | <b>.00524</b> | <b>.06472</b> | <b>-.00005</b> |
| #2 | <b>-.00020</b> | <b>.01091</b>  | <b>.01115</b> | <b>.00589</b> | <b>.06466</b> | <b>-.00001</b> |
| #3 | <b>-.00000</b> | <b>.01922</b>  | <b>.00959</b> | <b>.00522</b> | <b>.06540</b> | <b>.00005</b>  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |                |               |               |               |               |
|--------|---------------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd             | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>44.165</b> | <b>-.00026</b> | <b>.00031</b> | <b>.08863</b> | <b>.00090</b> | <b>.09334</b> |
| Stddev | .083          | .00004         | .00013        | .00054        | .00054        | .00112        |
| %RSD   | .18793        | 14.710         | 43.483        | .60573        | 60.469        | 1.1960        |

|    |               |                |               |               |               |               |
|----|---------------|----------------|---------------|---------------|---------------|---------------|
| #1 | <b>44.070</b> | <b>-.00021</b> | <b>.00021</b> | <b>.08923</b> | <b>.00101</b> | <b>.09226</b> |
| #2 | <b>44.200</b> | <b>-.00028</b> | <b>.00025</b> | <b>.08819</b> | <b>.00031</b> | <b>.09328</b> |
| #3 | <b>44.225</b> | <b>-.00028</b> | <b>.00046</b> | <b>.08847</b> | <b>.00138</b> | <b>.09449</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-8-A      Acquired: 5/6/2015 17:46:03      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.19438</b> | <b>.00533</b> | <b>27.956</b> | <b>.24288</b> | <b>.00061</b> | <b>38.676</b> |
| Stddev | .01031        | .00070        | .072          | .00052        | .00013        | .185          |
| %RSD   | 5.3059        | 13.174        | .25621        | .21227        | 20.745        | .47829        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .20629 | .00601 | 27.983 | .24245 | .00049 | 38.630 |
| #2 | .18845 | .00538 | 27.875 | .24272 | .00074 | 38.518 |
| #3 | .18840 | .00460 | 28.011 | .24345 | .00058 | 38.879 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |                |               |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb             | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455}  | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>.00050</b> | <b>.00215</b> | <b>-.00257</b> | <b>.00040</b> | <b>12.014</b> | <b>.00024</b> |
| Stddev | .00029        | .00037        | .00072         | .00145        | .010          | .00052        |
| %RSD   | 57.394        | 17.340        | 27.876         | 360.67        | .08356        | 220.04        |

|    |        |        |         |         |        |         |
|----|--------|--------|---------|---------|--------|---------|
| #1 | .00084 | .00256 | -.00223 | -.00112 | 12.023 | .00044  |
| #2 | .00035 | .00185 | -.00339 | .00176  | 12.003 | .00062  |
| #3 | .00032 | .00203 | -.00208 | .00057  | 12.017 | -.00035 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-8-A      Acquired: 5/6/2015 17:46:03      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .08314        | .00014        | .00233        | .00321        | .00288        |
| Stddev | .00399        | .00021        | .00109        | .00232        | .00017        |
| %RSD   | 4.8022        | 145.07        | 46.849        | 72.474        | 6.0633        |

|    |        |         |        |        |        |
|----|--------|---------|--------|--------|--------|
| #1 | .08024 | .00037  | .00343 | .00053 | .00300 |
| #2 | .08149 | .00009  | .00125 | .00446 | .00268 |
| #3 | .08769 | -.00003 | .00232 | .00464 | .00296 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2950.9        | 5233.9        | 76859.        | 11164.        |
| Stddev    | 7.6           | 18.9          | 216.          | 4.            |
| %RSD      | .25641        | .36056        | .28119        | .03311        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2958.3 | 5253.7 | 76639. | 11167. |
| #2 | 2951.2 | 5232.0 | 77071. | 11164. |
| #3 | 2943.2 | 5216.1 | 76867. | 11160. |



Sample Name: 180-43660-A-9-A      Acquired: 5/6/2015 17:51:09      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00019        | .00483        | .03910        | .04221        | .03323        | .00000        |
| Stddev | .00042        | .01443        | .00142        | .00032        | .00025        | .00006        |
| %RSD   | 215.19        | 298.80        | 3.6423        | .75172        | .74265        | 1308.5        |

|    |         |         |        |        |        |         |
|----|---------|---------|--------|--------|--------|---------|
| #1 | .00035  | .00521  | .03920 | .04222 | .03316 | -.00002 |
| #2 | -.00028 | .01907  | .04047 | .04190 | .03350 | -.00004 |
| #3 | .00051  | -.00979 | .03763 | .04253 | .03303 | .00007  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 14.121        | -.00013       | .00009        | -.00025       | .11538        | .01628        |
| Stddev | .031          | .00012        | .00007        | .00009        | .00032        | .00164        |
| %RSD   | .21920        | 93.610        | 71.481        | 33.704        | .27781        | 10.085        |

|    |        |         |        |         |        |        |
|----|--------|---------|--------|---------|--------|--------|
| #1 | 14.094 | -.00011 | .00015 | -.00035 | .11518 | .01528 |
| #2 | 14.155 | -.00027 | .00011 | -.00024 | .11521 | .01538 |
| #3 | 14.115 | -.00002 | .00002 | -.00018 | .11575 | .01817 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-9-A      Acquired: 5/6/2015 17:51:09      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .46229        | .00035        | .89179        | .06532        | .00058        | 1.0675        |
| Stddev | .02153        | .00180        | .00615        | .00033        | .00022        | .0035         |
| %RSD   | 4.6571        | 519.85        | .68908        | .49825        | 37.878        | .33199        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | .43852 | -.00043 | .89878 | .06531 | .00039 | 1.0710 |
| #2 | .46783 | .00240  | .88934 | .06564 | .00052 | 1.0639 |
| #3 | .48050 | -.00093 | .88725 | .06499 | .00082 | 1.0676 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00214        | -.00007       | .00102        | .00047        | 1.2425        | .00086        |
| Stddev | .00012        | .00073        | .00060        | .00110        | .0078         | .00052        |
| %RSD   | 5.4488        | 1056.5        | 59.140        | 234.85        | .63185        | 60.187        |

|    |        |         |        |         |        |        |
|----|--------|---------|--------|---------|--------|--------|
| #1 | .00212 | -.00031 | .00163 | .00059  | 1.2337 | .00114 |
| #2 | .00203 | -.00065 | .00098 | .00149  | 1.2450 | .00026 |
| #3 | .00227 | .00075  | .00043 | -.00069 | 1.2488 | .00118 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-9-A      Acquired: 5/6/2015 17:51:09      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05135        | .00014        | .00059        | .00447        | 1.0986        |
| Stddev | .00256        | .00004        | .00052        | .00038        | .0030         |
| %RSD   | 4.9776        | 27.948        | 87.362        | 8.4631        | .27678        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .04924 | .00014 | .00014 | .00448 | 1.0998 |
| #2 | .05062 | .00018 | .00048 | .00484 | 1.0952 |
| #3 | .05420 | .00010 | .00116 | .00408 | 1.1009 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3214.2        | 5393.3        | 79963.        | 11278.        |
| Stddev    | 3.9           | 2.5           | 137.          | 35.           |
| %RSD      | .12168        | .04602        | .17098        | .31456        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3217.0 | 5393.8 | 80072. | 11308. |
| #2 | 3215.9 | 5395.5 | 80008. | 11239. |
| #3 | 3209.8 | 5390.6 | 79810. | 11288. |

Sample Name: 180-43660-A-10-A      Acquired: 5/6/2015 17:56:16      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00030        | .00828        | .00650        | .00906        | .06484        | -.00004       |
| Stddev | .00024        | .00514        | .00218        | .00017        | .00031        | .00005        |
| %RSD   | 79.882        | 62.071        | 33.566        | 1.9301        | .48212        | 121.98        |

|    |        |        |        |        |        |         |
|----|--------|--------|--------|--------|--------|---------|
| #1 | .00002 | .00414 | .00680 | .00916 | .06520 | -.00009 |
| #2 | .00042 | .00666 | .00418 | .00917 | .06462 | -.00000 |
| #3 | .00045 | .01403 | .00851 | .00886 | .06469 | -.00002 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 39.003        | -.00016       | -.00024       | 3.1926        | .00068        | .01000        |
| Stddev | .058          | .00009        | .00035        | .0068         | .00026        | .00215        |
| %RSD   | .14840        | 56.309        | 142.47        | .21431        | 37.939        | 21.534        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | 38.998 | -.00024 | .00001  | 3.1859 | .00097 | .01234 |
| #2 | 38.949 | -.00006 | -.00064 | 3.1924 | .00050 | .00811 |
| #3 | 39.064 | -.00018 | -.00010 | 3.1996 | .00056 | .00954 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-10-A      Acquired: 5/6/2015 17:56:16      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .61824        | .00074        | 21.575        | .03227        | .00230        | 39.035        |
| Stddev | .02696        | .00025        | .057          | .00029        | .00007        | .069          |
| %RSD   | 4.3613        | 34.178        | .26451        | .91327        | 3.0408        | .17625        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .62130 | .00070 | 21.625 | .03199 | .00232 | 39.110 |
| #2 | .64354 | .00052 | 21.513 | .03224 | .00222 | 38.976 |
| #3 | .58987 | .00102 | 21.587 | .03258 | .00235 | 39.019 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00021       | .00084        | -.00207       | .00228        | 10.193        | .00044        |
| Stddev | .00041        | .00195        | .00043        | .00203        | .028          | .00030        |
| %RSD   | 194.42        | 232.79        | 21.048        | 89.182        | .27685        | 66.649        |

|    |         |         |         |        |        |        |
|----|---------|---------|---------|--------|--------|--------|
| #1 | -.00002 | .00216  | -.00181 | .00447 | 10.224 | .00016 |
| #2 | -.00069 | .00175  | -.00182 | .00192 | 10.169 | .00075 |
| #3 | .00007  | -.00140 | -.00257 | .00045 | 10.187 | .00041 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-10-A      Acquired: 5/6/2015 17:56:16      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .06855        | .00012        | .00213        | .00233        | .00081        |
| Stddev | .00388        | .00009        | .00025        | .00227        | .00005        |
| %RSD   | 5.6592        | 76.741        | 11.594        | 97.486        | 6.1270        |

|    |        |        |        |         |        |
|----|--------|--------|--------|---------|--------|
| #1 | .07250 | .00013 | .00242 | .00260  | .00082 |
| #2 | .06475 | .00002 | .00202 | -.00006 | .00075 |
| #3 | .06841 | .00021 | .00196 | .00446  | .00085 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2994.9        | 5300.4        | 76718.        | 11135.        |
| Stddev    | 4.5           | 7.0           | 319.          | 42.           |
| %RSD      | .15167        | .13126        | .41628        | .37290        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2991.6 | 5292.7 | 76374. | 11166. |
| #2 | 3000.1 | 5306.1 | 76775. | 11152. |
| #3 | 2993.1 | 5302.5 | 77005. | 11088. |

Sample Name: 180-43660-A-11-A      Acquired: 5/6/2015 18:01:22      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |                |
|--------|----------------|---------------|---------------|---------------|---------------|----------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be             |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108}  |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)       |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm            |
| Avg    | <b>-.00022</b> | <b>.00669</b> | <b>.01510</b> | <b>.01653</b> | <b>.11448</b> | <b>-.00003</b> |
| Stddev | .00048         | .00282        | .00120        | .00019        | .00025        | .00001         |
| %RSD   | 217.86         | 42.168        | 7.9355        | 1.1751        | .21782        | 21.412         |

|    |                |               |               |               |               |                |
|----|----------------|---------------|---------------|---------------|---------------|----------------|
| #1 | <b>-.00021</b> | <b>.00355</b> | <b>.01578</b> | <b>.01648</b> | <b>.11430</b> | <b>-.00003</b> |
| #2 | <b>-.00071</b> | <b>.00902</b> | <b>.01371</b> | <b>.01636</b> | <b>.11477</b> | <b>-.00004</b> |
| #3 | <b>.00026</b>  | <b>.00748</b> | <b>.01579</b> | <b>.01674</b> | <b>.11438</b> | <b>-.00004</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |                |               |               |               |               |
|--------|---------------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd             | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>44.151</b> | <b>-.00019</b> | <b>.00087</b> | <b>.00001</b> | <b>.00186</b> | <b>4.8665</b> |
| Stddev | .092          | .00005         | .00020        | .00051        | .00034        | .0164         |
| %RSD   | .20899        | 25.298         | 23.226        | 6272.9        | 18.198        | .33672        |

|    |               |                |               |                |               |               |
|----|---------------|----------------|---------------|----------------|---------------|---------------|
| #1 | <b>44.256</b> | <b>-.00020</b> | <b>.00073</b> | <b>-.00050</b> | <b>.00192</b> | <b>4.8842</b> |
| #2 | <b>44.114</b> | <b>-.00023</b> | <b>.00111</b> | <b>.00051</b>  | <b>.00149</b> | <b>4.8518</b> |
| #3 | <b>44.082</b> | <b>-.00013</b> | <b>.00078</b> | <b>.00002</b>  | <b>.00216</b> | <b>4.8636</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-11-A      Acquired: 5/6/2015 18:01:22      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .70721        | .00196        | 22.047        | .11206        | .00133        | 27.522        |
| Stddev | .00657        | .00118        | .091          | .00040        | .00012        | .048          |
| %RSD   | .92889        | 60.087        | .41201        | .35335        | 9.0794        | .17465        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .70546 | .00282 | 22.145 | .11245 | .00139 | 27.565 |
| #2 | .70169 | .00062 | 21.965 | .11166 | .00141 | 27.532 |
| #3 | .71448 | .00244 | 22.030 | .11208 | .00119 | 27.470 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00026       | .00115        | -.00029       | .00004        | 9.8877        | .00037        |
| Stddev | .00034        | .00076        | .00175        | .00147        | .0109         | .00052        |
| %RSD   | 129.13        | 66.104        | 611.53        | 4056.0        | .10990        | 141.50        |

|    |         |        |         |         |        |        |
|----|---------|--------|---------|---------|--------|--------|
| #1 | -.00032 | .00029 | -.00231 | .00042  | 9.8944 | .00097 |
| #2 | .00010  | .00173 | .00084  | -.00159 | 9.8752 | .00002 |
| #3 | -.00056 | .00143 | .00061  | .00127  | 9.8936 | .00012 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43660-A-11-A      Acquired: 5/6/2015 18:01:22      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.10138</b> | <b>.00022</b> | <b>.00036</b> | <b>.00370</b> | <b>.02135</b> |
| Stddev | .00137        | .00004        | .00056        | .00046        | .00036        |
| %RSD   | 1.3506        | 17.932        | 157.22        | 12.353        | 1.7085        |

|    |        |        |         |        |        |
|----|--------|--------|---------|--------|--------|
| #1 | .10281 | .00020 | -.00003 | .00339 | .02100 |
| #2 | .10008 | .00026 | .00010  | .00422 | .02133 |
| #3 | .10125 | .00019 | .00100  | .00348 | .02172 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2993.5</b> | <b>5264.9</b> | <b>77010.</b> | <b>11064.</b> |
| Stddev    | 39.4          | 67.5          | 460.          | 59.           |
| %RSD      | 1.3169        | 1.2817        | .59669        | .53235        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3017.9 | 5310.1 | 77130. | 10996. |
| #2 | 3014.5 | 5297.3 | 77397. | 11097. |
| #3 | 2948.0 | 5187.3 | 76502. | 11098. |

Sample Name: 180-43660-A-12-A      Acquired: 5/6/2015 18:06:27      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00010        | .01086        | .33926        | .03966        | .06235        | .00003        |
| Stddev | .00036        | .01153        | .00302        | .00084        | .00016        | .00006        |
| %RSD   | 355.53        | 106.20        | .89034        | 2.1220        | .24891        | 199.65        |

|    |         |         |        |        |        |         |
|----|---------|---------|--------|--------|--------|---------|
| #1 | .00051  | .01033  | .34173 | .04053 | .06230 | .00000  |
| #2 | -.00007 | .02264  | .34017 | .03960 | .06253 | -.00001 |
| #3 | -.00014 | -.00040 | .33589 | .03885 | .06223 | .00010  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (ln2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 18.174        | -.00114       | -.00011       | .65358        | .00564        | .00810        |
| Stddev | .063          | .00011        | .00007        | .00222        | .00045        | .00226        |
| %RSD   | .34489        | 10.042        | 59.131        | .34015        | 8.0257        | 27.894        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | 18.104 | -.00127 | -.00012 | .65404 | .00595 | .00813 |
| #2 | 18.194 | -.00105 | -.00005 | .65554 | .00584 | .00582 |
| #3 | 18.225 | -.00109 | -.00018 | .65117 | .00512 | .01034 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-12-A      Acquired: 5/6/2015 18:06:27      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.28828</b> | <b>.00429</b> | <b>9.6898</b> | <b>.00017</b> | <b>.01028</b> | <b>9.5779</b> |
| Stddev | .01215        | .00044        | .0655         | .00001        | .00014        | .0287         |
| %RSD   | 4.2151        | 10.225        | .67635        | 7.7856        | 1.3198        | .29932        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.27464</b> | <b>.00384</b> | <b>9.6338</b> | <b>.00017</b> | <b>.01044</b> | <b>9.5462</b> |
| #2 | <b>.29797</b> | <b>.00433</b> | <b>9.6738</b> | <b>.00019</b> | <b>.01020</b> | <b>9.6021</b> |
| #3 | <b>.29222</b> | <b>.00471</b> | <b>9.7619</b> | <b>.00016</b> | <b>.01021</b> | <b>9.5855</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |                |               |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni             | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446}  | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)       | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00048</b> | <b>.00203</b> | <b>.00357</b> | <b>.00219</b> | <b>9.9201</b> | <b>.00054</b> |
| Stddev | .00037         | .00074        | .00073        | .00055        | .0328         | .00037        |
| %RSD   | 76.390         | 36.464        | 20.588        | 25.187        | .33058        | 68.609        |

|    |                |               |               |               |               |               |
|----|----------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00083</b> | <b>.00158</b> | <b>.00327</b> | <b>.00168</b> | <b>9.8880</b> | <b>.00016</b> |
| #2 | <b>-.00009</b> | <b>.00163</b> | <b>.00303</b> | <b>.00278</b> | <b>9.9189</b> | <b>.00056</b> |
| #3 | <b>-.00053</b> | <b>.00289</b> | <b>.00441</b> | <b>.00211</b> | <b>9.9535</b> | <b>.00090</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-12-A      Acquired: 5/6/2015 18:06:27      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .12820        | .00014        | .00133        | .00374        | .03980        |
| Stddev | .00420        | .00008        | .00049        | .00232        | .00061        |
| %RSD   | 3.2752        | 57.297        | 36.886        | 62.049        | 1.5226        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .12356 | .00022 | .00086 | .00132 | .04047 |
| #2 | .13173 | .00006 | .00184 | .00394 | .03930 |
| #3 | .12933 | .00013 | .00130 | .00595 | .03963 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3078.5        | 5291.3        | 79131.        | 11221.        |
| Stddev    | 39.3          | 63.9          | 308.          | 36.           |
| %RSD      | 1.2761        | 1.2074        | .38907        | .32449        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3033.2 | 5217.6 | 78987. | 11263. |
| #2 | 3100.8 | 5325.3 | 78922. | 11196. |
| #3 | 3101.6 | 5331.1 | 79485. | 11205. |

Sample Name: 180-43660-A-13-A      Acquired: 5/6/2015 18:11:34      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00027        | .00413        | .57193        | .02965        | .05232        | -.00001       |
| Stddev | .00013        | .00864        | .00238        | .00010        | .00028        | .00005        |
| %RSD   | 46.674        | 209.00        | .41634        | .34577        | .53735        | 518.72        |

|    |        |         |        |        |        |         |
|----|--------|---------|--------|--------|--------|---------|
| #1 | .00041 | .01292  | .57372 | .02976 | .05203 | -.00005 |
| #2 | .00017 | -.00434 | .57284 | .02964 | .05259 | .00004  |
| #3 | .00023 | .00382  | .56923 | .02956 | .05234 | -.00002 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 28.204        | -.00189       | -.00017       | .22805        | .00581        | .00178        |
| Stddev | .055          | .00007        | .00008        | .00307        | .00028        | .00221        |
| %RSD   | .19393        | 3.9311        | 50.292        | 1.3481        | 4.8354        | 124.08        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | 28.157 | -.00198 | -.00017 | .22450 | .00556 | .00086 |
| #2 | 28.264 | -.00187 | -.00025 | .22984 | .00611 | .00018 |
| #3 | 28.191 | -.00183 | -.00008 | .22980 | .00575 | .00430 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-13-A      Acquired: 5/6/2015 18:11:34      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.26850</b> | <b>.00436</b> | <b>14.312</b> | <b>.00010</b> | <b>.00373</b> | <b>10.022</b> |
| Stddev | .01077        | .00027        | .068          | .00002        | .00020        | .030          |
| %RSD   | 4.0113        | 6.0948        | .47282        | 19.286        | 5.4594        | .29625        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .25612 | .00437 | 14.349 | .00011 | .00388 | 9.9984 |
| #2 | .27367 | .00409 | 14.353 | .00011 | .00350 | 10.055 |
| #3 | .27572 | .00462 | 14.234 | .00008 | .00380 | 10.011 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |                |               |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni             | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446}  | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)       | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00075</b> | <b>.00183</b> | <b>.00304</b> | <b>.00338</b> | <b>11.260</b> | <b>.00021</b> |
| Stddev | .00020         | .00107        | .00089        | .00159        | .041          | .00068        |
| %RSD   | 26.835         | 58.245        | 29.305        | 46.934        | .36349        | 331.39        |

|    |         |        |        |        |        |         |
|----|---------|--------|--------|--------|--------|---------|
| #1 | -.00085 | .00193 | .00223 | .00173 | 11.277 | -.00024 |
| #2 | -.00089 | .00284 | .00400 | .00489 | 11.290 | .00099  |
| #3 | -.00052 | .00072 | .00289 | .00352 | 11.214 | -.00013 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-13-A      Acquired: 5/6/2015 18:11:34      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .12564        | .00003        | .00065        | .00674        | .01936        |
| Stddev | .00555        | .00006        | .00119        | .00273        | .00013        |
| %RSD   | 4.4136        | 207.43        | 182.57        | 40.493        | .69336        |

|    |        |         |         |        |        |
|----|--------|---------|---------|--------|--------|
| #1 | .13200 | .00010  | -.00068 | .00546 | .01921 |
| #2 | .12182 | -.00003 | .00163  | .00987 | .01941 |
| #3 | .12309 | .00002  | .00100  | .00488 | .01946 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3091.5        | 5355.0        | 78310.        | 11153.        |
| Stddev    | 1.7           | 9.2           | 898.          | 2.            |
| %RSD      | .05585        | .17130        | 1.1468        | .01786        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3089.8 | 5346.0 | 79278. | 11150. |
| #2 | 3093.2 | 5354.7 | 77504. | 11153. |
| #3 | 3091.7 | 5364.4 | 78148. | 11154. |

Sample Name: 180-43660-A-14-A      Acquired: 5/6/2015 18:16:40      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00027        | .00869        | .05763        | .01412        | .02173        | -.00001       |
| Stddev | .00027        | .00840        | .00188        | .00019        | .00005        | .00004        |
| %RSD   | 101.63        | 96.728        | 3.2629        | 1.3403        | .21974        | 479.74        |

|    |         |        |        |        |        |         |
|----|---------|--------|--------|--------|--------|---------|
| #1 | .00045  | .00908 | .05557 | .01429 | .02172 | .00000  |
| #2 | .00039  | .00010 | .05805 | .01415 | .02169 | .00002  |
| #3 | -.00004 | .01689 | .05926 | .01391 | .02178 | -.00005 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 17.021        | -.00005       | .00000        | .01960        | .03275        | .00837        |
| Stddev | .036          | .00001        | .00017        | .00025        | .00020        | .00378        |
| %RSD   | .20950        | 23.273        | 3598.5        | 1.2810        | .60772        | 45.108        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | 17.054 | -.00005 | .00014  | .01952 | .03277 | .00473 |
| #2 | 17.025 | -.00006 | .00005  | .01940 | .03293 | .01227 |
| #3 | 16.983 | -.00004 | -.00018 | .01989 | .03253 | .00812 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43660-A-14-A      Acquired: 5/6/2015 18:16:40      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.21503</b> | <b>.00494</b> | <b>7.2718</b> | <b>.00076</b> | <b>.00032</b> | <b>5.7714</b> |
| Stddev | .00849        | .00090        | .0565         | .00002        | .00018        | .0097         |
| %RSD   | 3.9480        | 18.142        | .77673        | 3.1155        | 56.710        | .16775        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.22020</b> | <b>.00403</b> | <b>7.3362</b> | <b>.00077</b> | <b>.00026</b> | <b>5.7721</b> |
| #2 | <b>.21966</b> | <b>.00497</b> | <b>7.2308</b> | <b>.00074</b> | <b>.00053</b> | <b>5.7808</b> |
| #3 | <b>.20523</b> | <b>.00582</b> | <b>7.2483</b> | <b>.00078</b> | <b>.00018</b> | <b>5.7614</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |                |               |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni             | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446}  | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)       | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00024</b> | <b>.00100</b> | <b>.00109</b> | <b>.00387</b> | <b>12.291</b> | <b>.00067</b> |
| Stddev | .00045         | .00118        | .00075        | .00269        | .034          | .00031        |
| %RSD   | 186.95         | 117.97        | 68.315        | 69.642        | .27557        | 45.396        |

|    |                |               |               |               |               |               |
|----|----------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00004</b> | <b>.00020</b> | <b>.00103</b> | <b>.00298</b> | <b>12.325</b> | <b>.00043</b> |
| #2 | <b>.00008</b>  | <b>.00235</b> | <b>.00187</b> | <b>.00173</b> | <b>12.258</b> | <b>.00102</b> |
| #3 | <b>-.00076</b> | <b>.00044</b> | <b>.00038</b> | <b>.00689</b> | <b>12.289</b> | <b>.00057</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-14-A      Acquired: 5/6/2015 18:16:40      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.10135</b> | <b>.00024</b> | <b>.00065</b> | <b>.00428</b> | <b>.08333</b> |
| Stddev | .00064        | .00003        | .00104        | .00307        | .00021        |
| %RSD   | .62968        | 11.041        | 160.36        | 71.679        | .25276        |

|    |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.10106</b> | <b>.00021</b> | <b>.00003</b> | <b>.00762</b> | <b>.08320</b> |
| #2 | <b>.10091</b> | <b>.00026</b> | <b>.00007</b> | <b>.00160</b> | <b>.08322</b> |
| #3 | <b>.10208</b> | <b>.00024</b> | <b>.00185</b> | <b>.00361</b> | <b>.08357</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3188.1</b> | <b>5446.0</b> | <b>78759.</b> | <b>11202.</b> |
| Stddev    | 6.5           | 6.9           | 372.          | 41.           |
| %RSD      | .20436        | .12670        | .47249        | .36556        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>3192.5</b> | <b>5454.0</b> | <b>78790.</b> | <b>11154.</b> |
| #2 | <b>3191.1</b> | <b>5442.1</b> | <b>79114.</b> | <b>11228.</b> |
| #3 | <b>3180.6</b> | <b>5442.0</b> | <b>78372.</b> | <b>11223.</b> |

Sample Name: CCV 1551842      Acquired: 5/6/2015 18:21:47      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.0825        | 26.024        | .54550        | 2.1717        | 2.0765        | 2.0813        |
| Stddev | .0063         | .045          | .00337        | .0006         | .0055         | .0075         |
| %RSD   | .58329        | .17369        | .61714        | .03005        | .26500        | .36068        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.0896 | 26.065 | .54679 | 2.1721 | 2.0733 | 2.0742 |
| #2 | 1.0776 | 25.975 | .54803 | 2.1709 | 2.0829 | 2.0892 |
| #3 | 1.0803 | 26.032 | .54168 | 2.1719 | 2.0734 | 2.0807 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 52.303        | .53547        | 2.1528        | 2.0613        | 1.9648        | 26.918        |
| Stddev | .181          | .00043        | .0027         | .0109         | .0067         | .074          |
| %RSD   | .34574        | .08004        | .12627        | .53001        | .34162        | .27320        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 52.144 | .53596 | 2.1558 | 2.0739 | 1.9574 | 26.834 |
| #2 | 52.499 | .53533 | 2.1519 | 2.0546 | 1.9706 | 26.967 |
| #3 | 52.265 | .53513 | 2.1506 | 2.0555 | 1.9662 | 26.954 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/6/2015 18:21:47      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>133.11</b> | <b>2.0986</b> | <b>52.421</b> | <b>1.9502</b> | <b>2.0622</b> | <b>133.60</b> |
| Stddev | .47           | .0031         | .196          | .0149         | .0021         | .50           |
| %RSD   | .35530        | .14958        | .37418        | .76261        | .10064        | .37346        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 132.67 | 2.0963 | 52.208 | 1.9344 | 2.0613 | 133.31 |
| #2 | 133.61 | 2.1022 | 52.594 | 1.9639 | 2.0608 | 134.17 |
| #3 | 133.04 | 2.0973 | 52.461 | 1.9522 | 2.0646 | 133.30 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>2.1414</b> | <b>.52708</b> | <b>.53888</b> | <b>.53726</b> | <b>2.0986</b> | <b>1.9849</b> |
| Stddev | .0025         | .00129        | .00230        | .00181        | .0110         | .0023         |
| %RSD   | .11551        | .24403        | .42667        | .33687        | .52402        | .11754        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 2.1433 | .52608 | .53726 | .53923 | 2.0859 | 1.9823 |
| #2 | 2.1423 | .52663 | .54151 | .53690 | 2.1040 | 1.9856 |
| #3 | 2.1386 | .52853 | .53787 | .53566 | 2.1058 | 1.9869 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/6/2015 18:21:47      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |                 |               |
|--------|---------------|---------------|---------------|-----------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_              | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116}   | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)        | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm             | ppm           |
| Avg    | <b>2.0081</b> | <b>1.9591</b> | <b>1.0064</b> | <b>F 2.2114</b> | <b>2.0573</b> |
| Stddev | .0141         | .0116         | .0032         | .0150           | .0016         |
| %RSD   | .70315        | .59312        | .32001        | .67626          | .07867        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | 1.9987 | 1.9463 | 1.0036 | 2.2287 | 2.0585 |
| #2 | 2.0244 | 1.9691 | 1.0057 | 2.2033 | 2.0579 |
| #3 | 2.0013 | 1.9619 | 1.0100 | 2.2023 | 2.0554 |

|         |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value   |          |          |          | 2.0000   |          |
| Range   |          |          |          | 10.000%  |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2647.9</b> | <b>5033.1</b> | <b>72975.</b> | <b>10787.</b> |
| Stddev    | 4.9           | 7.1           | 206.          | 57.           |
| %RSD      | .18615        | .14143        | .28279        | .52922        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2644.5 | 5027.7 | 72758. | 10834. |
| #2 | 2645.7 | 5030.3 | 72998. | 10724. |
| #3 | 2653.6 | 5041.1 | 73169. | 10804. |

Sample Name: CCB12      Acquired: 5/6/2015 18:26:34      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00034        | .02513        | .00216        | .00216        | .00061        | .00058        |
| Stddev | .00019        | .01480        | .00197        | .00017        | .00010        | .00002        |
| %RSD   | 55.510        | 58.893        | 91.157        | 7.8742        | 15.955        | 2.9959        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .00031 | .01797 | .00100 | .00235 | .00059 | .00060 |
| #2 | .00016 | .04215 | .00444 | .00201 | .00052 | .00058 |
| #3 | .00054 | .01527 | .00105 | .00213 | .00071 | .00057 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .02789        | .00008        | .00040        | .00038        | .00101        | .01483        |
| Stddev | .00149        | .00009        | .00003        | .00025        | .00007        | .00038        |
| %RSD   | 5.3428        | 100.65        | 7.5978        | 66.606        | 6.7454        | 2.5562        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | .02934 | -.00000 | .00037 | .00056 | .00108 | .01447 |
| #2 | .02797 | .00009  | .00041 | .00009 | .00095 | .01522 |
| #3 | .02636 | .00017  | .00043 | .00049 | .00099 | .01479 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB12      Acquired: 5/6/2015 18:26:34      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.15372</b> | <b>.00116</b> | <b>.02044</b> | <b>.00062</b> | <b>.00264</b> | <b>.07094</b> |
| Stddev | .01703        | .00071        | .00665        | .00002        | .00028        | .00343        |
| %RSD   | 11.081        | 61.658        | 32.518        | 3.3226        | 10.418        | 4.8400        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .15748 | .00050 | .01484 | .00065 | .00290 | .06711 |
| #2 | .13512 | .00106 | .02779 | .00062 | .00267 | .07375 |
| #3 | .16856 | .00191 | .01870 | .00061 | .00235 | .07195 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |                |               |                |                |               |
|--------|---------------|----------------|---------------|----------------|----------------|---------------|
| Elem   | Ni            | Pb             | Sb            | Se             | Si             | Sn            |
| Line   | 231.604 {446} | 220.353 {453}  | 217.581 {455} | 196.090 {472}  | 251.611 {134}  | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)       | (Y_2243)      | (Y_2243)       | (Y_3710)       | (Y_2243)      |
| Units  | ppm           | ppm            | ppm           | ppm            | ppm            | ppm           |
| Avg    | <b>.00033</b> | <b>-.00038</b> | <b>.00039</b> | <b>-.00238</b> | <b>-.00074</b> | <b>.00117</b> |
| Stddev | .00060        | .00090         | .00171        | .00242         | .00183         | .00031        |
| %RSD   | 180.71        | 235.71         | 437.86        | 101.50         | 247.21         | 26.325        |

|    |         |         |         |         |         |        |
|----|---------|---------|---------|---------|---------|--------|
| #1 | .00027  | .00060  | -.00109 | -.00053 | -.00071 | .00095 |
| #2 | .00096  | -.00117 | .00000  | -.00512 | .00107  | .00104 |
| #3 | -.00023 | -.00057 | .00226  | -.00150 | -.00258 | .00152 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB12      Acquired: 5/6/2015 18:26:34      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00072        | .00080        | .00132        | .00569        | .00071        |
| Stddev | .00363        | .00004        | .00048        | .00273        | .00012        |
| %RSD   | 504.27        | 5.2636        | 36.339        | 48.057        | 16.594        |

|    |         |        |        |        |        |
|----|---------|--------|--------|--------|--------|
| #1 | .00360  | .00084 | .00079 | .00785 | .00061 |
| #2 | .00193  | .00081 | .00145 | .00262 | .00084 |
| #3 | -.00336 | .00076 | .00173 | .00660 | .00069 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3260.7        | 5437.2        | 80007.        | 11102.        |
| Stddev    | 6.2           | 13.1          | 228.          | 63.           |
| %RSD      | .18923        | .24005        | .28532        | .56761        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3256.2 | 5428.3 | 79820. | 11105. |
| #2 | 3258.1 | 5431.1 | 79940. | 11164. |
| #3 | 3267.7 | 5452.1 | 80262. | 11038. |



Sample Name: 180-43660-A-15-A      Acquired: 5/6/2015 18:31:45      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00031        | -.01075       | .53029        | .02527        | .03648        | .00005        |
| Stddev | .00027        | .01933        | .00154        | .00014        | .00027        | .00004        |
| %RSD   | 85.928        | 179.82        | .29064        | .54259        | .75326        | 88.789        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | .00059 | -.03004 | .52895 | .02542 | .03635 | .00004 |
| #2 | .00006 | .00862  | .52994 | .02526 | .03629 | .00010 |
| #3 | .00027 | -.01083 | .53197 | .02514 | .03680 | .00001 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 30.019        | -.00184       | .00009        | .05179        | .00684        | .00474        |
| Stddev | .034          | .00002        | .00007        | .00104        | .00041        | .00095        |
| %RSD   | .11362        | 1.0019        | 74.510        | 2.0063        | 6.0527        | 20.107        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | 30.049 | -.00183 | .00017 | .05127 | .00670 | .00410 |
| #2 | 29.982 | -.00186 | .00005 | .05111 | .00731 | .00429 |
| #3 | 30.026 | -.00183 | .00005 | .05299 | .00652 | .00584 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-15-A      Acquired: 5/6/2015 18:31:45      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .41123        | .00889        | 17.472        | .00011        | .00680        | 16.197        |
| Stddev | .01677        | .00026        | .039          | .00001        | .00015        | .039          |
| %RSD   | 4.0780        | 2.9390        | .22481        | 10.407        | 2.2039        | .23844        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .40887 | .00867 | 17.433 | .00010 | .00696 | 16.236 |
| #2 | .42906 | .00918 | 17.511 | .00011 | .00678 | 16.159 |
| #3 | .39577 | .00883 | 17.472 | .00012 | .00666 | 16.198 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00036       | .00197        | .00085        | .00483        | 13.662        | .00109        |
| Stddev | .00028        | .00212        | .00192        | .00080        | .036          | .00041        |
| %RSD   | 77.084        | 107.26        | 225.74        | 16.466        | .26614        | 37.037        |

|    |         |         |         |        |        |        |
|----|---------|---------|---------|--------|--------|--------|
| #1 | -.00065 | .00215  | -.00131 | .00575 | 13.701 | .00153 |
| #2 | -.00034 | -.00023 | .00236  | .00435 | 13.629 | .00103 |
| #3 | -.00009 | .00399  | .00151  | .00439 | 13.655 | .00073 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-15-A      Acquired: 5/6/2015 18:31:45      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .08559        | .00016        | .00125        | .00676        | .01443        |
| Stddev | .00178        | .00009        | .00050        | .00224        | .00010        |
| %RSD   | 2.0830        | 53.209        | 40.161        | 33.196        | .66838        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .08354 | .00009 | .00167 | .00698 | .01449 |
| #2 | .08641 | .00013 | .00139 | .00442 | .01448 |
| #3 | .08681 | .00026 | .00069 | .00889 | .01432 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3074.5        | 5375.3        | 76535.        | 11147.        |
| Stddev    | 5.5           | 10.7          | 1381.         | 11.           |
| %RSD      | .17819        | .19860        | 1.8042        | .09573        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3069.6 | 5365.2 | 77492. | 11142. |
| #2 | 3073.5 | 5374.2 | 77162. | 11159. |
| #3 | 3080.4 | 5386.5 | 74952. | 11140. |

Sample Name: 180-43660-A-16-A      Acquired: 5/6/2015 18:36:52      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00024        | -.00241       | .02129        | .02853        | .07009        | .00001        |
| Stddev | .00024        | .00389        | .00148        | .00047        | .00018        | .00005        |
| %RSD   | 98.267        | 161.46        | 6.9285        | 1.6563        | .25477        | 399.17        |

|    |         |         |        |        |        |         |
|----|---------|---------|--------|--------|--------|---------|
| #1 | .00029  | -.00259 | .02275 | .02798 | .07014 | .00002  |
| #2 | -.00002 | -.00621 | .01980 | .02884 | .06989 | -.00004 |
| #3 | .00045  | .00157  | .02133 | .02876 | .07023 | .00006  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 28.586        | -.00016       | .00008        | .00607        | .00207        | .01509        |
| Stddev | .144          | .00007        | .00013        | .00031        | .00056        | .00273        |
| %RSD   | .50207        | 40.990        | 168.65        | 5.1754        | 27.096        | 18.088        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | 28.426 | -.00020 | .00019  | .00635 | .00181 | .01467 |
| #2 | 28.703 | -.00020 | -.00007 | .00573 | .00169 | .01259 |
| #3 | 28.630 | -.00008 | .00012  | .00612 | .00272 | .01800 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-16-A      Acquired: 5/6/2015 18:36:52      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .38812        | .00708        | 13.176        | .00015        | .00102        | 29.950        |
| Stddev | .03461        | .00139        | .071          | .00002        | .00041        | .060          |
| %RSD   | 8.9175        | 19.616        | .53804        | 11.275        | 40.559        | .20130        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .40538 | .00618 | 13.094 | .00017 | .00090 | 29.905 |
| #2 | .41070 | .00868 | 13.217 | .00015 | .00068 | 30.018 |
| #3 | .34827 | .00638 | 13.217 | .00013 | .00148 | 29.926 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00060       | .00120        | -.00207       | .00285        | 10.138        | .00023        |
| Stddev | .00004        | .00087        | .00117        | .00205        | .058          | .00037        |
| %RSD   | 7.0395        | 72.369        | 56.467        | 72.066        | .56841        | 161.71        |

|    |         |        |         |        |        |         |
|----|---------|--------|---------|--------|--------|---------|
| #1 | -.00062 | .00168 | -.00341 | .00479 | 10.090 | -.00019 |
| #2 | -.00055 | .00020 | -.00147 | .00070 | 10.202 | .00052  |
| #3 | -.00062 | .00172 | -.00132 | .00306 | 10.124 | .00035  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-16-A      Acquired: 5/6/2015 18:36:52      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .10588        | .00014        | .00151        | .00526        | .00361        |
| Stddev | .00330        | .00008        | .00072        | .00091        | .00015        |
| %RSD   | 3.1206        | 53.401        | 47.521        | 17.328        | 4.2758        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .10207 | .00019 | .00109 | .00456 | .00347 |
| #2 | .10774 | .00018 | .00110 | .00492 | .00359 |
| #3 | .10785 | .00005 | .00234 | .00629 | .00377 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3033.4        | 5297.1        | 77865.        | 11214.        |
| Stddev    | 41.1          | 68.3          | 290.          | 97.           |
| %RSD      | 1.3542        | 1.2894        | .37281        | .86530        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3064.4 | 5351.9 | 78161. | 11315. |
| #2 | 3048.9 | 5318.8 | 77581. | 11121. |
| #3 | 2986.8 | 5220.6 | 77853. | 11205. |

Sample Name: 180-43660-A-17-A      Acquired: 5/6/2015 18:41:59      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00028        | .01436        | .02340        | .02733        | .11435        | .00003        |
| Stddev | .00021        | .01384        | .00088        | .00011        | .00040        | .00001        |
| %RSD   | 74.056        | 96.409        | 3.7430        | .38535        | .35038        | 42.289        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .00051 | .03033 | .02379 | .02744 | .11480 | .00002 |
| #2 | .00012 | .00590 | .02240 | .02732 | .11423 | .00004 |
| #3 | .00021 | .00685 | .02402 | .02723 | .11403 | .00002 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 51.676        | -.00019       | -.00017       | .64015        | .01335        | .00790        |
| Stddev | .210          | .00001        | .00009        | .00137        | .00020        | .00327        |
| %RSD   | .40692        | 3.1401        | 53.826        | .21403        | 1.5203        | 41.398        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | 51.890 | -.00019 | -.00015 | .64164 | .01345 | .01123 |
| #2 | 51.469 | -.00020 | -.00008 | .63988 | .01312 | .00777 |
| #3 | 51.670 | -.00018 | -.00026 | .63894 | .01348 | .00469 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-17-A      Acquired: 5/6/2015 18:41:59      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.48436</b> | <b>.01086</b> | <b>29.265</b> | <b>.00040</b> | <b>.00083</b> | <b>17.306</b> |
| Stddev | .02320        | .00084        | .073          | .00003        | .00012        | .028          |
| %RSD   | 4.7892        | 7.7630        | .24985        | 8.2513        | 13.958        | .16225        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.46473</b> | <b>.01183</b> | <b>29.331</b> | <b>.00038</b> | <b>.00079</b> | <b>17.337</b> |
| #2 | <b>.47839</b> | <b>.01039</b> | <b>29.187</b> | <b>.00044</b> | <b>.00074</b> | <b>17.296</b> |
| #3 | <b>.50995</b> | <b>.01035</b> | <b>29.276</b> | <b>.00038</b> | <b>.00096</b> | <b>17.284</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |                |               |                |               |               |               |
|--------|----------------|---------------|----------------|---------------|---------------|---------------|
| Elem   | Ni             | Pb            | Sb             | Se            | Si            | Sn            |
| Line   | 231.604 {446}  | 220.353 {453} | 217.581 {455}  | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)       | (In2306)      | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>-.00023</b> | <b>.00159</b> | <b>-.00234</b> | <b>.00164</b> | <b>12.336</b> | <b>.00031</b> |
| Stddev | .00042         | .00028        | .00134         | .00212        | .033          | .00059        |
| %RSD   | 183.06         | 17.394        | 57.074         | 129.05        | .26770        | 188.04        |

|    |                |               |                |                |               |                |
|----|----------------|---------------|----------------|----------------|---------------|----------------|
| #1 | <b>-.00062</b> | <b>.00151</b> | <b>-.00147</b> | <b>.00190</b>  | <b>12.356</b> | <b>.00031</b>  |
| #2 | <b>.00022</b>  | <b>.00189</b> | <b>-.00168</b> | <b>.00362</b>  | <b>12.298</b> | <b>.00090</b>  |
| #3 | <b>-.00029</b> | <b>.00136</b> | <b>-.00388</b> | <b>-.00059</b> | <b>12.355</b> | <b>-.00028</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43660-A-17-A      Acquired: 5/6/2015 18:41:59      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .17944        | .00011        | -.00013       | .00500        | .03373        |
| Stddev | .00138        | .00012        | .00086        | .00034        | .00011        |
| %RSD   | .77168        | 100.56        | 682.17        | 6.8058        | .33618        |

|    |        |         |         |        |        |
|----|--------|---------|---------|--------|--------|
| #1 | .17827 | .00020  | .00067  | .00474 | .03360 |
| #2 | .18097 | .00016  | -.00001 | .00538 | .03381 |
| #3 | .17908 | -.00002 | -.00104 | .00487 | .03377 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2959.1        | 5200.8        | 76954.        | 11133.        |
| Stddev    | 1.6           | 6.1           | 56.           | 54.           |
| %RSD      | .05386        | .11780        | .07273        | .48882        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2960.1 | 5198.0 | 77000. | 11071. |
| #2 | 2960.1 | 5196.7 | 76892. | 11174. |
| #3 | 2957.3 | 5207.9 | 76970. | 11153. |

Sample Name: 180-43660-A-18-A      Acquired: 5/6/2015 18:47:05      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00026        | .00775        | .00706        | .09118        | .06310        | -.00003       |
| Stddev | .00031        | .01432        | .00043        | .00068        | .00056        | .00003        |
| %RSD   | 118.54        | 184.79        | 6.1412        | .74975        | .88681        | 109.27        |

|    |        |         |        |        |        |         |
|----|--------|---------|--------|--------|--------|---------|
| #1 | .00017 | .01118  | .00730 | .09099 | .06317 | -.00004 |
| #2 | .00061 | -.00797 | .00656 | .09194 | .06363 | .00001  |
| #3 | .00000 | .02004  | .00733 | .09061 | .06252 | -.00006 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 39.281        | -.00002       | -.00013       | .31006        | .00844        | .00316        |
| Stddev | .259          | .00005        | .00014        | .00135        | .00013        | .00195        |
| %RSD   | .65899        | 233.22        | 110.46        | .43574        | 1.5831        | 61.570        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | 39.219 | .00003  | -.00019 | .31065 | .00850 | .00358 |
| #2 | 39.565 | -.00006 | .00003  | .30852 | .00854 | .00104 |
| #3 | 39.058 | -.00003 | -.00023 | .31102 | .00829 | .00487 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-18-A      Acquired: 5/6/2015 18:47:05      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.4011        | .00785        | 17.687        | .00076        | .00060        | 10.293        |
| Stddev | .0098         | .00087        | .117          | .00001        | .00005        | .058          |
| %RSD   | .70184        | 11.104        | .66250        | 1.3354        | 7.4869        | .56530        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.3966 | .00684 | 17.656 | .00075 | .00059 | 10.288 |
| #2 | 1.4123 | .00838 | 17.817 | .00077 | .00065 | 10.354 |
| #3 | 1.3942 | .00832 | 17.589 | .00077 | .00057 | 10.237 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00038       | .00080        | -.00198       | -.00079       | 11.041        | .00037        |
| Stddev | .00020        | .00043        | .00084        | .00173        | .065          | .00049        |
| %RSD   | 52.798        | 53.847        | 42.380        | 219.13        | .58559        | 129.62        |

|    |         |        |         |         |        |         |
|----|---------|--------|---------|---------|--------|---------|
| #1 | -.00027 | .00068 | -.00101 | -.00146 | 11.040 | -.00013 |
| #2 | -.00061 | .00128 | -.00246 | -.00208 | 11.107 | .00083  |
| #3 | -.00026 | .00044 | -.00246 | .00118  | 10.977 | .00042  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-18-A      Acquired: 5/6/2015 18:47:05      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .14045        | .00019        | -.00081       | .00249        | .01399        |
| Stddev | .00265        | .00007        | .00108        | .00081        | .00004        |
| %RSD   | 1.8834        | 36.185        | 133.27        | 32.436        | .27151        |

|    |        |        |         |        |        |
|----|--------|--------|---------|--------|--------|
| #1 | .13926 | .00021 | -.00057 | .00254 | .01403 |
| #2 | .14348 | .00011 | -.00199 | .00166 | .01399 |
| #3 | .13861 | .00025 | .00013  | .00327 | .01395 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3051.6        | 5312.7        | 77350.        | 11155.        |
| Stddev    | 10.9          | 22.8          | 166.          | 51.           |
| %RSD      | .35616        | .42961        | .21501        | .45324        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3044.0 | 5300.1 | 77234. | 11194. |
| #2 | 3046.7 | 5299.0 | 77276. | 11098. |
| #3 | 3064.0 | 5339.1 | 77541. | 11172. |

Sample Name: 180-43660-A-19-A      Acquired: 5/6/2015 18:52:11      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00024        | .00172        | .96349        | .06779        | .04115        | .00001        |
| Stddev | .00027        | .00178        | .00650        | .00040        | .00039        | .00006        |
| %RSD   | 113.71        | 103.77        | .67439        | .58924        | .94303        | 396.06        |

|    |         |        |        |        |        |         |
|----|---------|--------|--------|--------|--------|---------|
| #1 | -.00005 | .00077 | .96231 | .06759 | .04078 | -.00001 |
| #2 | .00029  | .00377 | .95767 | .06753 | .04155 | -.00003 |
| #3 | .00049  | .00061 | .97050 | .06825 | .04114 | .00008  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (ln2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 29.048        | -.00313       | -.00000       | .00335        | .02009        | .00610        |
| Stddev | .014          | .00014        | .00018        | .00024        | .00036        | .00102        |
| %RSD   | .04884        | 4.6316        | 3717.3        | 7.2898        | 1.7797        | 16.655        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | 29.047 | -.00296 | -.00010 | .00308 | .01986 | .00661 |
| #2 | 29.034 | -.00318 | -.00012 | .00356 | .01990 | .00676 |
| #3 | 29.063 | -.00324 | .00021  | .00340 | .02050 | .00493 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-19-A      Acquired: 5/6/2015 18:52:11      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>3.0338</b> | <b>.00222</b> | <b>4.1239</b> | <b>.00020</b> | <b>.00334</b> | <b>10.898</b> |
| Stddev | .0211         | .00141        | .0427         | .00001        | .00005        | .013          |
| %RSD   | .69670        | 63.430        | 1.0350        | 7.2477        | 1.5012        | .12032        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>3.0491</b> | <b>.00275</b> | <b>4.0981</b> | <b>.00021</b> | <b>.00340</b> | <b>10.886</b> |
| #2 | <b>3.0427</b> | <b>.00329</b> | <b>4.1004</b> | <b>.00021</b> | <b>.00332</b> | <b>10.912</b> |
| #3 | <b>3.0097</b> | <b>.00063</b> | <b>4.1731</b> | <b>.00019</b> | <b>.00331</b> | <b>10.895</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

|        |                |               |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni             | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446}  | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)       | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00009</b> | <b>.00098</b> | <b>.00617</b> | <b>.00255</b> | <b>2.6621</b> | <b>.00041</b> |
| Stddev | .00027         | .00113        | .00133        | .00045        | .0044         | .00052        |
| %RSD   | 291.69         | 114.58        | 21.564        | 17.453        | .16650        | 128.43        |

|    |                |                |               |               |               |               |
|----|----------------|----------------|---------------|---------------|---------------|---------------|
| #1 | <b>.00010</b>  | <b>-.00005</b> | <b>.00526</b> | <b>.00302</b> | <b>2.6643</b> | <b>.00012</b> |
| #2 | <b>-.00040</b> | <b>.00218</b>  | <b>.00770</b> | <b>.00249</b> | <b>2.6570</b> | <b>.00101</b> |
| #3 | <b>.00003</b>  | <b>.00082</b>  | <b>.00555</b> | <b>.00214</b> | <b>2.6650</b> | <b>.00009</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

Sample Name: 180-43660-A-19-A      Acquired: 5/6/2015 18:52:11      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .13613        | .00018        | .00115        | .00454        | .08572        |
| Stddev | .00070        | .00007        | .00024        | .00368        | .00036        |
| %RSD   | .51157        | 40.470        | 21.314        | 81.040        | .42185        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .13630 | .00013 | .00093 | .00519 | .08533 |
| #2 | .13672 | .00016 | .00109 | .00057 | .08577 |
| #3 | .13536 | .00027 | .00141 | .00784 | .08605 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3138.9        | 5373.9        | 78160.        | 11188.        |
| Stddev    | 5.8           | 13.3          | 189.          | 29.           |
| %RSD      | .18587        | .24786        | .24236        | .26087        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3138.8 | 5370.2 | 78326. | 11186. |
| #2 | 3144.8 | 5388.6 | 78200. | 11218. |
| #3 | 3133.1 | 5362.8 | 77954. | 11160. |

Sample Name: 180-43660-A-20-A      Acquired: 5/6/2015 18:57:20      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |                |               |               |               |                |
|--------|----------------|----------------|---------------|---------------|---------------|----------------|
| Elem   | Ag             | Al             | As            | B_            | Ba            | Be             |
| Line   | 328.068 {103}  | 308.215 {109}  | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108}  |
| IS Ref | (Y_3600)       | (Y_3710)       | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)       |
| Units  | ppm            | ppm            | ppm           | ppm           | ppm           | ppm            |
| Avg    | <b>-.00007</b> | <b>-.00975</b> | <b>.00791</b> | <b>.00900</b> | <b>.06541</b> | <b>-.00005</b> |
| Stddev | .00010         | .01581         | .00209        | .00024        | .00034        | .00002         |
| %RSD   | 141.87         | 162.21         | 26.457        | 2.6701        | .52188        | 37.088         |

|    |                |                |               |               |               |                |
|----|----------------|----------------|---------------|---------------|---------------|----------------|
| #1 | <b>-.00014</b> | <b>-.02186</b> | <b>.00629</b> | <b>.00925</b> | <b>.06575</b> | <b>-.00005</b> |
| #2 | <b>-.00010</b> | <b>-.01551</b> | <b>.00716</b> | <b>.00898</b> | <b>.06541</b> | <b>-.00003</b> |
| #3 | <b>.00004</b>  | <b>.00814</b>  | <b>.01027</b> | <b>.00877</b> | <b>.06506</b> | <b>-.00007</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |                |                |               |               |               |
|--------|---------------|----------------|----------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd             | Co             | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447}  | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (In2306)       | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm            | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>39.318</b> | <b>-.00014</b> | <b>-.00021</b> | <b>3.1267</b> | <b>.00055</b> | <b>.00697</b> |
| Stddev | .055          | .00005         | .00007         | .0363         | .00020        | .00227        |
| %RSD   | .14045        | 38.455         | 34.553         | 1.1606        | 36.627        | 32.509        |

|    |               |                |                |               |               |               |
|----|---------------|----------------|----------------|---------------|---------------|---------------|
| #1 | <b>39.373</b> | <b>-.00016</b> | <b>-.00015</b> | <b>3.1484</b> | <b>.00066</b> | <b>.00497</b> |
| #2 | <b>39.319</b> | <b>-.00008</b> | <b>-.00030</b> | <b>3.1469</b> | <b>.00032</b> | <b>.00943</b> |
| #3 | <b>39.263</b> | <b>-.00018</b> | <b>-.00020</b> | <b>3.0848</b> | <b>.00067</b> | <b>.00652</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43660-A-20-A      Acquired: 5/6/2015 18:57:20      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .62222        | .00059        | 21.998        | .03115        | .00238        | 39.275        |
| Stddev | .02288        | .00019        | .089          | .00007        | .00015        | .133          |
| %RSD   | 3.6775        | 31.927        | .40459        | .23107        | 6.4302        | .33961        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .62049 | .00037 | 22.029 | .03113 | .00220 | 39.427 |
| #2 | .64592 | .00068 | 21.898 | .03109 | .00250 | 39.219 |
| #3 | .60026 | .00072 | 22.068 | .03123 | .00243 | 39.178 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00046       | .00023        | -.00329       | .00213        | 10.368        | .00043        |
| Stddev | .00023        | .00058        | .00260        | .00169        | .028          | .00059        |
| %RSD   | 49.792        | 249.62        | 79.142        | 79.250        | .26986        | 137.41        |

|    |         |         |         |        |        |         |
|----|---------|---------|---------|--------|--------|---------|
| #1 | -.00020 | -.00042 | -.00615 | .00309 | 10.378 | .00101  |
| #2 | -.00061 | .00069  | -.00106 | .00018 | 10.389 | -.00016 |
| #3 | -.00058 | .00043  | -.00266 | .00311 | 10.336 | .00043  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43660-A-20-A      Acquired: 5/6/2015 18:57:20      Type: Unk  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .07153        | .00012        | .00035        | .00519        | -.00016       |
| Stddev | .00172        | .00003        | .00098        | .00129        | .00021        |
| %RSD   | 2.4056        | 24.005        | 276.94        | 24.884        | 131.28        |

|    |        |        |         |        |         |
|----|--------|--------|---------|--------|---------|
| #1 | .07352 | .00015 | -.00074 | .00394 | -.00020 |
| #2 | .07054 | .00009 | .00067  | .00511 | .00007  |
| #3 | .07053 | .00012 | .00113  | .00652 | -.00034 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2919.3        | 5141.5        | 76677.        | 10985.        |
| Stddev    | 24.5          | 42.4          | 860.          | 22.           |
| %RSD      | .83961        | .82422        | 1.1221        | .20347        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2891.4 | 5093.6 | 76105. | 10996. |
| #2 | 2937.2 | 5174.0 | 76258. | 10999. |
| #3 | 2929.4 | 5157.0 | 77666. | 10959. |

Sample Name: CCV 1551842      Acquired: 5/6/2015 19:02:27      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.0812        | 26.143        | .54429        | 2.1558        | 2.0788        | 2.0904        |
| Stddev | .0016         | .045          | .00171        | .0111         | .0057         | .0051         |
| %RSD   | .14399        | .17363        | .31405        | .51509        | .27425        | .24249        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.0820 | 26.104 | .54625 | 2.1684 | 2.0847 | 2.0851 |
| #2 | 1.0823 | 26.133 | .54343 | 2.1515 | 2.0733 | 2.0952 |
| #3 | 1.0794 | 26.193 | .54317 | 2.1475 | 2.0785 | 2.0907 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 52.595        | .53154        | 2.1580        | 2.0682        | 1.9568        | 27.154        |
| Stddev | .123          | .00251        | .0091         | .0042         | .0159         | .107          |
| %RSD   | .23291        | .47232        | .41925        | .20448        | .81372        | .39351        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 52.525 | .53441 | 2.1674 | 2.0681 | 1.9456 | 27.066 |
| #2 | 52.737 | .53046 | 2.1572 | 2.0724 | 1.9750 | 27.273 |
| #3 | 52.524 | .52975 | 2.1493 | 2.0640 | 1.9498 | 27.124 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/6/2015 19:02:27      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>133.66</b> | <b>2.0852</b> | <b>53.024</b> | <b>1.9590</b> | <b>2.0502</b> | <b>133.62</b> |
| Stddev | .16           | .0037         | .240          | .0126         | .0094         | .14           |
| %RSD   | .12149        | .17795        | .45280        | .64293        | .45645        | .10192        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 133.58 | 2.0893 | 52.807 | 1.9513 | 2.0609 | 133.75 |
| #2 | 133.85 | 2.0822 | 53.282 | 1.9736 | 2.0433 | 133.64 |
| #3 | 133.55 | 2.0841 | 52.983 | 1.9523 | 2.0465 | 133.48 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>2.1341</b> | <b>.52353</b> | <b>.53442</b> | <b>.53184</b> | <b>2.1048</b> | <b>1.9805</b> |
| Stddev | .0135         | .00063        | .00171        | .00264        | .0150         | .0136         |
| %RSD   | .63196        | .12026        | .31905        | .49576        | .71226        | .68739        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 2.1493 | .52292 | .53609 | .53422 | 2.0998 | 1.9962 |
| #2 | 2.1295 | .52417 | .53447 | .53230 | 2.0930 | 1.9722 |
| #3 | 2.1235 | .52350 | .53269 | .52900 | 2.1217 | 1.9730 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/6/2015 19:02:27      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 2.0250        | 1.9638        | .99921        | F 2.2161      | 2.0656        |
| Stddev | .0055         | .0137         | .00878        | .0115         | .0094         |
| %RSD   | .27027        | .69780        | .87858        | .52076        | .45514        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | 2.0227 | 1.9541 | 1.0058 | 2.2258 | 2.0744 |
| #2 | 2.0312 | 1.9795 | 1.0026 | 2.2033 | 2.0666 |
| #3 | 2.0211 | 1.9578 | .98925 | 2.2191 | 2.0557 |

|         |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| Value   |          |          |          | 2.0000   |          |
| Range   |          |          |          | 10.000%  |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2649.3        | 5059.2        | 72842.        | 10742.        |
| Stddev    | 14.2          | 28.6          | 82.           | 67.           |
| %RSD      | .53556        | .56578        | .11321        | .62416        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2633.2 | 5026.1 | 72770. | 10789. |
| #2 | 2654.8 | 5074.5 | 72824. | 10665. |
| #3 | 2659.9 | 5076.8 | 72932. | 10772. |

Sample Name: CCB13      Acquired: 5/6/2015 19:07:14      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00078        | .02081        | .00229        | .00274        | .00096        | .00071        |
| Stddev | .00008        | .02044        | .00103        | .00027        | .00020        | .00005        |
| %RSD   | 10.252        | 98.223        | 45.202        | 9.9749        | 20.719        | 7.2240        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | .00071 | .02253  | .00221 | .00305 | .00101 | .00070 |
| #2 | .00076 | -.00044 | .00336 | .00253 | .00074 | .00066 |
| #3 | .00087 | .04033  | .00129 | .00264 | .00113 | .00076 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .03089        | .00015        | .00057        | .00024        | .00075        | .01694        |
| Stddev | .00179        | .00014        | .00005        | .00026        | .00028        | .00099        |
| %RSD   | 5.8026        | 94.191        | 8.9148        | 106.56        | 36.576        | 5.8389        |

|    |        |        |        |         |        |        |
|----|--------|--------|--------|---------|--------|--------|
| #1 | .03007 | .00027 | .00052 | .00048  | .00099 | .01804 |
| #2 | .03295 | .00000 | .00058 | -.00004 | .00045 | .01612 |
| #3 | .02966 | .00016 | .00062 | .00029  | .00082 | .01668 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB13      Acquired: 5/6/2015 19:07:14      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .18975        | .00133        | .01840        | .00075        | .00305        | .07300        |
| Stddev | .02542        | .00090        | .01166        | .00002        | .00050        | .00455        |
| %RSD   | 13.395        | 67.633        | 63.373        | 3.1762        | 16.330        | 6.2304        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .21341 | .00090 | .03151 | .00073 | .00340 | .07789 |
| #2 | .19297 | .00236 | .00920 | .00073 | .00327 | .07221 |
| #3 | .16288 | .00072 | .01449 | .00078 | .00248 | .06890 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00077        | -.00043       | .00055        | .00066        | .00770        | .00111        |
| Stddev | .00008        | .00164        | .00026        | .00144        | .00448        | .00014        |
| %RSD   | 10.968        | 380.65        | 47.290        | 217.77        | 58.206        | 12.189        |

|    |        |         |        |         |        |        |
|----|--------|---------|--------|---------|--------|--------|
| #1 | .00070 | .00050  | .00076 | -.00020 | .00260 | .00127 |
| #2 | .00087 | -.00232 | .00063 | -.00014 | .00947 | .00103 |
| #3 | .00076 | .00053  | .00026 | .00232  | .01102 | .00103 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB13      Acquired: 5/6/2015 19:07:14      Type: QC  
Method: PITT-6500ICP-2(v636)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50506A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00509</b> | <b>.00089</b> | <b>.00190</b> | <b>.00420</b> | <b>.00083</b> |
| Stddev | .00552         | .00021        | .00128        | .00357        | .00005        |
| %RSD   | 108.33         | 23.092        | 67.649        | 84.906        | 5.6644        |

|    |                |               |               |               |               |
|----|----------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00445</b> | <b>.00109</b> | <b>.00288</b> | <b>.00270</b> | <b>.00080</b> |
| #2 | <b>-.01091</b> | <b>.00090</b> | <b>.00044</b> | <b>.00828</b> | <b>.00089</b> |
| #3 | <b>.00008</b>  | <b>.00068</b> | <b>.00237</b> | <b>.00163</b> | <b>.00082</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3298.2</b> | <b>5468.5</b> | <b>79534.</b> | <b>11029.</b> |
| Stddev    | 5.4           | 4.9           | 160.          | 152.          |
| %RSD      | .16291        | .08986        | .20177        | 1.3766        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3304.3 | 5472.7 | 79690. | 11107. |
| #2 | 3295.9 | 5469.7 | 79369. | 11126. |
| #3 | 3294.3 | 5463.1 | 79544. | 10854. |



Sample Name: STD1      Acquired: 5/7/2015 7:23:21      Type: Cal  
Method: PITT-6500ICP-2(v638)      Mode: IR      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1:      Custom ID2:      Custom ID3:  
Comment:

|        |                |               |                |               |               |                |
|--------|----------------|---------------|----------------|---------------|---------------|----------------|
| Elem   | Ag             | Al            | As             | B_            | Ba            | Be             |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478}  | 182.641 {485} | 455.403 { 74} | 313.042 {108}  |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_3710)       |
| Units  | Cts/S          | Cts/S         | Cts/S          | Cts/S         | Cts/S         | Cts/S          |
| Avg    | <b>-.00024</b> | <b>.00054</b> | <b>-.00012</b> | <b>.00038</b> | <b>.00219</b> | <b>-.00143</b> |
| Stddev | .00008         | .00040        | .00006         | .00015        | .00045        | .00011         |
| %RSD   | 32.192         | 75.522        | 49.652         | 40.575        | 20.724        | 7.6710         |

|    |                |               |                |               |               |                |
|----|----------------|---------------|----------------|---------------|---------------|----------------|
| #1 | <b>-.00031</b> | <b>.00054</b> | <b>-.00018</b> | <b>.00045</b> | <b>.00256</b> | <b>-.00155</b> |
| #2 | <b>-.00024</b> | <b>.00013</b> | <b>-.00013</b> | <b>.00020</b> | <b>.00168</b> | <b>-.00140</b> |
| #3 | <b>-.00016</b> | <b>.00094</b> | <b>-.00006</b> | <b>.00049</b> | <b>.00232</b> | <b>-.00133</b> |

|        |               |               |               |               |                |               |
|--------|---------------|---------------|---------------|---------------|----------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu             | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103}  | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)       | (Y_3710)      |
| Units  | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S          | Cts/S         |
| Avg    | <b>.01125</b> | <b>.00061</b> | <b>.00007</b> | <b>.00007</b> | <b>-.01233</b> | <b>.00026</b> |
| Stddev | .00003        | .00021        | .00032        | .00007        | .00042         | .00007        |
| %RSD   | .23168        | 33.810        | 462.84        | 97.923        | 3.3673         | 26.801        |

|    |               |               |                |               |                |               |
|----|---------------|---------------|----------------|---------------|----------------|---------------|
| #1 | <b>.01125</b> | <b>.00057</b> | <b>-.00022</b> | <b>.00015</b> | <b>-.01206</b> | <b>.00032</b> |
| #2 | <b>.01128</b> | <b>.00083</b> | <b>.00001</b>  | <b>.00002</b> | <b>-.01281</b> | <b>.00028</b> |
| #3 | <b>.01123</b> | <b>.00043</b> | <b>.00042</b>  | <b>.00004</b> | <b>-.01213</b> | <b>.00019</b> |

|        |               |               |                |               |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg             | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121}  | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)       | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | Cts/S         | Cts/S         | Cts/S          | Cts/S         | Cts/S         | Cts/S         |
| Avg    | <b>.00093</b> | <b>.00812</b> | <b>-.00014</b> | <b>.00098</b> | <b>.00011</b> | <b>.00244</b> |
| Stddev | .00153        | .00146        | .00017         | .00024        | .00010        | .00077        |
| %RSD   | 164.53        | 17.996        | 120.55         | 24.226        | 93.686        | 31.578        |

|    |               |               |                |               |               |               |
|----|---------------|---------------|----------------|---------------|---------------|---------------|
| #1 | <b>.00007</b> | <b>.00695</b> | <b>-.00018</b> | <b>.00081</b> | <b>.00008</b> | <b>.00317</b> |
| #2 | <b>.00270</b> | <b>.00766</b> | <b>.00004</b>  | <b>.00089</b> | <b>.00023</b> | <b>.00164</b> |
| #3 | <b>.00002</b> | <b>.00976</b> | <b>-.00030</b> | <b>.00125</b> | <b>.00002</b> | <b>.00251</b> |

Sample Name: STD1      Acquired: 5/7/2015 7:23:21      Type: Cal  
Method: PITT-6500ICP-2(v638)      Mode: IR      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1:      Custom ID2:      Custom ID3:  
Comment:

| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg    | .00235        | -.00000       | -.00008       | -.00015       | .00066        | -.00025       |
| Stddev | .00036        | .00017        | .00019        | .00013        | .00032        | .00004        |
| %RSD   | 15.254        | 97091.        | 223.03        | 86.808        | 49.068        | 15.225        |

|    |        |         |         |         |        |         |
|----|--------|---------|---------|---------|--------|---------|
| #1 | .00201 | -.00017 | -.00003 | -.00017 | .00089 | -.00021 |
| #2 | .00273 | .00016  | -.00029 | -.00001 | .00029 | -.00026 |
| #3 | .00232 | .00002  | .00007  | -.00027 | .00081 | -.00028 |

| Elem   | Sr            | Ti            | Tl            | V_            | Zn            |
|--------|---------------|---------------|---------------|---------------|---------------|
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg    | -.00052       | .00160        | -.00044       | -.00004       | .00218        |
| Stddev | .00034        | .00043        | .00022        | .00003        | .00006        |
| %RSD   | 64.764        | 26.634        | 51.244        | 62.469        | 2.6438        |

|    |         |        |         |         |        |
|----|---------|--------|---------|---------|--------|
| #1 | -.00014 | .00203 | -.00066 | -.00005 | .00216 |
| #2 | -.00066 | .00118 | -.00021 | -.00001 | .00213 |
| #3 | -.00076 | .00159 | -.00044 | -.00006 | .00224 |

| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
|-----------|---------------|---------------|---------------|---------------|
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3257.3        | 5394.7        | 78464.        | 10675.        |
| Stddev    | 4.7           | 8.8           | 213.          | 21.           |
| %RSD      | .14318        | .16381        | .27153        | .19863        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3259.1 | 5399.7 | 78697. | 10650. |
| #2 | 3260.8 | 5399.9 | 78415. | 10690. |
| #3 | 3252.0 | 5384.5 | 78279. | 10683. |

Sample Name: STD2A      Acquired: 5/7/2015 7:28:29      Type: Cal  
Method: PITT-6500ICP-2(v638)      Mode: IR      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1:      Custom ID2:      Custom ID3:  
Comment:

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | As            | B_            | Ba            | Be            | Cd            |
| Line   | 328.068 {103} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} | 228.802 {447} |
| IS Ref | (Y_3600)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      | (Y_2243)      |
| Units  | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg    | <b>.56409</b> | <b>.07692</b> | <b>1.2615</b> | <b>15.844</b> | <b>22.238</b> | <b>2.4145</b> |
| Stddev | .00282        | .00015        | .0024         | .019          | .171          | .0064         |
| %RSD   | .50054        | .19965        | .18655        | .12121        | .76731        | .26608        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .56439 | .07706 | 1.2636 | 15.848 | 22.096 | 2.4217 |
| #2 | .56674 | .07676 | 1.2589 | 15.862 | 22.191 | 2.4093 |
| #3 | .56112 | .07696 | 1.2620 | 15.824 | 22.428 | 2.4126 |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Co            | Cr            | Cu            | Li            | Mn            | Mo            |
| Line   | 228.616 {447} | 267.716 {126} | 327.396 {103} | 670.784 { 50} | 257.610 {131} | 202.030 {467} |
| IS Ref | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      |
| Units  | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg    | <b>7.5636</b> | <b>.74260</b> | <b>5.8746</b> | <b>4.9339</b> | <b>33.639</b> | <b>2.9433</b> |
| Stddev | .0068         | .00261        | .0335         | .0093         | .245          | .0068         |
| %RSD   | .09039        | .35205        | .57031        | .18760        | .72835        | .23247        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 7.5679 | .74299 | 5.8382 | 4.9338 | 33.369 | 2.9509 |
| #2 | 7.5672 | .74501 | 5.9040 | 4.9431 | 33.847 | 2.9376 |
| #3 | 7.5557 | .73982 | 5.8817 | 4.9246 | 33.701 | 2.9415 |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg    | <b>3.5374</b> | <b>.45313</b> | <b>.14254</b> | <b>.06899</b> | <b>.16202</b> | <b>1.0162</b> |
| Stddev | .0031         | .00152        | .00012        | .00021        | .00129        | .0014         |
| %RSD   | .08634        | .33515        | .08466        | .30621        | .79444        | .13738        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 3.5407 | .45486 | .14247 | .06922 | .16058 | 1.0172 |
| #2 | 3.5368 | .45202 | .14268 | .06880 | .16307 | 1.0146 |
| #3 | 3.5346 | .45251 | .14247 | .06896 | .16241 | 1.0167 |

Sample Name: STD2A      Acquired: 5/7/2015 7:28:29      Type: Cal  
Method: PITT-6500ICP-2(v638)      Mode: IR      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1:      Custom ID2:      Custom ID3:  
Comment:

| Elem      | Sr            | Ti            | Ti            | V_            | Zn            |
|-----------|---------------|---------------|---------------|---------------|---------------|
| Line      | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref    | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>.55052</b> | <b>21.301</b> | <b>.41908</b> | <b>.05885</b> | <b>3.8105</b> |
| Stddev    | .00250        | .163          | .00107        | .00026        | .0088         |
| %RSD      | .45389        | .76472        | .25650        | .44475        | .23010        |
| #1        | .54764        | 21.113        | .42028        | .05915        | 3.8177        |
| #2        | .55206        | 21.409        | .41875        | .05874        | 3.8007        |
| #3        | .55187        | 21.380        | .41821        | .05866        | 3.8131        |
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |               |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |               |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |               |
| Avg       | <b>2993.4</b> | <b>5260.6</b> | <b>76992.</b> | <b>10773.</b> |               |
| Stddev    | 10.1          | 23.3          | 247.          | 92.           |               |
| %RSD      | .33897        | .44210        | .32136        | .85468        |               |
| #1        | 2985.8        | 5236.7        | 77138.        | 10879.        |               |
| #2        | 2989.3        | 5261.8        | 76706.        | 10720.        |               |
| #3        | 3004.9        | 5283.2        | 77131.        | 10720.        |               |

Sample Name: STD3      Acquired: 5/7/2015 7:33:30      Type: Cal  
Method: PITT-6500ICP-2(v638)      Mode: IR      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1:      Custom ID2:      Custom ID3:  
Comment:

| Elem      | Al            | Ca            | Fe            | K_            | Mg            | Na            |
|-----------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line      | 308.215 {109} | 317.933 {106} | 259.940 {130} | 766.490 { 44} | 279.079 {121} | 589.592 { 57} |
| IS Ref    | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>1.0143</b> | <b>13.221</b> | <b>4.7093</b> | <b>10.626</b> | <b>1.2100</b> | <b>49.318</b> |
| Stddev    | .0153         | .201          | .0894         | .185          | .0223         | .623          |
| %RSD      | 1.5081        | 1.5210        | 1.8993        | 1.7401        | 1.8460        | 1.2632        |
| #1        | 1.0072        | 13.121        | 4.6621        | 10.571        | 1.2033        | 49.114        |
| #2        | 1.0318        | 13.452        | 4.8125        | 10.832        | 1.2349        | 50.017        |
| #3        | 1.0038        | 13.089        | 4.6533        | 10.475        | 1.1918        | 48.822        |
| Int. Std. | Y_3710        |               |               |               |               |               |
| Line      | 371.030 { 91} |               |               |               |               |               |
| Units     | Cts/S         |               |               |               |               |               |
| Avg       | <b>10288.</b> |               |               |               |               |               |
| Stddev    | 152.          |               |               |               |               |               |
| %RSD      | 1.4759        |               |               |               |               |               |
| #1        | 10321.        |               |               |               |               |               |
| #2        | 10122.        |               |               |               |               |               |
| #3        | 10420.        |               |               |               |               |               |

Sample Name: ICV 1556739      Acquired: 5/7/2015 7:38:46      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.50716</b> | <b>12.630</b> | <b>.24227</b> | <b>1.0240</b> | <b>.97696</b> | <b>.97814</b> |
| Stddev | .00102        | .029          | .00205        | .0024         | .00068        | .00234        |
| %RSD   | .20125        | .23251        | .84448        | .22992        | .06928        | .23906        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .50825 | 12.640 | .24076 | 1.0225 | .97638 | .97803 |
| #2 | .50622 | 12.597 | .24145 | 1.0228 | .97771 | .97587 |
| #3 | .50702 | 12.653 | .24460 | 1.0267 | .97679 | .98054 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>24.272</b> | <b>.24535</b> | <b>.98520</b> | <b>.98214</b> | <b>.96625</b> | <b>12.350</b> |
| Stddev | .020          | .00059        | .00040        | .00311        | .00947        | .029          |
| %RSD   | .08334        | .23955        | .04031        | .31658        | .97984        | .23668        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 24.276 | .24486 | .98536 | .98314 | .96427 | 12.372 |
| #2 | 24.250 | .24519 | .98549 | .97866 | .95793 | 12.317 |
| #3 | 24.290 | .24600 | .98475 | .98463 | .97655 | 12.362 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: ICV 1556739      Acquired: 5/7/2015 7:38:46      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>47.908</b> | <b>.98706</b> | <b>24.358</b> | <b>.96009</b> | <b>.97389</b> | <b>50.035</b> |
| Stddev | .122          | .00120        | .076          | .00866        | .00226        | .085          |
| %RSD   | .25465        | .12112        | .31227        | .90191        | .23236        | .17057        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 47.873 | .98576 | 24.299 | .96223 | .97174 | 49.975 |
| #2 | 47.808 | .98811 | 24.331 | .95056 | .97370 | 49.996 |
| #3 | 48.044 | .98731 | 24.444 | .96747 | .97625 | 50.132 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>1.0040</b> | <b>.24143</b> | <b>.23881</b> | <b>.24096</b> | <b>1.0233</b> | <b>.96986</b> |
| Stddev | .0021         | .00183        | .00159        | .00150        | .0040         | .00070        |
| %RSD   | .21133        | .75802        | .66770        | .62135        | .39624        | .07169        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.0020 | .24354 | .23972 | .24135 | 1.0278 | .97057 |
| #2 | 1.0039 | .24030 | .23697 | .23931 | 1.0222 | .96918 |
| #3 | 1.0062 | .24045 | .23974 | .24223 | 1.0200 | .96985 |

|         |          |          |          |          |      |          |
|---------|----------|----------|----------|----------|------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | None | Chk Pass |
| Value   |          |          |          |          |      |          |
| Range   |          |          |          |          |      |          |

Sample Name: ICV 1556739      Acquired: 5/7/2015 7:38:46      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                 |               |               |               |               |
|--------|-----------------|---------------|---------------|---------------|---------------|
| Elem   | Sr              | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97}   | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)        | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm             | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>W .93543</b> | <b>.95736</b> | <b>.48540</b> | <b>1.0166</b> | <b>.98021</b> |
| Stddev | .00481          | .00813        | .00060        | .0086         | .00212        |
| %RSD   | .51446          | .84960        | .12273        | .84408        | .21632        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .93908 | .95730 | .48517 | 1.0174 | .97833 |
| #2 | .92998 | .94926 | .48495 | 1.0248 | .98251 |
| #3 | .93724 | .96553 | .48608 | 1.0077 | .97980 |

|         |                 |                 |                 |                 |                 |
|---------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ? | <b>Chk Warn</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| Value   | 1.0000          |                 |                 |                 |                 |
| Range   | -5.5000%        |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2852.6</b> | <b>5225.6</b> | <b>74701.</b> | <b>10610.</b> |
| Stddev    | 4.4           | 9.4           | 72.           | 71.           |
| %RSD      | .15262        | .18025        | .09581        | .67222        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2855.6 | 5236.2 | 74618. | 10602. |
| #2 | 2847.6 | 5218.2 | 74741. | 10685. |
| #3 | 2854.6 | 5222.5 | 74743. | 10544. |



Sample Name: ICBIS      Acquired: 5/7/2015 7:43:36      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00007       | .00657        | -.00095       | .00162        | .00009        | .00008        |
| Stddev | .00023        | .00866        | .00023        | .00029        | .00009        | .00004        |
| %RSD   | 339.78        | 131.72        | 24.690        | 18.082        | 95.058        | 44.725        |

|    |         |         |         |        |         |        |
|----|---------|---------|---------|--------|---------|--------|
| #1 | -.00020 | .01449  | -.00075 | .00194 | -.00000 | .00007 |
| #2 | .00020  | -.00267 | -.00120 | .00136 | .00016  | .00005 |
| #3 | -.00021 | .00790  | -.00088 | .00158 | .00011  | .00012 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00009       | .00001        | .00008        | .00002        | .00105        | .00133        |
| Stddev | .00100        | .00007        | .00012        | .00046        | .00047        | .00212        |
| %RSD   | 1071.7        | 752.19        | 145.08        | 2017.4        | 44.362        | 159.55        |

|    |         |         |         |         |        |         |
|----|---------|---------|---------|---------|--------|---------|
| #1 | -.00093 | .00002  | .00017  | .00001  | .00156 | .00140  |
| #2 | .00101  | -.00007 | -.00005 | .00048  | .00095 | -.00083 |
| #3 | -.00036 | .00007  | .00013  | -.00043 | .00065 | .00340  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: ICBIS      Acquired: 5/7/2015 7:43:36      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |                |               |               |
|--------|---------------|---------------|---------------|----------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn             | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131}  | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)       | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>.07338</b> | <b>.00019</b> | <b>.00080</b> | <b>-.00004</b> | <b>.00215</b> | <b>.02116</b> |
| Stddev | .03044        | .00026        | .01833        | .00001         | .00028        | .00136        |
| %RSD   | 41.484        | 141.89        | 2286.5        | 29.728         | 13.058        | 6.4393        |

|    |               |                |                |                |               |               |
|----|---------------|----------------|----------------|----------------|---------------|---------------|
| #1 | <b>.09241</b> | <b>.00047</b>  | <b>-.01772</b> | <b>-.00003</b> | <b>.00247</b> | <b>.02122</b> |
| #2 | <b>.08945</b> | <b>-.00005</b> | <b>.00120</b>  | <b>-.00005</b> | <b>.00204</b> | <b>.01978</b> |
| #3 | <b>.03827</b> | <b>.00014</b>  | <b>.01893</b>  | <b>-.00003</b> | <b>.00194</b> | <b>.02250</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |                |               |               |               |                |               |
|--------|----------------|---------------|---------------|---------------|----------------|---------------|
| Elem   | Ni             | Pb            | Sb            | Se            | Si             | Sn            |
| Line   | 231.604 {446}  | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134}  | 189.989 {477} |
| IS Ref | (In2306)       | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)       | (Y_2243)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm            | ppm           |
| Avg    | <b>-.00006</b> | <b>.00064</b> | <b>.00035</b> | <b>.00056</b> | <b>-.00556</b> | <b>.00069</b> |
| Stddev | .00007         | .00062        | .00013        | .00105        | .00540         | .00025        |
| %RSD   | 112.81         | 97.701        | 37.148        | 185.24        | 97.238         | 36.887        |

|    |                |               |               |                |                |               |
|----|----------------|---------------|---------------|----------------|----------------|---------------|
| #1 | <b>-.00011</b> | <b>.00029</b> | <b>.00024</b> | <b>-.00056</b> | <b>-.00941</b> | <b>.00040</b> |
| #2 | <b>-.00008</b> | <b>.00027</b> | <b>.00049</b> | <b>.00151</b>  | <b>.00062</b>  | <b>.00085</b> |
| #3 | <b>.00002</b>  | <b>.00136</b> | <b>.00032</b> | <b>.00074</b>  | <b>-.00788</b> | <b>.00082</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: ICBIS      Acquired: 5/7/2015 7:43:36      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |                |               |               |
|--------|----------------|---------------|----------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti             | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>-.00039</b> | <b>.00015</b> | <b>-.00008</b> | <b>.00106</b> | <b>.00006</b> |
| Stddev | .00215         | .00009        | .00035         | .00306        | .00003        |
| %RSD   | 555.01         | 59.979        | 424.41         | 289.56        | 53.223        |

|    |         |        |         |         |        |
|----|---------|--------|---------|---------|--------|
| #1 | .00203  | .00011 | -.00027 | .00167  | .00003 |
| #2 | -.00114 | .00009 | .00032  | -.00226 | .00010 |
| #3 | -.00206 | .00025 | -.00029 | .00376  | .00006 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3209.5</b> | <b>5328.5</b> | <b>79336.</b> | <b>10727.</b> |
| Stddev    | 23.6          | 34.5          | 149.          | 49.           |
| %RSD      | .73403        | .64746        | .18832        | .45468        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3225.0 | 5347.4 | 79441. | 10774. |
| #2 | 3182.4 | 5288.7 | 79403. | 10676. |
| #3 | 3221.0 | 5349.4 | 79165. | 10730. |

Sample Name: CRI 0550960      Acquired: 5/7/2015 7:48:48      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00492        | .17456        | .00939        | .19622        | .19466        | .00397        |
| Stddev | .00038        | .01412        | .00093        | .00069        | .00061        | .00005        |
| %RSD   | 7.7115        | 8.0908        | 9.8791        | .35154        | .31288        | 1.1778        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .00535 | .18646 | .00832 | .19672 | .19522 | .00396 |
| #2 | .00463 | .15895 | .00987 | .19543 | .19401 | .00402 |
| #3 | .00478 | .17825 | .00997 | .19650 | .19475 | .00392 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 4.9451        | .00481        | .04744        | .00502        | .02504        | .10521        |
| Stddev | .0119         | .00022        | .00023        | .00053        | .00031        | .00147        |
| %RSD   | .24095        | 4.5495        | .49287        | 10.550        | 1.2427        | 1.4017        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 4.9341 | .00487 | .04759 | .00449 | .02535 | .10662 |
| #2 | 4.9577 | .00457 | .04717 | .00555 | .02473 | .10533 |
| #3 | 4.9436 | .00500 | .04756 | .00502 | .02503 | .10368 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CRI 0550960      Acquired: 5/7/2015 7:48:48      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>5.0018</b> | <b>.04884</b> | <b>5.0451</b> | <b>.01535</b> | <b>.04010</b> | <b>5.1316</b> |
| Stddev | .0552         | .00023        | .0215         | .00009        | .00010        | .0244         |
| %RSD   | 1.1038        | .46331        | .42553        | .61203        | .24648        | .47569        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>5.0348</b> | <b>.04908</b> | <b>5.0404</b> | <b>.01525</b> | <b>.04020</b> | <b>5.1549</b> |
| #2 | <b>5.0324</b> | <b>.04864</b> | <b>5.0686</b> | <b>.01541</b> | <b>.04011</b> | <b>5.1338</b> |
| #3 | <b>4.9380</b> | <b>.04880</b> | <b>5.0264</b> | <b>.01541</b> | <b>.04000</b> | <b>5.1062</b> |

|         |                 |                 |                 |                 |                 |                 |
|---------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ? | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| Value   |                 |                 |                 |                 |                 |                 |
| Range   |                 |                 |                 |                 |                 |                 |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.03767</b> | <b>.01077</b> | <b>.00786</b> | <b>.01106</b> | <b>.48122</b> | <b>.09869</b> |
| Stddev | .00022        | .00056        | .00179        | .00198        | .00640        | .00063        |
| %RSD   | .58557        | 5.1792        | 22.781        | 17.903        | 1.3310        | .63627        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.03742</b> | <b>.01124</b> | <b>.00656</b> | <b>.01029</b> | <b>.48687</b> | <b>.09928</b> |
| #2 | <b>.03784</b> | <b>.01092</b> | <b>.00991</b> | <b>.00959</b> | <b>.47426</b> | <b>.09876</b> |
| #3 | <b>.03775</b> | <b>.01016</b> | <b>.00713</b> | <b>.01332</b> | <b>.48253</b> | <b>.09803</b> |

|         |                 |                 |                 |                 |                 |                 |
|---------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ? | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| Value   |                 |                 |                 |                 |                 |                 |
| Range   |                 |                 |                 |                 |                 |                 |

Sample Name: CRI 0550960      Acquired: 5/7/2015 7:48:48      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .04836        | .05017        | .01845        | .04947        | .01888        |
| Stddev | .00417        | .00046        | .00156        | .00127        | .00012        |
| %RSD   | 8.6336        | .91719        | 8.4333        | 2.5690        | .65027        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .04388 | .04969 | .01766 | .04826 | .01876 |
| #2 | .05215 | .05060 | .02024 | .04936 | .01888 |
| #3 | .04903 | .05024 | .01745 | .05079 | .01900 |

|         |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |
| Range   |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3168.6        | 5399.7        | 78346.        | 10756.        |
| Stddev    | 6.0           | 7.9           | 109.          | 79.           |
| %RSD      | .19049        | .14665        | .13852        | .73444        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3161.6 | 5390.6 | 78390. | 10839. |
| #2 | 3172.1 | 5405.2 | 78223. | 10682. |
| #3 | 3172.1 | 5403.4 | 78426. | 10746. |

Sample Name: ICSA 1528065      Acquired: 5/7/2015 7:53:57      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |                |               |               |                |
|--------|----------------|---------------|----------------|---------------|---------------|----------------|
| Elem   | Ag             | Al            | As             | B_            | Ba            | Be             |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478}  | 182.641 {485} | 455.403 { 74} | 313.042 {108}  |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_3710)       |
| Units  | ppm            | ppm           | ppm            | ppm           | ppm           | ppm            |
| Avg    | <b>-.00026</b> | <b>494.84</b> | <b>-.00439</b> | <b>.00155</b> | <b>.00009</b> | <b>-.00010</b> |
| Stddev | .00010         | 11.77         | .00056         | .00028        | .00012        | .00002         |
| %RSD   | 38.434         | 2.3780        | 12.851         | 17.894        | 124.71        | 22.155         |

|    |                |               |                |               |                |                |
|----|----------------|---------------|----------------|---------------|----------------|----------------|
| #1 | <b>-.00015</b> | <b>508.42</b> | <b>-.00388</b> | <b>.00153</b> | <b>.00020</b>  | <b>-.00012</b> |
| #2 | <b>-.00029</b> | <b>488.39</b> | <b>-.00429</b> | <b>.00184</b> | <b>-.00003</b> | <b>-.00009</b> |
| #3 | <b>-.00033</b> | <b>487.70</b> | <b>-.00499</b> | <b>.00128</b> | <b>.00012</b>  | <b>-.00008</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

|        |               |                |                |               |               |               |
|--------|---------------|----------------|----------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd             | Co             | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447}  | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (In2306)       | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm            | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>455.58</b> | <b>-.00021</b> | <b>-.00077</b> | <b>.00214</b> | <b>.00545</b> | <b>181.55</b> |
| Stddev | 14.47         | .00010         | .00021         | .00019        | .00058        | 4.79          |
| %RSD   | 3.1763        | 47.383         | 26.861         | 8.8993        | 10.581        | 2.6377        |

|    |               |                |                |               |               |               |
|----|---------------|----------------|----------------|---------------|---------------|---------------|
| #1 | <b>470.98</b> | <b>-.00022</b> | <b>-.00100</b> | <b>.00236</b> | <b>.00526</b> | <b>187.06</b> |
| #2 | <b>453.50</b> | <b>-.00031</b> | <b>-.00072</b> | <b>.00201</b> | <b>.00609</b> | <b>179.10</b> |
| #3 | <b>442.26</b> | <b>-.00011</b> | <b>-.00060</b> | <b>.00206</b> | <b>.00499</b> | <b>178.48</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

Sample Name: ICSA 1528065      Acquired: 5/7/2015 7:53:57      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .13951        | .00750        | 492.82        | -.00024       | -.00163       | .03940        |
| Stddev | .01919        | .00145        | 13.14         | .00003        | .00017        | .00143        |
| %RSD   | 13.754        | 19.356        | 2.6670        | 14.306        | 10.713        | 3.6404        |

|    |        |        |        |         |         |        |
|----|--------|--------|--------|---------|---------|--------|
| #1 | .11819 | .00883 | 507.98 | -.00028 | -.00147 | .04047 |
| #2 | .14497 | .00772 | 485.84 | -.00022 | -.00181 | .03997 |
| #3 | .15538 | .00595 | 484.63 | -.00022 | -.00160 | .03777 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00636        | .00537        | .00805        | -.00480       | .01603        | -.00058       |
| Stddev | .00026        | .00191        | .00355        | .00143        | .01030        | .00022        |
| %RSD   | 4.1019        | 35.604        | 44.084        | 29.765        | 64.213        | 37.736        |

|    |        |        |        |         |        |         |
|----|--------|--------|--------|---------|--------|---------|
| #1 | .00661 | .00716 | .00682 | -.00429 | .00477 | -.00062 |
| #2 | .00637 | .00559 | .01206 | -.00370 | .01838 | -.00078 |
| #3 | .00609 | .00335 | .00529 | -.00641 | .02496 | -.00034 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: ICSA 1528065      Acquired: 5/7/2015 7:53:57      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00652        | -.00072       | -.00448       | .00906        | .00216        |
| Stddev | .00430        | .00004        | .00432        | .00253        | .00045        |
| %RSD   | 65.979        | 5.5305        | 96.543        | 27.894        | 20.949        |

|    |        |         |         |        |        |
|----|--------|---------|---------|--------|--------|
| #1 | .00638 | -.00075 | -.00288 | .00640 | .00268 |
| #2 | .00229 | -.00073 | -.00118 | .01143 | .00196 |
| #3 | .01090 | -.00068 | -.00937 | .00935 | .00185 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2401.4        | 4746.3        | 67052.        | 10303.        |
| Stddev    | 21.3          | 50.9          | 248.          | 231.          |
| %RSD      | .88688        | 1.0727        | .36976        | 2.2452        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2405.1 | 4755.6 | 66767. | 10036. |
| #2 | 2420.6 | 4791.9 | 67215. | 10445. |
| #3 | 2378.5 | 4691.4 | 67175. | 10427. |

Sample Name: ICSAB 1528174      Acquired: 5/7/2015 7:59:14      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>1.0821</b> | <b>502.71</b> | <b>.98289</b> | <b>.97239</b> | <b>.49651</b> | <b>.49488</b> |
| Stddev | .0042         | .56           | .00301        | .00241        | .00041        | .00179        |
| %RSD   | .38555        | .11045        | .30669        | .24747        | .08290        | .36194        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>1.0864</b> | <b>503.35</b> | <b>.98472</b> | <b>.96965</b> | <b>.49635</b> | <b>.49422</b> |
| #2 | <b>1.0780</b> | <b>502.41</b> | <b>.97941</b> | <b>.97336</b> | <b>.49697</b> | <b>.49691</b> |
| #3 | <b>1.0819</b> | <b>502.38</b> | <b>.98453</b> | <b>.97416</b> | <b>.49620</b> | <b>.49352</b> |

|         |                 |                 |                 |                 |                 |                 |
|---------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ? | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| Value   |                 |                 |                 |                 |                 |                 |
| Range   |                 |                 |                 |                 |                 |                 |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>467.20</b> | <b>1.0176</b> | <b>.48547</b> | <b>.46192</b> | <b>.48945</b> | <b>188.20</b> |
| Stddev | 3.41          | .0011         | .00065        | .00151        | .00262        | .46           |
| %RSD   | .72918        | .10403        | .13292        | .32627        | .53545        | .24252        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>468.77</b> | <b>1.0164</b> | <b>.48474</b> | <b>.46357</b> | <b>.49016</b> | <b>188.25</b> |
| #2 | <b>469.53</b> | <b>1.0181</b> | <b>.48595</b> | <b>.46061</b> | <b>.49165</b> | <b>188.62</b> |
| #3 | <b>463.29</b> | <b>1.0183</b> | <b>.48573</b> | <b>.46157</b> | <b>.48655</b> | <b>187.71</b> |

|         |                 |                 |                 |                 |                 |                 |
|---------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ? | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| Value   |                 |                 |                 |                 |                 |                 |
| Range   |                 |                 |                 |                 |                 |                 |

Sample Name: ICSAB 1528174      Acquired: 5/7/2015 7:59:14      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>10.580</b> | <b>1.0560</b> | <b>513.04</b> | <b>.43649</b> | <b>.93358</b> | <b>10.850</b> |
| Stddev | .038          | .0012         | 2.18          | .00224        | .00152        | .044          |
| %RSD   | .35660        | .11662        | .42467        | .51363        | .16232        | .40769        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 10.605 | 1.0572 | 511.71 | .43643 | .93413 | 10.873 |
| #2 | 10.599 | 1.0560 | 515.55 | .43875 | .93474 | 10.878 |
| #3 | 10.537 | 1.0547 | 511.85 | .43427 | .93187 | 10.799 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.96453</b> | <b>.94427</b> | <b>.99960</b> | <b>.96858</b> | <b>1.0049</b> | <b>.86828</b> |
| Stddev | .00138        | .00279        | .00708        | .00353        | .0057         | .00172        |
| %RSD   | .14269        | .29580        | .70784        | .36421        | .56897        | .19834        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .96295 | .94107 | .99159 | .96885 | .99870 | .86634 |
| #2 | .96520 | .94623 | 1.0022 | .96493 | 1.0100 | .86887 |
| #3 | .96544 | .94551 | 1.0050 | .97197 | 1.0061 | .86963 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: ICSAB 1528174      Acquired: 5/7/2015 7:59:14      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.93756</b> | <b>.88521</b> | <b>.89254</b> | <b>.52570</b> | <b>.89014</b> |
| Stddev | .01016        | .00453        | .00587        | .00347        | .00363        |
| %RSD   | 1.0838        | .51144        | .65736        | .65985        | .40786        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .92583 | .88435 | .88582 | .52595 | .88595 |
| #2 | .94343 | .89010 | .89666 | .52212 | .89214 |
| #3 | .94344 | .88117 | .89513 | .52904 | .89233 |

|         |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |
| Range   |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2350.0</b> | <b>4667.1</b> | <b>67063.</b> | <b>10105.</b> |
| Stddev    | 2.1           | 2.5           | 169.          | 45.           |
| %RSD      | .08810        | .05402        | .25273        | .44775        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2347.8 | 4665.8 | 66931. | 10110. |
| #2 | 2350.2 | 4665.5 | 67254. | 10057. |
| #3 | 2351.9 | 4670.0 | 67003. | 10147. |

Sample Name: CCV 1551842      Acquired: 5/7/2015 8:04:07      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | F 1.0111      | F 24.443      | F .50784      | F 2.0198      | F 1.9726      | F 2.0278      |
| Stddev | .0024         | .017          | .00181        | .0073         | .0019         | .0055         |
| %RSD   | .23534        | .07042        | .35716        | .36345        | .09403        | .26944        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.0103 | 24.424 | .50843 | 2.0279 | 1.9747 | 2.0326 |
| #2 | 1.0091 | 24.457 | .50928 | 2.0180 | 1.9718 | 2.0289 |
| #3 | 1.0137 | 24.447 | .50580 | 2.0136 | 1.9713 | 2.0219 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail |
| Value   | .50000   | 12.500   | .25000   | 1.0000   | 1.0000   | 1.0000   |
| Range   | 10.500%  | 10.500%  | 10.500%  | 10.500%  | 10.500%  | 10.500%  |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | F 49.594      | F .50271      | F 2.0452      | F 1.9386      | F 1.8776      | F 25.404      |
| Stddev | .043          | .00081        | .0048         | .0059         | .0097         | .066          |
| %RSD   | .08678        | .16122        | .23656        | .30430        | .51878        | .25847        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 49.620 | .50354 | 2.0487 | 1.9356 | 1.8847 | 25.463 |
| #2 | 49.618 | .50266 | 2.0473 | 1.9347 | 1.8816 | 25.416 |
| #3 | 49.544 | .50192 | 2.0397 | 1.9454 | 1.8665 | 25.333 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail |
| Value   | 25.000   | .25000   | 1.0000   | 1.0000   | 1.0000   | 12.500   |
| Range   | 10.500%  | 10.500%  | 10.500%  | 10.500%  | 10.500%  | 10.500%  |

Sample Name: CCV 1551842      Acquired: 5/7/2015 8:04:07      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                 |                 |                 |                 |                 |                 |
|--------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Elem   | K_              | Li              | Mg              | Mn              | Mo              | Na              |
| Line   | 766.490 { 44}   | 670.784 { 50}   | 279.079 {121}   | 257.610 {131}   | 202.030 {467}   | 589.592 { 57}   |
| IS Ref | (Y_3710)        | (Y_3710)        | (Y_3710)        | (Y_3710)        | (Y_2243)        | (Y_3710)        |
| Units  | ppm             | ppm             | ppm             | ppm             | ppm             | ppm             |
| Avg    | <b>F 123.89</b> | <b>F 1.9698</b> | <b>F 49.938</b> | <b>F 1.8981</b> | <b>F 1.9490</b> | <b>F 126.76</b> |
| Stddev | .15             | .0022           | .155            | .0054           | .0026           | .19             |
| %RSD   | .12401          | .11191          | .30941          | .28661          | .13422          | .14721          |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 124.07 | 1.9690 | 50.092 | 1.8956 | 1.9514 | 126.83 |
| #2 | 123.84 | 1.9723 | 49.940 | 1.9043 | 1.9493 | 126.89 |
| #3 | 123.77 | 1.9681 | 49.783 | 1.8943 | 1.9462 | 126.54 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail |
| Value   | 50.000   | 1.0000   | 25.000   | 1.0000   | 1.0000   | 50.000   |
| Range   | 10.500%  | 10.500%  | 10.500%  | 10.500%  | 10.500%  | 10.500%  |

|        |                 |                 |                 |                 |               |                 |
|--------|-----------------|-----------------|-----------------|-----------------|---------------|-----------------|
| Elem   | Ni              | Pb              | Sb              | Se              | Si            | Sn              |
| Line   | 231.604 {446}   | 220.353 {453}   | 217.581 {455}   | 196.090 {472}   | 251.611 {134} | 189.989 {477}   |
| IS Ref | (In2306)        | (In2306)        | (Y_2243)        | (Y_2243)        | (Y_3710)      | (Y_2243)        |
| Units  | ppm             | ppm             | ppm             | ppm             | ppm           | ppm             |
| Avg    | <b>F 2.0341</b> | <b>F .50251</b> | <b>F .49613</b> | <b>F .50395</b> | <b>2.0280</b> | <b>F 1.8944</b> |
| Stddev | .0034           | .00164          | .00344          | .00260          | .0134         | .0038           |
| %RSD   | .16908          | .32685          | .69334          | .51581          | .66071        | .20037          |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 2.0377 | .50214 | .49763 | .50650 | 2.0265 | 1.8972 |
| #2 | 2.0338 | .50108 | .49857 | .50403 | 2.0420 | 1.8901 |
| #3 | 2.0308 | .50430 | .49220 | .50131 | 2.0154 | 1.8960 |

|         |          |          |          |          |      |          |
|---------|----------|----------|----------|----------|------|----------|
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Fail | None | Chk Fail |
| Value   | 1.0000   | .25000   | .25000   | .25000   |      | 1.0000   |
| Range   | 10.500%  | 10.500%  | 10.500%  | 10.500%  |      | 10.500%  |

Sample Name: CCV 1551842      Acquired: 5/7/2015 8:04:07      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | F 1.9755      | F 1.8975      | F .96401      | F 2.0737      | F 1.9644      |
| Stddev | .0080         | .0073         | .00541        | .0062         | .0040         |
| %RSD   | .40639        | .38227        | .56144        | .30090        | .20361        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | 1.9673 | 1.8994 | .96936 | 2.0790 | 1.9634 |
| #2 | 1.9834 | 1.9036 | .96412 | 2.0668 | 1.9688 |
| #3 | 1.9759 | 1.8895 | .95854 | 2.0754 | 1.9610 |

|         |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|
| Check ? | Chk Fail | Chk Fail | Chk Fail | Chk Fail | Chk Fail |
| Value   | 1.0000   | 1.0000   | .50000   | 1.0000   | 1.0000   |
| Range   | 10.500%  | 10.500%  | 10.500%  | 10.500%  | 10.500%  |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2667.9        | 5107.4        | 73481.        | 10637.        |
| Stddev    | 3.4           | 6.2           | 210.          | 18.           |
| %RSD      | .12812        | .12092        | .28645        | .16987        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2664.8 | 5100.7 | 73579. | 10644. |
| #2 | 2667.4 | 5108.5 | 73624. | 10617. |
| #3 | 2671.6 | 5113.0 | 73239. | 10651. |

Sample Name: CCB1      Acquired: 5/7/2015 8:08:55      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00044        | .00488        | -.00053       | .00176        | -.00002       | .00007        |
| Stddev | .00017        | .01229        | .00145        | .00025        | .00025        | .00009        |
| %RSD   | 38.814        | 251.95        | 271.50        | 13.928        | 1130.8        | 126.12        |

|    |        |         |         |        |         |         |
|----|--------|---------|---------|--------|---------|---------|
| #1 | .00025 | -.00160 | -.00206 | .00201 | -.00025 | .00014  |
| #2 | .00048 | -.00281 | .00082  | .00152 | .00024  | -.00003 |
| #3 | .00059 | .01905  | -.00036 | .00175 | -.00006 | .00012  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00119       | -.00002       | .00003        | .00013        | .00067        | .00180        |
| Stddev | .00273        | .00001        | .00009        | .00041        | .00007        | .00083        |
| %RSD   | 230.18        | 65.946        | 309.77        | 315.34        | 9.6492        | 46.250        |

|    |         |         |         |         |        |        |
|----|---------|---------|---------|---------|--------|--------|
| #1 | .00102  | -.00003 | -.00007 | -.00024 | .00061 | .00152 |
| #2 | -.00034 | -.00001 | .00010  | .00057  | .00074 | .00273 |
| #3 | -.00425 | -.00003 | .00005  | .00006  | .00067 | .00114 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: CCB1      Acquired: 5/7/2015 8:08:55      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .07866        | .00059        | -.00605       | -.00003       | .00257        | .00388        |
| Stddev | .01165        | .00060        | .01965        | .00001        | .00035        | .00268        |
| %RSD   | 14.805        | 101.19        | 325.05        | 16.641        | 13.554        | 69.104        |

|    |        |        |         |         |        |        |
|----|--------|--------|---------|---------|--------|--------|
| #1 | .06973 | .00033 | -.00381 | -.00004 | .00296 | .00607 |
| #2 | .07441 | .00016 | -.02672 | -.00003 | .00249 | .00089 |
| #3 | .09183 | .00127 | .01239  | -.00003 | .00227 | .00467 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00015        | .00156        | -.00038       | .00132        | -.00749       | .00085        |
| Stddev | .00016        | .00069        | .00121        | .00129        | .00198        | .00028        |
| %RSD   | 106.79        | 44.281        | 315.81        | 97.712        | 26.479        | 32.644        |

|    |         |        |         |         |         |        |
|----|---------|--------|---------|---------|---------|--------|
| #1 | .00021  | .00120 | .00016  | .00185  | -.00708 | .00055 |
| #2 | .00026  | .00112 | -.00178 | -.00015 | -.00575 | .00109 |
| #3 | -.00003 | .00236 | .00046  | .00226  | -.00965 | .00093 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB1      Acquired: 5/7/2015 8:08:55      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |                |
|--------|----------------|---------------|---------------|---------------|----------------|
| Elem   | Sr             | Ti            | Ti            | V_            | Zn             |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463}  |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)       |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm            |
| Avg    | <b>-.00276</b> | <b>.00012</b> | <b>.00020</b> | <b>.00057</b> | <b>-.00001</b> |
| Stddev | .00236         | .00005        | .00039        | .00262        | .00007         |
| %RSD   | 85.571         | 46.820        | 194.49        | 462.41        | 564.12         |

|    |                |               |                |                |                |
|----|----------------|---------------|----------------|----------------|----------------|
| #1 | <b>-.00079</b> | <b>.00018</b> | <b>.00065</b>  | <b>-.00164</b> | <b>-.00010</b> |
| #2 | <b>-.00538</b> | <b>.00009</b> | <b>-.00011</b> | <b>.00345</b>  | <b>.00004</b>  |
| #3 | <b>-.00212</b> | <b>.00008</b> | <b>.00007</b>  | <b>-.00012</b> | <b>.00002</b>  |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3324.6</b> | <b>5503.2</b> | <b>79731.</b> | <b>10803.</b> |
| Stddev    | 5.2           | 5.7           | 144.          | 52.           |
| %RSD      | .15565        | .10406        | .18031        | .48282        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>3323.5</b> | <b>5509.6</b> | <b>79782.</b> | <b>10863.</b> |
| #2 | <b>3330.3</b> | <b>5498.7</b> | <b>79842.</b> | <b>10769.</b> |
| #3 | <b>3320.1</b> | <b>5501.3</b> | <b>79569.</b> | <b>10778.</b> |

Sample Name: MB 1810-140635/1-A      Acquired: 5/7/2015 8:14:06      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00005</b> | <b>.01350</b> | <b>.00006</b> | <b>.00365</b> | <b>.00045</b> | <b>.00013</b> |
| Stddev | .00024         | .01857        | .00061        | .00027        | .00003        | .00004        |
| %RSD   | 530.41         | 137.54        | 1098.5        | 7.3901        | 7.0766        | 33.355        |

|    |         |         |         |        |        |        |
|----|---------|---------|---------|--------|--------|--------|
| #1 | .00004  | -.00665 | -.00016 | .00337 | .00045 | .00019 |
| #2 | .00014  | .01722  | -.00042 | .00366 | .00042 | .00011 |
| #3 | -.00032 | .02993  | .00075  | .00391 | .00049 | .00011 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |                |               |                 |               |               |
|--------|---------------|----------------|---------------|-----------------|---------------|---------------|
| Elem   | Ca            | Cd             | Co            | Cr              | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447} | 267.716 {126}   | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (In2306)      | (Y_3600)        | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm            | ppm           | ppm             | ppm           | ppm           |
| Avg    | <b>.02625</b> | <b>-.00013</b> | <b>.00034</b> | <b>F .00524</b> | <b>.00220</b> | <b>.03289</b> |
| Stddev | .00512        | .00017         | .00015        | .00052          | .00051        | .00081        |
| %RSD   | 19.519        | 138.70         | 44.661        | 9.9529          | 23.348        | 2.4774        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | .03142 | -.00007 | .00039 | .00464 | .00234 | .03383 |
| #2 | .02615 | .00001  | .00047 | .00554 | .00262 | .03232 |
| #3 | .02117 | -.00032 | .00017 | .00555 | .00163 | .03253 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass |
| High Limit |          |          |          | .00500   |          |          |
| Low Limit  |          |          |          | -.00500  |          |          |

Sample Name: MB 1810-140635/1-A      Acquired: 5/7/2015 8:14:06      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .02472        | -.00047       | .03725        | .00066        | .00128        | .04966        |
| Stddev | .01406        | .00100        | .01973        | .00002        | .00025        | .00526        |
| %RSD   | 56.859        | 211.96        | 52.951        | 3.0892        | 19.812        | 10.587        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | .00993 | -.00129 | .02807 | .00064 | .00148 | .05539 |
| #2 | .03791 | .00064  | .05990 | .00068 | .00137 | .04856 |
| #3 | .02633 | -.00077 | .02379 | .00066 | .00100 | .04505 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00195        | .00154        | -.00012       | .00147        | .04525        | .00089        |
| Stddev | .00025        | .00049        | .00164        | .00216        | .00310        | .00054        |
| %RSD   | 12.963        | 31.671        | 1322.4        | 146.41        | 6.8484        | 60.349        |

|    |        |        |         |         |        |        |
|----|--------|--------|---------|---------|--------|--------|
| #1 | .00219 | .00170 | -.00192 | -.00046 | .04829 | .00149 |
| #2 | .00199 | .00192 | .00026  | .00109  | .04534 | .00045 |
| #3 | .00169 | .00099 | .00129  | .00380  | .04210 | .00073 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: MB 1810-140635/1-A      Acquired: 5/7/2015 8:14:06      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00137        | .00015        | .00096        | .00099        | F .04706      |
| Stddev | .00167        | .00004        | .00039        | .00113        | .00034        |
| %RSD   | 121.66        | 24.839        | 40.640        | 114.35        | .72522        |

|    |         |        |        |         |        |
|----|---------|--------|--------|---------|--------|
| #1 | .00268  | .00016 | .00091 | -.00011 | .04701 |
| #2 | -.00051 | .00018 | .00060 | .00215  | .04674 |
| #3 | .00195  | .00011 | .00138 | .00093  | .04742 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit |          |          |          |          | .02000   |
| Low Limit  |          |          |          |          | -.02000  |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3356.0        | 5532.0        | 80782.        | 11101.        |
| Stddev    | 9.2           | 13.9          | 112.          | 19.           |
| %RSD      | .27527        | .25179        | .13873        | .16985        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3360.8 | 5539.0 | 80858. | 11106. |
| #2 | 3361.9 | 5541.2 | 80653. | 11116. |
| #3 | 3345.4 | 5516.0 | 80835. | 11080. |

Sample Name: 180-43411-A-2-J@2      Acquired: 5/7/2015 8:19:15      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00025</b> | <b>11.030</b> | <b>.00587</b> | <b>.06182</b> | <b>.17979</b> | <b>.00165</b> |
| Stddev | .00015         | .068          | .00157        | .00080        | .00100        | .00000        |
| %RSD   | 62.005         | .61416        | 26.751        | 1.2979        | .55523        | .24451        |

|    |                |               |               |               |               |               |
|----|----------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00023</b> | <b>10.968</b> | <b>.00750</b> | <b>.06239</b> | <b>.18007</b> | <b>.00164</b> |
| #2 | <b>-.00010</b> | <b>11.102</b> | <b>.00436</b> | <b>.06217</b> | <b>.18062</b> | <b>.00165</b> |
| #3 | <b>-.00041</b> | <b>11.021</b> | <b>.00576</b> | <b>.06091</b> | <b>.17869</b> | <b>.00165</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>88.044</b> | <b>.04154</b> | <b>.02792</b> | <b>6.0330</b> | <b>.31727</b> | <b>366.90</b> |
| Stddev | .322          | .00011        | .00016        | .1732         | .00203        | 1.95          |
| %RSD   | .36538        | .26810        | .58122        | 2.8705        | .64049        | .53253        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>87.682</b> | <b>.04150</b> | <b>.02806</b> | <b>5.9456</b> | <b>.31495</b> | <b>365.29</b> |
| #2 | <b>88.299</b> | <b>.04147</b> | <b>.02795</b> | <b>6.2325</b> | <b>.31871</b> | <b>366.33</b> |
| #3 | <b>88.150</b> | <b>.04167</b> | <b>.02774</b> | <b>5.9210</b> | <b>.31816</b> | <b>369.07</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

Sample Name: 180-43411-A-2-J@2      Acquired: 5/7/2015 8:19:15      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |                |               |
|--------|---------------|---------------|---------------|---------------|----------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo             | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467}  | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)       | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm            | ppm           |
| Avg    | <b>1.3809</b> | <b>.00736</b> | <b>11.780</b> | <b>2.8501</b> | <b>-.00023</b> | <b>11.358</b> |
| Stddev | .0360         | .00036        | .008          | .0196         | .00005         | .050          |
| %RSD   | 2.6061        | 4.9003        | .06803        | .68897        | 20.162         | .43605        |

|    |               |               |               |               |                |               |
|----|---------------|---------------|---------------|---------------|----------------|---------------|
| #1 | <b>1.3656</b> | <b>.00753</b> | <b>11.772</b> | <b>2.8280</b> | <b>-.00021</b> | <b>11.335</b> |
| #2 | <b>1.4220</b> | <b>.00760</b> | <b>11.788</b> | <b>2.8657</b> | <b>-.00020</b> | <b>11.414</b> |
| #3 | <b>1.3550</b> | <b>.00695</b> | <b>11.781</b> | <b>2.8565</b> | <b>-.00028</b> | <b>11.323</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |                |               |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb             | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455}  | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>.23591</b> | <b>.48362</b> | <b>-.00200</b> | <b>.00539</b> | <b>18.424</b> | <b>1.7984</b> |
| Stddev | .00067        | .00122        | .00240         | .00372        | .086          | .0019         |
| %RSD   | .28291        | .25179        | 119.83         | 69.030        | .46755        | .10776        |

|    |               |               |                |               |               |               |
|----|---------------|---------------|----------------|---------------|---------------|---------------|
| #1 | <b>.23621</b> | <b>.48381</b> | <b>-.00466</b> | <b>.00448</b> | <b>18.328</b> | <b>1.8000</b> |
| #2 | <b>.23515</b> | <b>.48473</b> | <b>-.00134</b> | <b>.00949</b> | <b>18.495</b> | <b>1.7989</b> |
| #3 | <b>.23638</b> | <b>.48232</b> | <b>-.00001</b> | <b>.00221</b> | <b>18.449</b> | <b>1.7963</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43411-A-2-J@2      Acquired: 5/7/2015 8:19:15      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.29341</b> | <b>.26888</b> | <b>.00282</b> | <b>.26173</b> | <b>8.5306</b> |
| Stddev | .00420        | .00146        | .00173        | .00656        | .0185         |
| %RSD   | 1.4325        | .54440        | 61.448        | 2.5052        | .21705        |

|    |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.29826</b> | <b>.26720</b> | <b>.00153</b> | <b>.25829</b> | <b>8.5475</b> |
| #2 | <b>.29097</b> | <b>.26962</b> | <b>.00479</b> | <b>.26929</b> | <b>8.5334</b> |
| #3 | <b>.29099</b> | <b>.26983</b> | <b>.00214</b> | <b>.25761</b> | <b>8.5108</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2936.5</b> | <b>5231.4</b> | <b>75513.</b> | <b>10951.</b> |
| Stddev    | 4.9           | 14.0          | 1639.         | 48.           |
| %RSD      | .16543        | .26753        | 2.1699        | .43958        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>2933.0</b> | <b>5217.2</b> | <b>76244.</b> | <b>10995.</b> |
| #2 | <b>2934.4</b> | <b>5231.8</b> | <b>73636.</b> | <b>10957.</b> |
| #3 | <b>2942.1</b> | <b>5245.2</b> | <b>76659.</b> | <b>10900.</b> |



Sample Name: 180-43458-C-3-B      Acquired: 5/7/2015 8:24:14      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00085</b> | <b>22.530</b> | <b>.01029</b> | <b>.02233</b> | <b>.43756</b> | <b>.00628</b> |
| Stddev | .00028         | .103          | .00077        | .00026        | .00085        | .00007        |
| %RSD   | 32.715         | .45717        | 7.4947        | 1.1852        | .19377        | 1.1928        |

|    |                |               |               |               |               |               |
|----|----------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00085</b> | <b>22.419</b> | <b>.00940</b> | <b>.02255</b> | <b>.43839</b> | <b>.00625</b> |
| #2 | <b>-.00057</b> | <b>22.549</b> | <b>.01077</b> | <b>.02203</b> | <b>.43669</b> | <b>.00623</b> |
| #3 | <b>-.00112</b> | <b>22.622</b> | <b>.01071</b> | <b>.02241</b> | <b>.43761</b> | <b>.00637</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>79.271</b> | <b>.00241</b> | <b>.07335</b> | <b>.04029</b> | <b>.13658</b> | <b>64.668</b> |
| Stddev | .202          | .00001        | .00026        | .00017        | .00062        | .030          |
| %RSD   | .25456        | .47975        | .35906        | .40997        | .45694        | .04601        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>79.095</b> | <b>.00239</b> | <b>.07332</b> | <b>.04026</b> | <b>.13608</b> | <b>64.672</b> |
| #2 | <b>79.227</b> | <b>.00241</b> | <b>.07362</b> | <b>.04014</b> | <b>.13637</b> | <b>64.637</b> |
| #3 | <b>79.491</b> | <b>.00242</b> | <b>.07310</b> | <b>.04047</b> | <b>.13728</b> | <b>64.696</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43458-C-3-B      Acquired: 5/7/2015 8:24:14      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.2070        | .02222        | 22.203        | 3.5540        | .00008        | 2.2249        |
| Stddev | .0133         | .00110        | .026          | .0115         | .00001        | .0074         |
| %RSD   | 1.1038        | 4.9299        | .11786        | .32455        | 7.3966        | .33235        |
| #1     | 1.2007        | .02141        | 22.177        | 3.5477        | .00008        | 2.2312        |
| #2     | 1.1979        | .02178        | 22.202        | 3.5471        | .00009        | 2.2268        |
| #3     | 1.2222        | .02347        | 22.229        | 3.5674        | .00008        | 2.2168        |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .11671        | .25791        | -.00085       | .00220        | F 27.227      | .01010        |
| Stddev | .00055        | .00098        | .00080        | .00075        | .047          | .00064        |
| %RSD   | .46696        | .37971        | 93.486        | 34.160        | .17101        | 6.3332        |
| #1     | .11712        | .25818        | -.00003       | .00168        | 27.191        | .00943        |
| #2     | .11609        | .25873        | -.00162       | .00186        | 27.211        | .01017        |
| #3     | .11693        | .25682        | -.00091       | .00306        | 27.280        | .01070        |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail | Chk Pass |
| High Limit |          |          |          |          | 25.000   |          |
| Low Limit  |          |          |          |          | -.50000  |          |

Sample Name: 180-43458-C-3-B      Acquired: 5/7/2015 8:24:14      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |                |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti             | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>.15385</b> | <b>.33365</b> | <b>-.00073</b> | <b>.06832</b> | <b>.74515</b> |
| Stddev | .00108        | .00165        | .00143         | .00250        | .00159        |
| %RSD   | .70429        | .49537        | 196.13         | 3.6594        | .21381        |

|    |        |        |         |        |        |
|----|--------|--------|---------|--------|--------|
| #1 | .15437 | .33218 | -.00121 | .06980 | .74669 |
| #2 | .15260 | .33335 | .00088  | .06973 | .74350 |
| #3 | .15457 | .33544 | -.00185 | .06543 | .74526 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2993.3</b> | <b>5736.5</b> | <b>81761.</b> | <b>11743.</b> |
| Stddev    | 5.0           | 1.0           | 266.          | 48.           |
| %RSD      | .16714        | .01724        | .32504        | .40562        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2988.8 | 5735.4 | 81725. | 11791. |
| #2 | 2998.7 | 5737.3 | 81516. | 11741. |
| #3 | 2992.3 | 5736.8 | 82043. | 11696. |

Sample Name: MB 180-140696/1-A      Acquired: 5/7/2015 8:30:36      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00028        | -.00224       | -.00058       | .00033        | -.00004       | -.00001       |
| Stddev | .00017        | .01627        | .00006        | .00022        | .00015        | .00005        |
| %RSD   | 61.407        | 727.61        | 10.457        | 65.923        | 389.92        | 606.28        |

|    |        |         |         |        |         |         |
|----|--------|---------|---------|--------|---------|---------|
| #1 | .00029 | .01621  | -.00057 | .00047 | -.00011 | -.00007 |
| #2 | .00010 | -.00836 | -.00052 | .00044 | .00014  | .00003  |
| #3 | .00045 | -.01456 | -.00064 | .00008 | -.00015 | .00001  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.02253       | -.00002       | .00006        | .00010        | .00015        | .00404        |
| Stddev | .00197        | .00007        | .00009        | .00021        | .00048        | .00199        |
| %RSD   | 8.7394        | 307.04        | 148.26        | 217.36        | 329.02        | 49.345        |

|    |         |         |         |         |         |        |
|----|---------|---------|---------|---------|---------|--------|
| #1 | -.02431 | -.00005 | -.00004 | .00023  | -.00041 | .00225 |
| #2 | -.02041 | -.00008 | .00013  | .00020  | .00039  | .00619 |
| #3 | -.02285 | .00006  | .00009  | -.00014 | .00045  | .00368 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: MB 180-140696/1-A      Acquired: 5/7/2015 8:30:36      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |                |               |               |               |               |
|--------|----------------|----------------|---------------|---------------|---------------|---------------|
| Elem   | K_             | Li             | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44}  | 670.784 { 50}  | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)       | (Y_3710)       | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm            | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.03618</b> | <b>-.00093</b> | <b>.01462</b> | <b>.00000</b> | <b>.00032</b> | <b>.00402</b> |
| Stddev | .00879         | .00063         | .01710        | .00001        | .00024        | .00542        |
| %RSD   | 24.304         | 67.661         | 116.97        | 2340.3        | 75.124        | 134.81        |

|    |                |                |                |                |               |                |
|----|----------------|----------------|----------------|----------------|---------------|----------------|
| #1 | <b>-.04458</b> | <b>-.00030</b> | <b>.02692</b>  | <b>-.00001</b> | <b>.00047</b> | <b>.00882</b>  |
| #2 | <b>-.03692</b> | <b>-.00093</b> | <b>-.00491</b> | <b>-.00000</b> | <b>.00045</b> | <b>.00509</b>  |
| #3 | <b>-.02704</b> | <b>-.00156</b> | <b>.02185</b>  | <b>.00002</b>  | <b>.00004</b> | <b>-.00185</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |                |               |               |               |               |
|--------|---------------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb             | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453}  | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)       | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.00017</b> | <b>-.00025</b> | <b>.00005</b> | <b>.00116</b> | <b>.06389</b> | <b>.00031</b> |
| Stddev | .00035        | .00015         | .00180        | .00054        | .00893        | .00012        |
| %RSD   | 211.67        | 58.355         | 3396.9        | 46.117        | 13.983        | 39.150        |

|    |                |                |                |               |               |               |
|----|----------------|----------------|----------------|---------------|---------------|---------------|
| #1 | <b>.00042</b>  | <b>-.00033</b> | <b>-.00045</b> | <b>.00078</b> | <b>.07378</b> | <b>.00045</b> |
| #2 | <b>-.00023</b> | <b>-.00008</b> | <b>.00205</b>  | <b>.00093</b> | <b>.05641</b> | <b>.00022</b> |
| #3 | <b>.00031</b>  | <b>-.00033</b> | <b>-.00144</b> | <b>.00177</b> | <b>.06148</b> | <b>.00026</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: MB 180-140696/1-A      Acquired: 5/7/2015 8:30:36      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00071        | .00011        | -.00113       | -.00021       | .00027        |
| Stddev | .00282        | .00009        | .00140        | .00281        | .00003        |
| %RSD   | 396.29        | 78.058        | 123.54        | 1327.5        | 9.3704        |

|    |         |        |         |         |        |
|----|---------|--------|---------|---------|--------|
| #1 | .00135  | .00008 | .00045  | -.00100 | .00030 |
| #2 | -.00237 | .00021 | -.00221 | -.00254 | .00026 |
| #3 | .00316  | .00005 | -.00164 | .00290  | .00026 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3194.5        | 5309.7        | 79832.        | 10876.        |
| Stddev    | 37.6          | 56.7          | 75.           | 171.          |
| %RSD      | 1.1769        | 1.0678        | .09389        | 1.5679        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3219.4 | 5335.2 | 79875. | 10699. |
| #2 | 3151.2 | 5244.8 | 79746. | 10890. |
| #3 | 3212.8 | 5349.2 | 79877. | 11040. |

Sample Name: LB 180-140614/7-B      Acquired: 5/7/2015 8:35:44      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00030        | .00953        | .00005        | .04534        | .00088        | .00004        |
| Stddev | .00029        | .01666        | .00112        | .00015        | .00014        | .00001        |
| %RSD   | 97.011        | 174.90        | 2336.0        | .33059        | 15.850        | 19.425        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | .00063 | -.00969 | .00067  | .04546 | .00098 | .00005 |
| #2 | .00023 | .01842  | .00073  | .04539 | .00094 | .00003 |
| #3 | .00005 | .01985  | -.00125 | .04518 | .00072 | .00005 |

|            |          |      |          |      |          |      |
|------------|----------|------|----------|------|----------|------|
| Check ?    | Chk Pass | None | Chk Pass | None | Chk Pass | None |
| High Limit |          |      |          |      |          |      |
| Low Limit  |          |      |          |      |          |      |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .25733        | .00003        | .00039        | .00036        | -.00006       | .00729        |
| Stddev | .00201        | .00004        | .00012        | .00013        | .00039        | .00110        |
| %RSD   | .78031        | 126.59        | 31.144        | 36.953        | 694.46        | 15.063        |

|    |        |         |        |        |         |        |
|----|--------|---------|--------|--------|---------|--------|
| #1 | .25725 | .00004  | .00026 | .00034 | .00016  | .00603 |
| #2 | .25937 | -.00001 | .00040 | .00051 | .00018  | .00779 |
| #3 | .25536 | .00006  | .00050 | .00025 | -.00051 | .00806 |

|            |      |          |      |          |      |      |
|------------|------|----------|------|----------|------|------|
| Check ?    | None | Chk Pass | None | Chk Pass | None | None |
| High Limit |      |          |      |          |      |      |
| Low Limit  |      |          |      |          |      |      |

Sample Name: LB 180-140614/7-B      Acquired: 5/7/2015 8:35:44      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05451        | -.00000       | .05876        | .00025        | .00012        | 140.77        |
| Stddev | .00217        | .00054        | .00434        | .00002        | .00013        | .54           |
| %RSD   | 3.9887        | 21232.        | 7.3787        | 6.9034        | 107.97        | .38585        |

|    |        |         |        |        |         |        |
|----|--------|---------|--------|--------|---------|--------|
| #1 | .05534 | -.00062 | .05535 | .00025 | .00023  | 141.32 |
| #2 | .05205 | .00025  | .05730 | .00023 | .00016  | 140.76 |
| #3 | .05616 | .00036  | .06364 | .00026 | -.00003 | 140.24 |

|            |      |      |      |      |      |      |
|------------|------|------|------|------|------|------|
| Check ?    | None | None | None | None | None | None |
| High Limit |      |      |      |      |      |      |
| Low Limit  |      |      |      |      |      |      |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00064        | .00070        | -.00151       | .00108        | .05894        | .00011        |
| Stddev | .00023        | .00045        | .00104        | .00226        | .00373        | .00024        |
| %RSD   | 36.375        | 64.240        | 69.064        | 208.21        | 6.3335        | 211.48        |

|    |        |        |         |         |        |         |
|----|--------|--------|---------|---------|--------|---------|
| #1 | .00084 | .00115 | -.00148 | .00311  | .05553 | -.00016 |
| #2 | .00069 | .00071 | -.00256 | .00149  | .05836 | .00022  |
| #3 | .00038 | .00025 | -.00048 | -.00135 | .06293 | .00028  |

|            |      |          |      |          |      |      |
|------------|------|----------|------|----------|------|------|
| Check ?    | None | Chk Pass | None | Chk Pass | None | None |
| High Limit |      |          |      |          |      |      |
| Low Limit  |      |          |      |          |      |      |



Sample Name: LB 180-140614/7-B      Acquired: 5/7/2015 8:35:44      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00191        | .00018        | -.00193       | .00122        | .01634        |
| Stddev | .00286        | .00004        | .00091        | .00298        | .00020        |
| %RSD   | 149.41        | 20.370        | 47.108        | 243.99        | 1.1956        |

|    |         |        |         |         |        |
|----|---------|--------|---------|---------|--------|
| #1 | -.00130 | .00020 | -.00136 | .00200  | .01613 |
| #2 | .00419  | .00020 | -.00297 | .00374  | .01652 |
| #3 | .00285  | .00014 | -.00145 | -.00207 | .01636 |

|            |      |      |      |      |      |
|------------|------|------|------|------|------|
| Check ?    | None | None | None | None | None |
| High Limit |      |      |      |      |      |
| Low Limit  |      |      |      |      |      |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2865.0        | 5141.7        | 74127.        | 10712.        |
| Stddev    | 12.3          | 17.3          | 86.           | 100.          |
| %RSD      | .42884        | .33708        | .11645        | .93423        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2852.3 | 5127.1 | 74081. | 10642. |
| #2 | 2865.8 | 5137.1 | 74226. | 10667. |
| #3 | 2876.8 | 5160.8 | 74073. | 10827. |

Sample Name: LCS 180-140696/2-A      Acquired: 5/7/2015 8:40:53      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05092        | 1.9341        | .49071        | 1.0202        | 1.9442        | .04871        |
| Stddev | .00037        | .0172         | .00269        | .0023         | .0055         | .00004        |
| %RSD   | .72749        | .89063        | .54836        | .22970        | .28113        | .08984        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .05053 | 1.9148 | .48903 | 1.0180 | 1.9495 | .04870 |
| #2 | .05096 | 1.9394 | .48929 | 1.0199 | 1.9386 | .04868 |
| #3 | .05126 | 1.9480 | .49381 | 1.0227 | 1.9444 | .04876 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 48.425        | .04844        | .49332        | .19638        | .24382        | 1.0003        |
| Stddev | .397          | .00009        | .00055        | .00007        | .00415        | .0015         |
| %RSD   | .81933        | .19112        | .11221        | .03494        | 1.7019        | .14907        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 48.880 | .04848 | .49362 | .19642 | .24854 | .99972 |
| #2 | 48.155 | .04850 | .49268 | .19630 | .24074 | 1.0020 |
| #3 | 48.238 | .04833 | .49367 | .19642 | .24219 | .99921 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: LCS 180-140696/2-A      Acquired: 5/7/2015 8:40:53      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>48.144</b> | <b>.99108</b> | <b>47.957</b> | <b>.47810</b> | <b>.97334</b> | <b>50.144</b> |
| Stddev | .160          | .00128        | .327          | .00821        | .00146        | .191          |
| %RSD   | .33280        | .12884        | .68226        | 1.7171        | .14966        | .38177        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 48.327 | .99249 | 48.316 | .48733 | .97379 | 50.344 |
| #2 | 48.030 | .99075 | 47.676 | .47161 | .97171 | 49.963 |
| #3 | 48.075 | .99000 | 47.881 | .47536 | .97451 | 50.126 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.48841</b> | <b>.48464</b> | <b>.48489</b> | <b>.48741</b> | <b>9.7574</b> | <b>1.8928</b> |
| Stddev | .00098        | .00086        | .00081        | .00388        | .0720         | .0013         |
| %RSD   | .20124        | .17697        | .16625        | .79508        | .73777        | .06809        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .48922 | .48465 | .48522 | .49022 | 9.8378 | 1.8943 |
| #2 | .48868 | .48377 | .48397 | .48299 | 9.6991 | 1.8921 |
| #3 | .48732 | .48549 | .48548 | .48902 | 9.7351 | 1.8919 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: LCS 180-140696/2-A      Acquired: 5/7/2015 8:40:53      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .95451        | .95168        | .47506        | .50818        | .48678        |
| Stddev | .00086        | .01637        | .00039        | .00943        | .00104        |
| %RSD   | .09005        | 1.7200        | .08127        | 1.8564        | .21309        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .95455 | .97027 | .47529 | .49729 | .48792 |
| #2 | .95363 | .93941 | .47461 | .51334 | .48653 |
| #3 | .95534 | .94537 | .47526 | .51391 | .48589 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2831.1        | 5196.3        | 74815.        | 10725.        |
| Stddev    | 4.0           | 6.8           | 208.          | 158.          |
| %RSD      | .14172        | .13153        | .27811        | 1.4767        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2827.8 | 5190.6 | 75053. | 10543. |
| #2 | 2835.6 | 5203.8 | 74670. | 10836. |
| #3 | 2830.0 | 5194.3 | 74722. | 10795. |

Sample Name: 180-43729-B-3-H      Acquired: 5/7/2015 8:45:41      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |                |                |               |               |               |
|--------|----------------|----------------|----------------|---------------|---------------|---------------|
| Elem   | Ag             | Al             | As             | B_            | Ba            | Be            |
| Line   | 328.068 {103}  | 308.215 {109}  | 189.042 {478}  | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)       | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm            | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>-.00028</b> | <b>-.00522</b> | <b>-.00018</b> | <b>.10444</b> | <b>.03433</b> | <b>.00003</b> |
| Stddev | .00002         | .01902         | .00055         | .00026        | .00024        | .00007        |
| %RSD   | 7.8136         | 364.46         | 307.59         | .24922        | .69786        | 255.25        |

|    |                |                |                |               |               |                |
|----|----------------|----------------|----------------|---------------|---------------|----------------|
| #1 | <b>-.00030</b> | <b>.00306</b>  | <b>.00003</b>  | <b>.10474</b> | <b>.03444</b> | <b>-.00001</b> |
| #2 | <b>-.00026</b> | <b>.00826</b>  | <b>-.00080</b> | <b>.10424</b> | <b>.03406</b> | <b>-.00002</b> |
| #3 | <b>-.00029</b> | <b>-.02697</b> | <b>.00024</b>  | <b>.10435</b> | <b>.03450</b> | <b>.00011</b>  |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

|        |               |                |               |               |               |               |
|--------|---------------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd             | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>50.710</b> | <b>-.00002</b> | <b>.00094</b> | <b>.00151</b> | <b>.00141</b> | <b>3.9370</b> |
| Stddev | .194          | .00006         | .00009        | .00024        | .00068        | .0221         |
| %RSD   | .38219        | 325.02         | 10.071        | 15.968        | 47.849        | .56238        |

|    |               |                |               |               |               |               |
|----|---------------|----------------|---------------|---------------|---------------|---------------|
| #1 | <b>50.604</b> | <b>.00005</b>  | <b>.00099</b> | <b>.00133</b> | <b>.00167</b> | <b>3.9125</b> |
| #2 | <b>50.592</b> | <b>-.00004</b> | <b>.00083</b> | <b>.00142</b> | <b>.00065</b> | <b>3.9428</b> |
| #3 | <b>50.933</b> | <b>-.00006</b> | <b>.00100</b> | <b>.00178</b> | <b>.00192</b> | <b>3.9556</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

Sample Name: 180-43729-B-3-H      Acquired: 5/7/2015 8:45:41      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>4.0512</b> | <b>.02173</b> | <b>7.5557</b> | <b>4.1534</b> | <b>.05267</b> | <b>146.32</b> |
| Stddev | .0533         | .00078        | .0610         | .0273         | .00033        | .44           |
| %RSD   | 1.3147        | 3.5840        | .80715        | .65831        | .62945        | .29876        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>4.1008</b> | <b>.02084</b> | <b>7.4921</b> | <b>4.1308</b> | <b>.05240</b> | <b>146.16</b> |
| #2 | <b>4.0579</b> | <b>.02206</b> | <b>7.6137</b> | <b>4.1456</b> | <b>.05256</b> | <b>145.99</b> |
| #3 | <b>3.9949</b> | <b>.02229</b> | <b>7.5613</b> | <b>4.1838</b> | <b>.05304</b> | <b>146.81</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.00106</b> | <b>.00138</b> | <b>.00005</b> | <b>.00108</b> | <b>.99590</b> | <b>.00066</b> |
| Stddev | .00021        | .00054        | .00268        | .00111        | .00725        | .00029        |
| %RSD   | 20.243        | 39.388        | 5206.6        | 102.77        | .72841        | 43.660        |

|    |               |               |                |               |               |               |
|----|---------------|---------------|----------------|---------------|---------------|---------------|
| #1 | <b>.00129</b> | <b>.00201</b> | <b>.00254</b>  | <b>.00223</b> | <b>.98770</b> | <b>.00073</b> |
| #2 | <b>.00088</b> | <b>.00109</b> | <b>.00040</b>  | <b>.00001</b> | <b>1.0015</b> | <b>.00034</b> |
| #3 | <b>.00100</b> | <b>.00104</b> | <b>-.00278</b> | <b>.00100</b> | <b>.99848</b> | <b>.00090</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43729-B-3-H      Acquired: 5/7/2015 8:45:41      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .12729        | .00061        | -.00067       | .00062        | .03504        |
| Stddev | .00440        | .00013        | .00141        | .00200        | .00003        |
| %RSD   | 3.4577        | 21.865        | 209.41        | 323.18        | .08966        |

|    |        |        |         |         |        |
|----|--------|--------|---------|---------|--------|
| #1 | .12590 | .00055 | -.00211 | .00271  | .03501 |
| #2 | .12376 | .00052 | .00070  | .00040  | .03502 |
| #3 | .13222 | .00077 | -.00060 | -.00126 | .03507 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2798.7        | 5054.4        | 73309.        | 10679.        |
| Stddev    | 3.0           | 7.9           | 47.           | 30.           |
| %RSD      | .10660        | .15657        | .06478        | .28124        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2801.9 | 5062.7 | 73255. | 10693. |
| #2 | 2798.3 | 5053.4 | 73330. | 10700. |
| #3 | 2796.0 | 5047.0 | 73343. | 10645. |

Sample Name: 180-43729-B-3-H SD@5      Acquired: 5/7/2015 8:50:57      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00002        | -.00619       | -.00074       | .02041        | .00702        | .00001        |
| Stddev | .00042        | .01385        | .00030        | .00012        | .00017        | .00003        |
| %RSD   | 1676.6        | 223.70        | 40.171        | .60324        | 2.4591        | 209.78        |

|    |         |         |         |        |        |         |
|----|---------|---------|---------|--------|--------|---------|
| #1 | .00040  | .00232  | -.00058 | .02050 | .00705 | -.00000 |
| #2 | .00010  | .00128  | -.00109 | .02047 | .00717 | -.00000 |
| #3 | -.00042 | -.02218 | -.00056 | .02027 | .00683 | .00005  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 10.226        | -.00005       | .00032        | .00024        | .00102        | .81704        |
| Stddev | .015          | .00005        | .00016        | .00008        | .00053        | .00410        |
| %RSD   | .14659        | 90.222        | 50.382        | 33.796        | 51.851        | .50142        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | 10.210 | -.00005 | .00043 | .00029 | .00098 | .81231 |
| #2 | 10.228 | -.00001 | .00013 | .00028 | .00156 | .81940 |
| #3 | 10.240 | -.00010 | .00039 | .00015 | .00051 | .81941 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43729-B-3-H SD@5      Acquired: 5/7/2015 8:50:57      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .79202        | .00418        | 1.5691        | .90970        | .01030        | 29.848        |
| Stddev | .05298        | .00077        | .0091         | .00246        | .00021        | .035          |
| %RSD   | 6.6892        | 18.535        | .58136        | .27075        | 2.0362        | .11696        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .73121 | .00490 | 1.5664 | .90698 | .01054 | 29.810 |
| #2 | .81664 | .00336 | 1.5793 | .91177 | .01024 | 29.878 |
| #3 | .82821 | .00429 | 1.5617 | .91035 | .01013 | 29.856 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00026        | .00144        | -.00079       | .00022        | .20009        | .00088        |
| Stddev | .00014        | .00090        | .00095        | .00214        | .00385        | .00017        |
| %RSD   | 53.805        | 62.499        | 120.20        | 986.86        | 1.9228        | 18.703        |

|    |        |        |         |         |        |        |
|----|--------|--------|---------|---------|--------|--------|
| #1 | .00010 | .00141 | .00016  | .00014  | .19764 | .00085 |
| #2 | .00031 | .00056 | -.00080 | -.00188 | .19810 | .00106 |
| #3 | .00037 | .00236 | -.00174 | .00240  | .20452 | .00074 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43729-B-3-H SD@5      Acquired: 5/7/2015 8:50:57      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .02472        | .00018        | -.00139       | .00093        | .00658        |
| Stddev | .00181        | .00010        | .00068        | .00160        | .00005        |
| %RSD   | 7.3076        | 58.330        | 49.300        | 173.00        | .80005        |

|    |        |        |         |         |        |
|----|--------|--------|---------|---------|--------|
| #1 | .02674 | .00025 | -.00179 | -.00078 | .00653 |
| #2 | .02325 | .00023 | -.00060 | .00117  | .00664 |
| #3 | .02416 | .00006 | -.00177 | .00239  | .00658 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3047.3        | 5289.7        | 77520.        | 10731.        |
| Stddev    | 2.8           | 9.7           | 144.          | 40.           |
| %RSD      | .09233        | .18364        | .18600        | .37602        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3045.6 | 5288.3 | 77668. | 10776. |
| #2 | 3045.7 | 5280.7 | 77512. | 10697. |
| #3 | 3050.5 | 5300.0 | 77380. | 10722. |

Sample Name: 180-43729-B-3-I MS      Acquired: 5/7/2015 8:56:05      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .09870        | .00922        | .48059        | .10107        | 3.3257        | .00005        |
| Stddev | .00055        | .01924        | .00232        | .00063        | .0052         | .00002        |
| %RSD   | .55583        | 208.70        | .48204        | .61939        | .15624        | 44.034        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | .09884 | -.00466 | .48262 | .10105 | 3.3302 | .00007 |
| #2 | .09809 | .03118  | .47807 | .10046 | 3.3270 | .00003 |
| #3 | .09917 | .00114  | .48110 | .10171 | 3.3200 | .00005 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 50.641        | .09713        | -.00022       | .49130        | .00075        | 3.8781        |
| Stddev | .088          | .00029        | .00004        | .00167        | .00019        | .0158         |
| %RSD   | .17392        | .29652        | 16.456        | .34045        | 25.212        | .40653        |

|    |        |        |         |        |        |        |
|----|--------|--------|---------|--------|--------|--------|
| #1 | 50.662 | .09699 | -.00020 | .49310 | .00061 | 3.8941 |
| #2 | 50.716 | .09693 | -.00020 | .48980 | .00096 | 3.8626 |
| #3 | 50.544 | .09746 | -.00026 | .49099 | .00068 | 3.8778 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43729-B-3-I MS      Acquired: 5/7/2015 8:56:05      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>3.9930</b> | <b>.02126</b> | <b>7.5520</b> | <b>4.0638</b> | <b>.05016</b> | <b>145.66</b> |
| Stddev | .0184         | .00096        | .0240         | .0120         | .00015        | .21           |
| %RSD   | .46189        | 4.5203        | .31752        | .29526        | .30122        | .14294        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 4.0142 | .02023 | 7.5777 | 4.0618 | .05029 | 145.89 |
| #2 | 3.9807 | .02142 | 7.5481 | 4.0766 | .05020 | 145.62 |
| #3 | 3.9841 | .02213 | 7.5303 | 4.0529 | .05000 | 145.48 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.00098</b> | <b>.33644</b> | <b>.00130</b> | <b>.09938</b> | <b>.94808</b> | <b>.00050</b> |
| Stddev | .00037        | .00088        | .00022        | .00265        | .00805        | .00024        |
| %RSD   | 37.891        | .26084        | 16.581        | 2.6623        | .84871        | 49.297        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .00129 | .33549 | .00130 | .10085 | .95712 | .00074 |
| #2 | .00057 | .33661 | .00151 | .10097 | .94169 | .00050 |
| #3 | .00109 | .33722 | .00108 | .09633 | .94545 | .00025 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43729-B-3-I MS      Acquired: 5/7/2015 8:56:05      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .12755        | .00013        | -.00145       | .00009        | .01646        |
| Stddev | .00198        | .00011        | .00223        | .00384        | .00008        |
| %RSD   | 1.5506        | 84.803        | 153.65        | 4427.8        | .50059        |

|    |        |        |         |         |        |
|----|--------|--------|---------|---------|--------|
| #1 | .12661 | .00015 | -.00378 | .00373  | .01639 |
| #2 | .12623 | .00001 | .00066  | .00045  | .01644 |
| #3 | .12983 | .00022 | -.00123 | -.00393 | .01655 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2820.4        | 5114.7        | 73344.        | 10694.        |
| Stddev    | 5.1           | 15.3          | 187.          | 16.           |
| %RSD      | .18242        | .29951        | .25458        | .14572        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2822.1 | 5120.0 | 73141. | 10682. |
| #2 | 2824.5 | 5126.7 | 73381. | 10689. |
| #3 | 2814.6 | 5097.4 | 73509. | 10712. |

Sample Name: 180-43729-B-3-J MSD      Acquired: 5/7/2015 9:01:17      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .09842        | .00313        | .48512        | .10524        | 4.2070        | .00003        |
| Stddev | .00010        | .01000        | .00288        | .00030        | .0042         | .00003        |
| %RSD   | .10327        | 319.37        | .59464        | .28433        | .10064        | 107.13        |

|    |        |         |        |        |        |         |
|----|--------|---------|--------|--------|--------|---------|
| #1 | .09841 | -.00651 | .48187 | .10552 | 4.2027 | .00004  |
| #2 | .09833 | .01345  | .48614 | .10492 | 4.2112 | .00006  |
| #3 | .09853 | .00245  | .48736 | .10527 | 4.2070 | -.00000 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 50.810        | .09781        | -.00016       | .48708        | .00062        | 3.6738        |
| Stddev | .098          | .00027        | .00028        | .00161        | .00072        | .0127         |
| %RSD   | .19379        | .28022        | 175.78        | .32964        | 115.33        | .34477        |

|    |        |        |         |        |         |        |
|----|--------|--------|---------|--------|---------|--------|
| #1 | 50.797 | .09758 | -.00038 | .48630 | .00108  | 3.6628 |
| #2 | 50.914 | .09773 | -.00024 | .48601 | .00098  | 3.6876 |
| #3 | 50.719 | .09811 | .00015  | .48892 | -.00020 | 3.6710 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43729-B-3-J MSD      Acquired: 5/7/2015 9:01:17      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>4.0142</b> | <b>.02095</b> | <b>7.5528</b> | <b>4.1638</b> | <b>.04971</b> | <b>146.36</b> |
| Stddev | .0535         | .00028        | .0394         | .0174         | .00038        | .22           |
| %RSD   | 1.3330        | 1.3171        | .52094        | .41692        | .76881        | .15001        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 3.9618 | .02120 | 7.5145 | 4.1544 | .05009 | 146.20 |
| #2 | 4.0687 | .02065 | 7.5508 | 4.1838 | .04933 | 146.61 |
| #3 | 4.0120 | .02099 | 7.5931 | 4.1531 | .04972 | 146.27 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.00146</b> | <b>.42966</b> | <b>.00153</b> | <b>.10051</b> | <b>.95351</b> | <b>.00071</b> |
| Stddev | .00017        | .00222        | .00110        | .00271        | .01721        | .00040        |
| %RSD   | 11.460        | .51719        | 71.975        | 2.6932        | 1.8051        | 56.371        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .00135 | .42784 | .00215 | .09896 | .96788 | .00100 |
| #2 | .00137 | .42902 | .00217 | .09892 | .95822 | .00025 |
| #3 | .00165 | .43214 | .00026 | .10363 | .93444 | .00086 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43729-B-3-J MSD      Acquired: 5/7/2015 9:01:17      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .12995        | .00004        | -.00046       | -.00048       | .05073        |
| Stddev | .00203        | .00005        | .00044        | .00109        | .00018        |
| %RSD   | 1.5655        | 118.85        | 95.771        | 225.73        | .35023        |

|    |        |         |         |         |        |
|----|--------|---------|---------|---------|--------|
| #1 | .13160 | .00009  | -.00096 | -.00166 | .05054 |
| #2 | .13057 | -.00001 | -.00025 | -.00029 | .05076 |
| #3 | .12767 | .00004  | -.00016 | .00050  | .05089 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2794.0        | 5055.7        | 73268.        | 10665.        |
| Stddev    | 5.2           | 6.2           | 156.          | 49.           |
| %RSD      | .18451        | .12332        | .21285        | .46106        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2798.6 | 5061.6 | 73325. | 10618. |
| #2 | 2795.0 | 5056.2 | 73091. | 10661. |
| #3 | 2788.5 | 5049.2 | 73387. | 10717. |



Sample Name: CCV 1551842      Acquired: 5/7/2015 9:06:30      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.0181        | 24.562        | .51864        | 2.0618        | 1.9987        | 2.0590        |
| Stddev | .0008         | .092          | .00061        | .0012         | .0038         | .0060         |
| %RSD   | .08010        | .37494        | .11787        | .05967        | .19230        | .29240        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.0181 | 24.479 | .51932 | 2.0632 | 2.0010 | 2.0550 |
| #2 | 1.0190 | 24.661 | .51846 | 2.0609 | 2.0008 | 2.0659 |
| #3 | 1.0173 | 24.545 | .51814 | 2.0613 | 1.9942 | 2.0560 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 49.995        | .51275        | 2.0731        | 1.9442        | 1.8951        | 25.557        |
| Stddev | .177          | .00097        | .0010         | .0036         | .0206         | .165          |
| %RSD   | .35356        | .18926        | .04606        | .18691        | 1.0858        | .64486        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 49.863 | .51250 | 2.0720 | 1.9467 | 1.8737 | 25.447 |
| #2 | 50.196 | .51382 | 2.0738 | 1.9400 | 1.9147 | 25.747 |
| #3 | 49.926 | .51193 | 2.0735 | 1.9459 | 1.8968 | 25.478 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/7/2015 9:06:30      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>125.64</b> | <b>1.9987</b> | <b>50.531</b> | <b>1.9064</b> | <b>1.9873</b> | <b>128.04</b> |
| Stddev | .36           | .0047         | .344          | .0215         | .0033         | .34           |
| %RSD   | .28709        | .23557        | .68094        | 1.1289        | .16530        | .26492        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 125.39 | 1.9987 | 50.224 | 1.8829 | 1.9907 | 127.92 |
| #2 | 126.06 | 2.0034 | 50.903 | 1.9251 | 1.9871 | 128.42 |
| #3 | 125.48 | 1.9940 | 50.466 | 1.9113 | 1.9842 | 127.78 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>2.0728</b> | <b>.51637</b> | <b>.50786</b> | <b>.51807</b> | <b>2.0581</b> | <b>1.9266</b> |
| Stddev | .0026         | .00242        | .00075        | .00288        | .0166         | .0024         |
| %RSD   | .12654        | .46936        | .14694        | .55651        | .80580        | .12272        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 2.0731 | .51447 | .50806 | .51735 | 2.0434 | 1.9285 |
| #2 | 2.0753 | .51910 | .50849 | .51561 | 2.0761 | 1.9274 |
| #3 | 2.0701 | .51554 | .50703 | .52124 | 2.0549 | 1.9239 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/7/2015 9:06:30      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.9951        | 1.9136        | .98315        | 2.0815        | 1.9915        |
| Stddev | .0120         | .0208         | .00354        | .0135         | .0058         |
| %RSD   | .60214        | 1.0861        | .35966        | .64719        | .29183        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | 1.9827 | 1.8909 | .97957 | 2.0968 | 1.9904 |
| #2 | 2.0067 | 1.9318 | .98665 | 2.0760 | 1.9978 |
| #3 | 1.9960 | 1.9179 | .98324 | 2.0716 | 1.9864 |

|         |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |
| Range   |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2637.1        | 5043.3        | 72932.        | 10604.        |
| Stddev    | 3.8           | 10.5          | 234.          | 85.           |
| %RSD      | .14466        | .20818        | .32021        | .80298        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2633.3 | 5034.0 | 72693. | 10696. |
| #2 | 2637.2 | 5041.0 | 73160. | 10529. |
| #3 | 2640.9 | 5054.7 | 72943. | 10586. |

Sample Name: CCB2      Acquired: 5/7/2015 9:11:17      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00008        | -.00250       | .00082        | .00153        | .00017        | .00013        |
| Stddev | .00027        | .01314        | .00229        | .00066        | .00028        | .00009        |
| %RSD   | 334.24        | 525.07        | 277.23        | 43.096        | 170.20        | 67.740        |

|    |         |         |         |        |         |        |
|----|---------|---------|---------|--------|---------|--------|
| #1 | .00025  | -.00329 | -.00120 | .00200 | .00009  | .00018 |
| #2 | -.00023 | -.01524 | .00330  | .00182 | .00048  | .00019 |
| #3 | .00023  | .01102  | .00037  | .00078 | -.00007 | .00003 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00556        | -.00004       | .00021        | .00009        | .00110        | .00390        |
| Stddev | .00250        | .00005        | .00003        | .00013        | .00058        | .00167        |
| %RSD   | 45.068        | 121.97        | 13.639        | 149.10        | 52.951        | 42.773        |

|    |        |         |        |         |        |        |
|----|--------|---------|--------|---------|--------|--------|
| #1 | .00281 | -.00000 | .00018 | -.00001 | .00138 | .00388 |
| #2 | .00771 | -.00010 | .00024 | .00004  | .00043 | .00225 |
| #3 | .00615 | -.00003 | .00020 | .00023  | .00149 | .00558 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB2      Acquired: 5/7/2015 9:11:17      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .09774        | -.00021       | -.00401       | .00008        | .00243        | .02824        |
| Stddev | .00789        | .00082        | .01028        | .00002        | .00054        | .00452        |
| %RSD   | 8.0710        | 397.35        | 256.60        | 23.148        | 22.094        | 16.006        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | .09792 | -.00012 | .00141  | .00007 | .00302 | .03032 |
| #2 | .08976 | .00057  | -.01586 | .00010 | .00229 | .03134 |
| #3 | .10554 | -.00107 | .00244  | .00006 | .00197 | .02305 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00005       | -.00020       | -.00075       | .00156        | -.00468       | .00067        |
| Stddev | .00021        | .00066        | .00046        | .00110        | .00743        | .00015        |
| %RSD   | 422.70        | 331.50        | 61.696        | 70.404        | 158.72        | 22.912        |

|    |         |         |         |        |         |        |
|----|---------|---------|---------|--------|---------|--------|
| #1 | .00018  | .00055  | -.00111 | .00031 | -.00354 | .00083 |
| #2 | -.00021 | -.00047 | -.00091 | .00238 | .00211  | .00052 |
| #3 | -.00012 | -.00067 | -.00023 | .00197 | -.01262 | .00066 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB2      Acquired: 5/7/2015 9:11:17      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00027        | .00019        | -.00127       | -.00151       | -.00000       |
| Stddev | .00162        | .00003        | .00082        | .00244        | .00005        |
| %RSD   | 598.82        | 13.202        | 64.891        | 161.06        | 1135.6        |

|    |         |        |         |         |         |
|----|---------|--------|---------|---------|---------|
| #1 | -.00154 | .00017 | -.00211 | -.00351 | -.00007 |
| #2 | .00075  | .00018 | -.00123 | -.00223 | .00003  |
| #3 | .00160  | .00022 | -.00047 | .00120  | .00002  |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3281.0        | 5464.5        | 79684.        | 10746.        |
| Stddev    | .9            | 2.3           | 31.           | 20.           |
| %RSD      | .02682        | .04293        | .03832        | .18950        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3281.8 | 5462.3 | 79665. | 10740. |
| #2 | 3281.2 | 5464.2 | 79719. | 10730. |
| #3 | 3280.0 | 5467.0 | 79669. | 10769. |

Sample Name: 180-43729-B-3-K MS      Acquired: 5/7/2015 9:16:29      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00472        | .17476        | .04744        | .19660        | .21581        | .00459        |
| Stddev | .00013        | .01041        | .00007        | .00096        | .00099        | .00003        |
| %RSD   | 2.7422        | 5.9559        | .14785        | .48780        | .46067        | .74993        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .00457 | .16583 | .04736 | .19550 | .21514 | .00462 |
| #2 | .00483 | .18619 | .04746 | .19718 | .21533 | .00457 |
| #3 | .00475 | .17225 | .04749 | .19714 | .21695 | .00456 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 53.714        | .00460        | .04706        | .02017        | .02306        | 3.8102        |
| Stddev | .118          | .00004        | .00032        | .00015        | .00056        | .0170         |
| %RSD   | .21917        | .85642        | .67151        | .74680        | 2.4282        | .44598        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 53.780 | .00457 | .04724 | .02029 | .02301 | 3.8279 |
| #2 | 53.784 | .00465 | .04669 | .02022 | .02364 | 3.8086 |
| #3 | 53.578 | .00459 | .04725 | .02000 | .02252 | 3.7940 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43729-B-3-K MS      Acquired: 5/7/2015 9:16:29      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 8.4993        | .11354        | 11.723        | 3.9710        | .14549        | 146.16        |
| Stddev | .0123         | .00029        | .041          | .0300         | .00085        | .17           |
| %RSD   | .14453        | .25892        | .34797        | .75557        | .58147        | .11404        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 8.4856 | .11322 | 11.770 | 3.9925 | .14461 | 146.15 |
| #2 | 8.5032 | .11360 | 11.699 | 3.9838 | .14557 | 146.00 |
| #3 | 8.5092 | .11380 | 11.699 | 3.9367 | .14629 | 146.33 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .04769        | .04660        | .04855        | .05090        | 1.8537        | .18356        |
| Stddev | .00020        | .00195        | .00063        | .00323        | .0090         | .00082        |
| %RSD   | .41745        | 4.1743        | 1.3033        | 6.3473        | .48646        | .44410        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .04792 | .04819 | .04809 | .05439 | 1.8460 | .18265 |
| #2 | .04759 | .04718 | .04829 | .05027 | 1.8514 | .18422 |
| #3 | .04756 | .04443 | .04928 | .04802 | 1.8636 | .18382 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43729-B-3-K MS      Acquired: 5/7/2015 9:16:29      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.21063</b> | <b>.09097</b> | <b>.04381</b> | <b>.04935</b> | <b>.06213</b> |
| Stddev | .00148        | .00073        | .00048        | .00130        | .00041        |
| %RSD   | .70349        | .79939        | 1.1020        | 2.6352        | .66708        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .21229 | .09146 | .04383 | .04986 | .06170 |
| #2 | .21015 | .09131 | .04429 | .05031 | .06215 |
| #3 | .20945 | .09014 | .04332 | .04787 | .06253 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2797.1</b> | <b>5069.9</b> | <b>72495.</b> | <b>10634.</b> |
| Stddev    | 5.9           | 12.8          | 162.          | 75.           |
| %RSD      | .21166        | .25161        | .22342        | .70088        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2802.7 | 5081.8 | 72387. | 10576. |
| #2 | 2797.9 | 5071.4 | 72681. | 10608. |
| #3 | 2790.9 | 5056.4 | 72416. | 10718. |

Sample Name: 180-43729-B-3-L MSD      Acquired: 5/7/2015 9:21:42      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00508        | .18517        | .04672        | .20304        | .22250        | .00477        |
| Stddev | .00045        | .02404        | .00144        | .00030        | .00028        | .00004        |
| %RSD   | 8.8840        | 12.983        | 3.0851        | .14890        | .12563        | .79675        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .00526 | .20574 | .04738 | .20271 | .22256 | .00481 |
| #2 | .00457 | .19102 | .04772 | .20329 | .22275 | .00474 |
| #3 | .00541 | .15874 | .04507 | .20314 | .22220 | .00475 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 55.397        | .00465        | .04820        | .01994        | .02362        | 3.9888        |
| Stddev | .220          | .00007        | .00028        | .00012        | .00019        | .0245         |
| %RSD   | .39688        | 1.4404        | .57778        | .61941        | .80925        | .61436        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 55.649 | .00468 | .04803 | .02003 | .02366 | 4.0171 |
| #2 | 55.245 | .00458 | .04853 | .01980 | .02379 | 3.9739 |
| #3 | 55.298 | .00470 | .04806 | .01999 | .02341 | 3.9754 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43729-B-3-L MSD      Acquired: 5/7/2015 9:21:42      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>8.9082</b> | <b>.11720</b> | <b>12.358</b> | <b>4.1164</b> | <b>.14864</b> | <b>151.57</b> |
| Stddev | .0202         | .00099        | .162          | .0264         | .00031        | .11           |
| %RSD   | .22695        | .84358        | 1.3083        | .64214        | .20571        | .07220        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 8.9207 | .11828 | 12.542 | 4.1469 | .14896 | 151.68 |
| #2 | 8.9190 | .11696 | 12.291 | 4.1015 | .14835 | 151.57 |
| #3 | 8.8849 | .11635 | 12.240 | 4.1007 | .14862 | 151.46 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.04861</b> | <b>.04867</b> | <b>.04731</b> | <b>.05027</b> | <b>1.9231</b> | <b>.18630</b> |
| Stddev | .00013        | .00158        | .00106        | .00023        | .0220         | .00117        |
| %RSD   | .26044        | 3.2471        | 2.2412        | .46739        | 1.1451        | .62869        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .04875 | .04720 | .04678 | .05049 | 1.9485 | .18497 |
| #2 | .04850 | .04847 | .04853 | .05031 | 1.9105 | .18674 |
| #3 | .04858 | .05034 | .04661 | .05002 | 1.9103 | .18718 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43729-B-3-L MSD      Acquired: 5/7/2015 9:21:42      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .22292        | .09211        | .04549        | .04766        | .06562        |
| Stddev | .00064        | .00055        | .00126        | .00494        | .00054        |
| %RSD   | .28847        | .59858        | 2.7626        | 10.373        | .82744        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | .22365 | .09275 | .04572 | .04668 | .06525 |
| #2 | .22245 | .09172 | .04662 | .05302 | .06625 |
| #3 | .22266 | .09188 | .04413 | .04328 | .06538 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2771.1        | 5037.1        | 73244.        | 10672.        |
| Stddev    | 4.6           | 4.6           | 295.          | 87.           |
| %RSD      | .16586        | .09170        | .40226        | .81077        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2776.3 | 5041.9 | 72906. | 10574. |
| #2 | 2768.1 | 5036.6 | 73447. | 10705. |
| #3 | 2768.8 | 5032.7 | 73378. | 10737. |

Sample Name: 180-43729-B-2-B      Acquired: 5/7/2015 9:26:54      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00039        | .00433        | -.00127       | .10158        | .03088        | .00003        |
| Stddev | .00011        | .00339        | .00044        | .00032        | .00017        | .00006        |
| %RSD   | 27.201        | 78.260        | 34.297        | .31718        | .54020        | 233.63        |

|    |        |        |         |        |        |         |
|----|--------|--------|---------|--------|--------|---------|
| #1 | .00033 | .00047 | -.00175 | .10194 | .03084 | .00007  |
| #2 | .00052 | .00571 | -.00090 | .10131 | .03073 | -.00005 |
| #3 | .00033 | .00682 | -.00117 | .10151 | .03106 | .00005  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 47.209        | .00008        | .00070        | .00140        | .00053        | 2.6443        |
| Stddev | .064          | .00009        | .00013        | .00025        | .00032        | .0166         |
| %RSD   | .13587        | 119.44        | 19.151        | 18.119        | 59.490        | .62624        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | 47.171 | .00006  | .00073 | .00154 | .00042 | 2.6292 |
| #2 | 47.172 | -.00001 | .00082 | .00111 | .00089 | 2.6417 |
| #3 | 47.283 | .00017  | .00055 | .00156 | .00029 | 2.6620 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43729-B-2-B      Acquired: 5/7/2015 9:26:54      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 4.2294        | .02297        | 8.8209        | 4.0246        | .03903        | 148.06        |
| Stddev | .0079         | .00071        | .0771         | .0442         | .00037        | .28           |
| %RSD   | .18694        | 3.0918        | .87396        | 1.0985        | .96085        | .19118        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 4.2373 | .02242 | 8.7320 | 3.9759 | .03942 | 147.80 |
| #2 | 4.2295 | .02272 | 8.8611 | 4.0621 | .03867 | 148.02 |
| #3 | 4.2215 | .02377 | 8.8696 | 4.0359 | .03900 | 148.36 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00079        | .00043        | -.00072       | .00027        | .52541        | .00009        |
| Stddev | .00019        | .00132        | .00083        | .00087        | .00156        | .00018        |
| %RSD   | 24.386        | 305.59        | 114.98        | 317.86        | .29776        | 186.32        |

|    |        |         |         |         |        |         |
|----|--------|---------|---------|---------|--------|---------|
| #1 | .00067 | .00191  | -.00085 | .00030  | .52564 | -.00007 |
| #2 | .00102 | -.00061 | -.00147 | .00113  | .52374 | .00028  |
| #3 | .00070 | -.00001 | .00017  | -.00061 | .52684 | .00007  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43729-B-2-B      Acquired: 5/7/2015 9:26:54      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |                |                |               |
|--------|---------------|---------------|----------------|----------------|---------------|
| Elem   | Sr            | Ti            | Ti             | V_             | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477}  | 290.882 {116}  | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)       | (Y_3600)       | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm            | ppm           |
| Avg    | <b>.12335</b> | <b>.00024</b> | <b>-.00117</b> | <b>-.00023</b> | <b>.01334</b> |
| Stddev | .00151        | .00008        | .00105         | .00105         | .00021        |
| %RSD   | 1.2263        | 34.377        | 90.304         | 448.37         | 1.6043        |

|    |        |        |         |         |        |
|----|--------|--------|---------|---------|--------|
| #1 | .12189 | .00014 | -.00001 | -.00104 | .01351 |
| #2 | .12326 | .00028 | -.00207 | .00095  | .01342 |
| #3 | .12491 | .00029 | -.00143 | -.00061 | .01310 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2814.0</b> | <b>5103.6</b> | <b>73103.</b> | <b>10749.</b> |
| Stddev    | 17.0          | 22.6          | 239.          | 98.           |
| %RSD      | .60242        | .44322        | .32654        | .90715        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2794.7 | 5077.6 | 73033. | 10861. |
| #2 | 2820.5 | 5118.3 | 72908. | 10706. |
| #3 | 2826.7 | 5115.0 | 73369. | 10681. |

Sample Name: 180-43729-B-1-B      Acquired: 5/7/2015 9:32:08      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |                |               |               |               |
|--------|----------------|---------------|----------------|---------------|---------------|---------------|
| Elem   | Ag             | Al            | As             | B_            | Ba            | Be            |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478}  | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>-.00032</b> | <b>.00297</b> | <b>-.00510</b> | <b>.09766</b> | <b>.07400</b> | <b>.00006</b> |
| Stddev | .00036         | .00314        | .00071         | .00037        | .00025        | .00003        |
| %RSD   | 110.99         | 105.70        | 13.903         | .37656        | .33479        | 53.437        |

|    |                |                |                |               |               |               |
|----|----------------|----------------|----------------|---------------|---------------|---------------|
| #1 | <b>-.00047</b> | <b>-.00065</b> | <b>-.00570</b> | <b>.09751</b> | <b>.07413</b> | <b>.00002</b> |
| #2 | <b>.00009</b>  | <b>.00470</b>  | <b>-.00529</b> | <b>.09739</b> | <b>.07372</b> | <b>.00007</b> |
| #3 | <b>-.00059</b> | <b>.00485</b>  | <b>-.00432</b> | <b>.09808</b> | <b>.07416</b> | <b>.00008</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |                |               |
|--------|---------------|---------------|---------------|---------------|----------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu             | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103}  | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)       | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm            | ppm           |
| Avg    | <b>24.193</b> | <b>.00013</b> | <b>.00032</b> | <b>.00240</b> | <b>-.00039</b> | <b>16.680</b> |
| Stddev | .111          | .00014        | .00018        | .00042        | .00084         | .100          |
| %RSD   | .45804        | 112.26        | 54.396        | 17.716        | 212.05         | .59783        |

|    |               |               |               |               |                |               |
|----|---------------|---------------|---------------|---------------|----------------|---------------|
| #1 | <b>24.294</b> | <b>.00001</b> | <b>.00013</b> | <b>.00193</b> | <b>-.00088</b> | <b>16.788</b> |
| #2 | <b>24.074</b> | <b>.00008</b> | <b>.00036</b> | <b>.00276</b> | <b>.00057</b>  | <b>16.662</b> |
| #3 | <b>24.211</b> | <b>.00028</b> | <b>.00048</b> | <b>.00250</b> | <b>-.00088</b> | <b>16.591</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43729-B-1-B      Acquired: 5/7/2015 9:32:08      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 5.6027        | .03839        | 7.3743        | 10.151        | -.00010       | 149.58        |
| Stddev | .0434         | .00148        | .0261         | .099          | .00015        | .17           |
| %RSD   | .77413        | 3.8553        | .35349        | .97532        | 147.57        | .11101        |

|    |        |        |        |        |         |        |
|----|--------|--------|--------|--------|---------|--------|
| #1 | 5.6319 | .03969 | 7.4011 | 10.252 | -.00017 | 149.73 |
| #2 | 5.6234 | .03678 | 7.3728 | 10.054 | .00007  | 149.40 |
| #3 | 5.5529 | .03871 | 7.3491 | 10.146 | -.00020 | 149.62 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00109        | .00130        | -.00179       | .00143        | .15589        | .00047        |
| Stddev | .00019        | .00039        | .00089        | .00201        | .00208        | .00053        |
| %RSD   | 17.328        | 29.724        | 50.009        | 140.58        | 1.3316        | 112.94        |

|    |        |        |         |         |        |         |
|----|--------|--------|---------|---------|--------|---------|
| #1 | .00112 | .00086 | -.00111 | -.00005 | .15353 | -.00000 |
| #2 | .00089 | .00144 | -.00145 | .00062  | .15671 | .00105  |
| #3 | .00127 | .00159 | -.00280 | .00372  | .15743 | .00037  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43729-B-1-B      Acquired: 5/7/2015 9:32:08      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .08542        | .00020        | .00066        | -.00114       | .00340        |
| Stddev | .00291        | .00014        | .00060        | .00424        | .00006        |
| %RSD   | 3.4098        | 71.242        | 90.323        | 371.34        | 1.6908        |

|    |        |        |         |         |        |
|----|--------|--------|---------|---------|--------|
| #1 | .08879 | .00017 | .00108  | .00040  | .00333 |
| #2 | .08374 | .00035 | -.00002 | -.00593 | .00344 |
| #3 | .08374 | .00007 | .00093  | .00211  | .00342 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2846.1        | 5137.9        | 73607.        | 10621.        |
| Stddev    | 5.5           | 11.8          | 195.          | 114.          |
| %RSD      | .19297        | .22869        | .26481        | 1.0737        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2852.0 | 5150.9 | 73523. | 10495. |
| #2 | 2845.2 | 5134.8 | 73469. | 10717. |
| #3 | 2841.2 | 5128.0 | 73830. | 10651. |

Sample Name: 180-43726-A-3-B      Acquired: 5/7/2015 9:37:22      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00025</b> | <b>.01063</b> | <b>.00337</b> | <b>.06946</b> | <b>.01416</b> | <b>.00004</b> |
| Stddev | .00019         | .01024        | .00176        | .00071        | .00029        | .00003        |
| %RSD   | 73.264         | 96.327        | 52.362        | 1.0248        | 2.0244        | 70.156        |

|    |                |                |               |               |               |               |
|----|----------------|----------------|---------------|---------------|---------------|---------------|
| #1 | <b>-.00044</b> | <b>-.00057</b> | <b>.00142</b> | <b>.06930</b> | <b>.01435</b> | <b>.00003</b> |
| #2 | <b>-.00026</b> | <b>.01952</b>  | <b>.00382</b> | <b>.06884</b> | <b>.01431</b> | <b>.00002</b> |
| #3 | <b>-.00007</b> | <b>.01294</b>  | <b>.00487</b> | <b>.07024</b> | <b>.01383</b> | <b>.00007</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>25.442</b> | <b>.00015</b> | <b>.00061</b> | <b>.00018</b> | <b>.01566</b> | <b>.01443</b> |
| Stddev | .711          | .00011        | .00028        | .00020        | .00029        | .00178        |
| %RSD   | 2.7939        | 72.095        | 45.656        | 112.13        | 1.8744        | 12.342        |

|    |               |               |               |                |               |               |
|----|---------------|---------------|---------------|----------------|---------------|---------------|
| #1 | <b>25.861</b> | <b>.00010</b> | <b>.00072</b> | <b>.00017</b>  | <b>.01533</b> | <b>.01632</b> |
| #2 | <b>25.844</b> | <b>.00008</b> | <b>.00030</b> | <b>-.00002</b> | <b>.01589</b> | <b>.01420</b> |
| #3 | <b>24.621</b> | <b>.00028</b> | <b>.00082</b> | <b>.00039</b>  | <b>.01577</b> | <b>.01278</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43726-A-3-B      Acquired: 5/7/2015 9:37:22      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.34475</b> | <b>.00065</b> | <b>.69542</b> | <b>.03854</b> | <b>.00011</b> | <b>139.57</b> |
| Stddev | .02383        | .00099        | .02039        | .00110        | .00027        | 3.54          |
| %RSD   | 6.9133        | 151.89        | 2.9318        | 2.8445        | 236.58        | 2.5377        |

|    |               |                |               |               |                |               |
|----|---------------|----------------|---------------|---------------|----------------|---------------|
| #1 | <b>.37224</b> | <b>-.00033</b> | <b>.71465</b> | <b>.03946</b> | <b>.00032</b>  | <b>141.83</b> |
| #2 | <b>.32999</b> | <b>.00166</b>  | <b>.69755</b> | <b>.03884</b> | <b>-.00019</b> | <b>141.40</b> |
| #3 | <b>.33201</b> | <b>.00063</b>  | <b>.67405</b> | <b>.03733</b> | <b>.00021</b>  | <b>135.49</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.00140</b> | <b>4.7962</b> | <b>.00654</b> | <b>.00435</b> | <b>.35278</b> | <b>.00024</b> |
| Stddev | .00034        | .0191         | .00065        | .00189        | .01829        | .00028        |
| %RSD   | 23.997        | .39903        | 10.005        | 43.530        | 5.1840        | 118.02        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.00179</b> | <b>4.7986</b> | <b>.00666</b> | <b>.00619</b> | <b>.37238</b> | <b>.00016</b> |
| #2 | <b>.00126</b> | <b>4.7760</b> | <b>.00584</b> | <b>.00241</b> | <b>.34980</b> | <b>.00054</b> |
| #3 | <b>.00116</b> | <b>4.8141</b> | <b>.00713</b> | <b>.00444</b> | <b>.33617</b> | <b>.00000</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43726-A-3-B      Acquired: 5/7/2015 9:37:22      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |                |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti             | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>.27949</b> | <b>.00054</b> | <b>-.00180</b> | <b>.00023</b> | <b>.01893</b> |
| Stddev | .00455        | .00009        | .00042         | .00111        | .00011        |
| %RSD   | 1.6269        | 16.122        | 23.557         | 473.08        | .55595        |

|    |               |               |                |                |               |
|----|---------------|---------------|----------------|----------------|---------------|
| #1 | <b>.28298</b> | <b>.00045</b> | <b>-.00228</b> | <b>-.00087</b> | <b>.01889</b> |
| #2 | <b>.28114</b> | <b>.00061</b> | <b>-.00168</b> | <b>.00135</b>  | <b>.01885</b> |
| #3 | <b>.27435</b> | <b>.00057</b> | <b>-.00146</b> | <b>.00021</b>  | <b>.01905</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2842.3</b> | <b>5101.1</b> | <b>73302.</b> | <b>10871.</b> |
| Stddev    | 9.1           | 19.5          | 1441.         | 305.          |
| %RSD      | .32074        | .38286        | 1.9664        | 2.8019        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>2842.8</b> | <b>5086.0</b> | <b>71641.</b> | <b>10651.</b> |
| #2 | <b>2851.1</b> | <b>5123.1</b> | <b>74033.</b> | <b>10744.</b> |
| #3 | <b>2832.9</b> | <b>5094.1</b> | <b>74231.</b> | <b>11219.</b> |

Sample Name: 180-43726-A-2-C      Acquired: 5/7/2015 9:42:27      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |               |               |               |               |
|--------|----------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag             | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00013</b> | <b>.02988</b> | <b>.00119</b> | <b>.04902</b> | <b>.16518</b> | <b>.00008</b> |
| Stddev | .00022         | .00629        | .00029        | .00047        | .00034        | .00008        |
| %RSD   | 165.66         | 21.049        | 24.700        | .95330        | .20585        | 95.015        |

|    |         |        |        |        |        |        |
|----|---------|--------|--------|--------|--------|--------|
| #1 | .00012  | .02500 | .00153 | .04849 | .16552 | .00003 |
| #2 | -.00029 | .02766 | .00107 | .04923 | .16518 | .00018 |
| #3 | -.00023 | .03697 | .00098 | .04935 | .16484 | .00005 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>4.6037</b> | <b>.00045</b> | <b>.00306</b> | <b>.00239</b> | <b>.00772</b> | <b>.96357</b> |
| Stddev | .0136         | .00012        | .00015        | .00016        | .00073        | .00716        |
| %RSD   | .29589        | 26.592        | 4.8638        | 6.7738        | 9.4738        | .74304        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 4.6192 | .00058 | .00307 | .00220 | .00856 | .97184 |
| #2 | 4.5937 | .00040 | .00320 | .00249 | .00731 | .95957 |
| #3 | 4.5982 | .00035 | .00290 | .00247 | .00729 | .95931 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43726-A-2-C      Acquired: 5/7/2015 9:42:27      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .20951        | .00033        | .51799        | .07242        | -.00001       | 139.02        |
| Stddev | .02902        | .00115        | .02737        | .00035        | .00008        | .51           |
| %RSD   | 13.850        | 347.97        | 5.2846        | .47681        | 1330.1        | .37027        |

|    |        |         |        |        |         |        |
|----|--------|---------|--------|--------|---------|--------|
| #1 | .23267 | -.00074 | .54837 | .07280 | -.00007 | 139.62 |
| #2 | .21890 | .00019  | .51035 | .07214 | .00009  | 138.75 |
| #3 | .17696 | .00154  | .49525 | .07232 | -.00003 | 138.71 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .03488        | 9.0587        | .00332        | .00052        | .33483        | .00075        |
| Stddev | .00029        | .0142         | .00110        | .00103        | .00479        | .00052        |
| %RSD   | .84132        | .15713        | 32.967        | 197.39        | 1.4309        | 69.806        |

|    |        |        |        |         |        |        |
|----|--------|--------|--------|---------|--------|--------|
| #1 | .03520 | 9.0448 | .00431 | -.00060 | .33882 | .00062 |
| #2 | .03481 | 9.0581 | .00215 | .00142  | .33615 | .00133 |
| #3 | .03463 | 9.0732 | .00352 | .00075  | .32952 | .00031 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43726-A-2-C      Acquired: 5/7/2015 9:42:27      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .03408        | .00024        | -.00194       | .00178        | .06391        |
| Stddev | .00536        | .00011        | .00042        | .00312        | .00045        |
| %RSD   | 15.739        | 46.351        | 21.733        | 175.36        | .69731        |

|    |        |        |         |         |        |
|----|--------|--------|---------|---------|--------|
| #1 | .03999 | .00035 | -.00231 | .00132  | .06358 |
| #2 | .03271 | .00013 | -.00203 | -.00108 | .06374 |
| #3 | .02953 | .00023 | -.00148 | .00510  | .06442 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2884.3        | 5191.8        | 74322.        | 10738.        |
| Stddev    | 5.4           | 6.7           | 438.          | 64.           |
| %RSD      | .18746        | .12999        | .58901        | .59903        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2890.5 | 5199.3 | 73826. | 10679. |
| #2 | 2881.0 | 5189.9 | 74488. | 10806. |
| #3 | 2881.4 | 5186.3 | 74653. | 10728. |



Sample Name: 180-43726-A-1-C      Acquired: 5/7/2015 9:47:32      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |                |               |               |                |
|--------|----------------|---------------|----------------|---------------|---------------|----------------|
| Elem   | Ag             | Al            | As             | B_            | Ba            | Be             |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478}  | 182.641 {485} | 455.403 { 74} | 313.042 {108}  |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_3710)       |
| Units  | ppm            | ppm           | ppm            | ppm           | ppm           | ppm            |
| Avg    | <b>-.00002</b> | <b>.01139</b> | <b>-.00150</b> | <b>.05566</b> | <b>.01015</b> | <b>-.00005</b> |
| Stddev | .00051         | .02669        | .00179         | .00060        | .00025        | .00002         |
| %RSD   | 2918.5         | 234.33        | 119.39         | 1.0772        | 2.4543        | 44.908         |

|    |                |                |                |               |               |                |
|----|----------------|----------------|----------------|---------------|---------------|----------------|
| #1 | <b>-.00060</b> | <b>.00662</b>  | <b>-.00236</b> | <b>.05541</b> | <b>.01022</b> | <b>-.00004</b> |
| #2 | <b>.00029</b>  | <b>.04014</b>  | <b>-.00270</b> | <b>.05523</b> | <b>.01035</b> | <b>-.00003</b> |
| #3 | <b>.00026</b>  | <b>-.01259</b> | <b>.00056</b>  | <b>.05635</b> | <b>.00987</b> | <b>-.00007</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |                |               |               |               |               |
|--------|---------------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd             | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>100.00</b> | <b>-.00009</b> | <b>.00066</b> | <b>.00221</b> | <b>.00106</b> | <b>.00306</b> |
| Stddev | .10           | .00001         | .00013        | .00044        | .00070        | .00045        |
| %RSD   | .10314        | 12.864         | 19.966        | 19.987        | 66.473        | 14.725        |

|    |               |                |               |               |               |               |
|----|---------------|----------------|---------------|---------------|---------------|---------------|
| #1 | <b>100.01</b> | <b>-.00007</b> | <b>.00055</b> | <b>.00237</b> | <b>.00091</b> | <b>.00358</b> |
| #2 | <b>100.10</b> | <b>-.00009</b> | <b>.00080</b> | <b>.00254</b> | <b>.00044</b> | <b>.00282</b> |
| #3 | <b>99.897</b> | <b>-.00010</b> | <b>.00062</b> | <b>.00171</b> | <b>.00182</b> | <b>.00278</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43726-A-1-C      Acquired: 5/7/2015 9:47:32      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.14137</b> | <b>.00136</b> | <b>16.255</b> | <b>3.8171</b> | <b>.00008</b> | <b>137.17</b> |
| Stddev | .01360        | .00130        | .071          | .0153         | .00020        | .21           |
| %RSD   | 9.6184        | 95.923        | .43506        | .39959        | 256.43        | .15269        |

|    |        |        |        |        |         |        |
|----|--------|--------|--------|--------|---------|--------|
| #1 | .13207 | .00268 | 16.178 | 3.8217 | .00029  | 136.96 |
| #2 | .15698 | .00131 | 16.317 | 3.8296 | -.00011 | 137.38 |
| #3 | .13507 | .00008 | 16.270 | 3.8001 | .00006  | 137.18 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |                |                |               |               |               |
|--------|---------------|----------------|----------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb             | Sb             | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453}  | 217.581 {455}  | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)       | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm            | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>.03834</b> | <b>-.00010</b> | <b>-.00265</b> | <b>.00193</b> | <b>.71270</b> | <b>.00065</b> |
| Stddev | .00056        | .00097         | .00106         | .00052        | .00416        | .00039        |
| %RSD   | 1.4532        | 928.87         | 40.038         | 27.147        | .58302        | 60.639        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | .03826 | -.00009 | -.00349 | .00247 | .71107 | .00074 |
| #2 | .03783 | -.00108 | -.00299 | .00142 | .70960 | .00022 |
| #3 | .03894 | .00086  | -.00146 | .00192 | .71742 | .00099 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43726-A-1-C      Acquired: 5/7/2015 9:47:32      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |                |               |               |
|--------|---------------|---------------|----------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti             | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>.26318</b> | <b>.00102</b> | <b>-.00137</b> | <b>.00304</b> | <b>.00075</b> |
| Stddev | .00412        | .00025        | .00143         | .00377        | .00007        |
| %RSD   | 1.5657        | 24.836        | 104.70         | 124.26        | 8.9804        |

|    |               |               |                |                |               |
|----|---------------|---------------|----------------|----------------|---------------|
| #1 | <b>.25843</b> | <b>.00131</b> | <b>-.00240</b> | <b>.00718</b>  | <b>.00081</b> |
| #2 | <b>.26546</b> | <b>.00085</b> | <b>-.00197</b> | <b>.00213</b>  | <b>.00067</b> |
| #3 | <b>.26567</b> | <b>.00090</b> | <b>.00027</b>  | <b>-.00020</b> | <b>.00076</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2790.7</b> | <b>5048.4</b> | <b>72813.</b> | <b>10641.</b> |
| Stddev    | 2.6           | 11.7          | 324.          | 35.           |
| %RSD      | .09278        | .23166        | .44446        | .32597        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>2793.2</b> | <b>5061.9</b> | <b>72465.</b> | <b>10661.</b> |
| #2 | <b>2790.7</b> | <b>5043.1</b> | <b>73105.</b> | <b>10601.</b> |
| #3 | <b>2788.0</b> | <b>5040.3</b> | <b>72870.</b> | <b>10661.</b> |

Sample Name: MB 180-140707/1-A      Acquired: 5/7/2015 9:52:47      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00020        | .01360        | -.00041       | -.00013       | -.00008       | .00008        |
| Stddev | .00017        | .00556        | .00152        | .00010        | .00012        | .00004        |
| %RSD   | 87.418        | 40.888        | 373.12        | 75.391        | 149.04        | 47.034        |

|    |        |        |         |         |         |        |
|----|--------|--------|---------|---------|---------|--------|
| #1 | .00023 | .01060 | .00130  | -.00006 | .00005  | .00009 |
| #2 | .00001 | .01018 | -.00090 | -.00024 | -.00010 | .00012 |
| #3 | .00036 | .02002 | -.00162 | -.00009 | -.00019 | .00004 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00682       | -.00012       | .00011        | -.00018       | .00024        | .00587        |
| Stddev | .00204        | .00007        | .00027        | .00039        | .00029        | .00037        |
| %RSD   | 29.873        | 56.034        | 250.36        | 216.47        | 121.18        | 6.3688        |

|    |         |         |         |         |         |        |
|----|---------|---------|---------|---------|---------|--------|
| #1 | -.00917 | -.00020 | .00007  | -.00046 | .00045  | .00597 |
| #2 | -.00572 | -.00007 | .00039  | .00027  | .00037  | .00546 |
| #3 | -.00556 | -.00009 | -.00014 | -.00035 | -.00009 | .00619 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: MB 180-140707/1-A      Acquired: 5/7/2015 9:52:47      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |                |               |               |               |               |
|--------|----------------|----------------|---------------|---------------|---------------|---------------|
| Elem   | K_             | Li             | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44}  | 670.784 { 50}  | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)       | (Y_3710)       | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm            | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.01929</b> | <b>-.00022</b> | <b>.01097</b> | <b>.00047</b> | <b>.00001</b> | <b>.05795</b> |
| Stddev | .04116         | .00079         | .01583        | .00006        | .00012        | .00562        |
| %RSD   | 213.41         | 367.38         | 144.31        | 11.810        | 2463.6        | 9.6920        |

|    |                |                |                |               |                |               |
|----|----------------|----------------|----------------|---------------|----------------|---------------|
| #1 | <b>-.06238</b> | <b>-.00038</b> | <b>.00836</b>  | <b>.00052</b> | <b>.00005</b>  | <b>.06383</b> |
| #2 | <b>-.01508</b> | <b>-.00092</b> | <b>.02793</b>  | <b>.00047</b> | <b>.00010</b>  | <b>.05738</b> |
| #3 | <b>.01961</b>  | <b>.00065</b>  | <b>-.00340</b> | <b>.00041</b> | <b>-.00013</b> | <b>.05264</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |                |               |                |               |               |               |
|--------|----------------|---------------|----------------|---------------|---------------|---------------|
| Elem   | Ni             | Pb            | Sb             | Se            | Si            | Sn            |
| Line   | 231.604 {446}  | 220.353 {453} | 217.581 {455}  | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)       | (In2306)      | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>-.00017</b> | <b>.00078</b> | <b>-.00051</b> | <b>.00037</b> | <b>.00054</b> | <b>.00051</b> |
| Stddev | .00024         | .00091        | .00031         | .00199        | .00220        | .00038        |
| %RSD   | 141.23         | 117.22        | 61.642         | 537.48        | 404.50        | 73.582        |

|    |                |                |                |                |                |               |
|----|----------------|----------------|----------------|----------------|----------------|---------------|
| #1 | <b>-.00044</b> | <b>-.00019</b> | <b>-.00023</b> | <b>-.00181</b> | <b>-.00046</b> | <b>.00093</b> |
| #2 | <b>.00004</b>  | <b>.00091</b>  | <b>-.00045</b> | <b>.00083</b>  | <b>.00307</b>  | <b>.00042</b> |
| #3 | <b>-.00013</b> | <b>.00162</b>  | <b>-.00084</b> | <b>.00210</b>  | <b>-.00097</b> | <b>.00019</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: MB 180-140707/1-A      Acquired: 5/7/2015 9:52:47      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00029        | -.00003       | .00017        | .00039        | .00001        |
| Stddev | .00350        | .00008        | .00077        | .00085        | .00006        |
| %RSD   | 1213.8        | 269.68        | 442.36        | 214.79        | 405.33        |

|    |         |         |         |         |         |
|----|---------|---------|---------|---------|---------|
| #1 | .00180  | .00005  | .00092  | -.00029 | .00004  |
| #2 | .00278  | -.00010 | .00022  | .00013  | -.00005 |
| #3 | -.00371 | -.00004 | -.00062 | .00134  | .00005  |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3278.3        | 5437.1        | 80560.        | 10895.        |
| Stddev    | 17.9          | 30.9          | 289.          | 88.           |
| %RSD      | .54728        | .56903        | .35821        | .80842        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3294.2 | 5460.3 | 80674. | 10935. |
| #2 | 3258.8 | 5402.0 | 80773. | 10794. |
| #3 | 3282.0 | 5449.1 | 80231. | 10955. |

Sample Name: LCS 180-140707/2-A      Acquired: 5/7/2015 9:57:55      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.05024</b> | <b>1.9036</b> | <b>.50456</b> | <b>1.0521</b> | <b>1.9495</b> | <b>.04979</b> |
| Stddev | .00049        | .0196         | .00238        | .0013         | .0046         | .00010        |
| %RSD   | .97447        | 1.0282        | .47157        | .11882        | .23508        | .20757        |
| #1     | .04991        | 1.8811        | .50702        | 1.0526        | 1.9452        | .04991        |
| #2     | .05080        | 1.9133        | .50438        | 1.0530        | 1.9543        | .04975        |
| #3     | .05000        | 1.9164        | .50227        | 1.0507        | 1.9489        | .04972        |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>48.358</b> | <b>.04890</b> | <b>.49663</b> | <b>.19135</b> | <b>.23741</b> | <b>1.0062</b> |
| Stddev | .063          | .00019        | .00053        | .00076        | .00034        | .0017         |
| %RSD   | .12982        | .38851        | .10587        | .39553        | .14363        | .16761        |
| #1     | 48.428        | .04890        | .49724        | .19066        | .23771        | 1.0068        |
| #2     | 48.308        | .04909        | .49634        | .19216        | .23749        | 1.0042        |
| #3     | 48.336        | .04871        | .49631        | .19122        | .23704        | 1.0074        |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: LCS 180-140707/2-A      Acquired: 5/7/2015 9:57:55      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>48.903</b> | <b>.97878</b> | <b>48.979</b> | <b>.47560</b> | <b>.98786</b> | <b>50.369</b> |
| Stddev | .015          | .00444        | .023          | .00263        | .00098        | .067          |
| %RSD   | .03030        | .45314        | .04766        | .55335        | .09906        | .13302        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 48.886 | .97404 | 49.006 | .47863 | .98781 | 50.293 |
| #2 | 48.913 | .97947 | 48.964 | .47399 | .98887 | 50.419 |
| #3 | 48.910 | .98284 | 48.967 | .47416 | .98691 | 50.396 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.49534</b> | <b>.49321</b> | <b>.50565</b> | <b>.51131</b> | <b>9.8742</b> | <b>1.9338</b> |
| Stddev | .00173        | .00274        | .00212        | .00250        | .0360         | .0076         |
| %RSD   | .35016        | .55555        | .41919        | .48819        | .36465        | .39359        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .49593 | .49590 | .50543 | .50915 | 9.8491 | 1.9391 |
| #2 | .49671 | .49331 | .50787 | .51404 | 9.8581 | 1.9371 |
| #3 | .49339 | .49043 | .50365 | .51073 | 9.9155 | 1.9250 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: LCS 180-140707/2-A      Acquired: 5/7/2015 9:57:55      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.97484</b> | <b>.94952</b> | <b>.48698</b> | <b>.50350</b> | <b>.49260</b> |
| Stddev | .00493        | .00592        | .00121        | .00739        | .00108        |
| %RSD   | .50550        | .62329        | .24915        | 1.4673        | .21985        |

|    |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.97968</b> | <b>.95623</b> | <b>.48771</b> | <b>.49721</b> | <b>.49358</b> |
| #2 | <b>.97503</b> | <b>.94504</b> | <b>.48766</b> | <b>.50165</b> | <b>.49278</b> |
| #3 | <b>.96983</b> | <b>.94730</b> | <b>.48558</b> | <b>.51164</b> | <b>.49143</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2802.8</b> | <b>5151.7</b> | <b>74902.</b> | <b>10809.</b> |
| Stddev    | 2.9           | 7.1           | 268.          | 28.           |
| %RSD      | .10309        | .13822        | .35805        | .25684        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2804.1 | 5152.7 | 75196. | 10779. |
| #2 | 2799.4 | 5144.2 | 74670. | 10833. |
| #3 | 2804.7 | 5158.3 | 74842. | 10815. |

Sample Name: LCSD 180-140707/3-A      Acquired: 5/7/2015 10:02:43      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .05120        | 1.9028        | .48899        | 1.0286        | 1.9183        | .04814        |
| Stddev | .00033        | .0224         | .00158        | .0004         | .0038         | .00020        |
| %RSD   | .64687        | 1.1788        | .32253        | .04182        | .19677        | .41562        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .05089 | 1.9233 | .48986 | 1.0290 | 1.9200 | .04823 |
| #2 | .05118 | 1.8788 | .48717 | 1.0281 | 1.9140 | .04791 |
| #3 | .05155 | 1.9064 | .48995 | 1.0287 | 1.9209 | .04828 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (ln2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 48.055        | .04813        | .48715        | .19372        | .23684        | .97491        |
| Stddev | .031          | .00007        | .00112        | .00065        | .00060        | .00509        |
| %RSD   | .06510        | .14243        | .23048        | .33575        | .25475        | .52189        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 48.081 | .04819 | .48825 | .19447 | .23697 | .97651 |
| #2 | 48.064 | .04815 | .48719 | .19338 | .23619 | .96922 |
| #3 | 48.021 | .04805 | .48601 | .19331 | .23737 | .97901 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: LCSD 180-140707/3-A      Acquired: 5/7/2015 10:02:43      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>47.891</b> | <b>.97600</b> | <b>47.576</b> | <b>.46282</b> | <b>.97064</b> | <b>49.842</b> |
| Stddev | .160          | .00366        | .214          | .00142        | .00155        | .139          |
| %RSD   | .33309        | .37548        | .44892        | .30676        | .16010        | .27881        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 48.035 | .97685 | 47.746 | .46441 | .97059 | 49.916 |
| #2 | 47.720 | .97198 | 47.337 | .46237 | .96911 | 49.682 |
| #3 | 47.920 | .97916 | 47.646 | .46168 | .97222 | 49.928 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.48300</b> | <b>.48162</b> | <b>.49093</b> | <b>.49599</b> | <b>9.6554</b> | <b>1.9032</b> |
| Stddev | .00091        | .00224        | .00248        | .00075        | .0360         | .0019         |
| %RSD   | .18908        | .46589        | .50569        | .15192        | .37267        | .09952        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .48404 | .47941 | .49328 | .49652 | 9.6635 | 1.9025 |
| #2 | .48257 | .48389 | .49120 | .49512 | 9.6160 | 1.9018 |
| #3 | .48238 | .48157 | .48833 | .49631 | 9.6866 | 1.9054 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: LCSD 180-140707/3-A      Acquired: 5/7/2015 10:02:43      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.94021</b> | <b>.93418</b> | <b>.47790</b> | <b>.50985</b> | <b>.48113</b> |
| Stddev | .00625        | .00395        | .00234        | .00561        | .00031        |
| %RSD   | .66477        | .42292        | .49052        | 1.1002        | .06454        |

|    |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.94351</b> | <b>.93858</b> | <b>.47998</b> | <b>.50659</b> | <b>.48117</b> |
| #2 | <b>.93300</b> | <b>.93092</b> | <b>.47536</b> | <b>.51633</b> | <b>.48142</b> |
| #3 | <b>.94412</b> | <b>.93306</b> | <b>.47836</b> | <b>.50664</b> | <b>.48080</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>2839.4</b> | <b>5213.0</b> | <b>74745.</b> | <b>10910.</b> |
| Stddev    | 3.5           | 6.7           | 83.           | 38.           |
| %RSD      | .12387        | .12784        | .11040        | .34423        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>2835.4</b> | <b>5206.4</b> | <b>74830.</b> | <b>10868.</b> |
| #2 | <b>2840.6</b> | <b>5219.7</b> | <b>74741.</b> | <b>10941.</b> |
| #3 | <b>2842.2</b> | <b>5212.9</b> | <b>74665.</b> | <b>10921.</b> |

Sample Name: CCV 1551842      Acquired: 5/7/2015 10:07:33      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.0292        | 24.350        | .50714        | 2.0310        | 1.9551        | 1.9768        |
| Stddev | .0023         | .105          | .00350        | .0076         | .0029         | .0076         |
| %RSD   | .22778        | .42980        | .69030        | .37354        | .14620        | .38208        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 1.0298 | 24.250 | .50443 | 2.0255 | 1.9518 | 1.9704 |
| #2 | 1.0266 | 24.459 | .50589 | 2.0279 | 1.9563 | 1.9749 |
| #3 | 1.0311 | 24.340 | .51109 | 2.0397 | 1.9571 | 1.9852 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 49.224        | .50744        | 2.0324        | 1.9511        | 1.9016        | 24.605        |
| Stddev | .257          | .00196        | .0013         | .0084         | .0137         | .101          |
| %RSD   | .52293        | .38621        | .06298        | .42937        | .72132        | .40998        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 48.947 | .50632 | 2.0312 | 1.9517 | 1.8858 | 24.489 |
| #2 | 49.456 | .50630 | 2.0322 | 1.9424 | 1.9083 | 24.668 |
| #3 | 49.269 | .50971 | 2.0337 | 1.9592 | 1.9106 | 24.659 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/7/2015 10:07:33      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>121.33</b> | <b>1.9762</b> | <b>48.569</b> | <b>1.8732</b> | <b>1.9605</b> | <b>125.49</b> |
| Stddev | .32           | .0017         | .347          | .0164         | .0092         | .23           |
| %RSD   | .26356        | .08649        | .71464        | .87784        | .46880        | .18342        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 121.13 | 1.9759 | 48.233 | 1.8543 | 1.9525 | 125.29 |
| #2 | 121.17 | 1.9747 | 48.547 | 1.8807 | 1.9585 | 125.43 |
| #3 | 121.70 | 1.9781 | 48.926 | 1.8846 | 1.9705 | 125.74 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>2.0207</b> | <b>.50386</b> | <b>.49859</b> | <b>.50892</b> | <b>1.9966</b> | <b>1.9020</b> |
| Stddev | .0026         | .00092        | .00259        | .00157        | .0058         | .0008         |
| %RSD   | .12622        | .18214        | .51948        | .30754        | .29081        | .03994        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 2.0178 | .50433 | .49639 | .50761 | 1.9995 | 1.9011 |
| #2 | 2.0226 | .50280 | .49795 | .50850 | 2.0004 | 1.9024 |
| #3 | 2.0217 | .50443 | .50144 | .51065 | 1.9899 | 1.9025 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/7/2015 10:07:33      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
|--------|---------------|---------------|---------------|---------------|---------------|
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.9264        | 1.8860        | .96523        | 2.0560        | 1.9590        |
| Stddev | .0032         | .0150         | .00007        | .0111         | .0016         |
| %RSD   | .16413        | .79765        | .00771        | .54050        | .08297        |
| #1     | 1.9239        | 1.8686        | .96522        | 2.0641        | 1.9597        |
| #2     | 1.9254        | 1.8959        | .96531        | 2.0433        | 1.9571        |
| #3     | 1.9299        | 1.8933        | .96517        | 2.0605        | 1.9601        |

|         |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |
| Range   |          |          |          |          |          |

| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
|-----------|---------------|---------------|---------------|---------------|
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2667.8        | 5073.7        | 73090.        | 10618.        |
| Stddev    | 1.3           | 8.9           | 260.          | 59.           |
| %RSD      | .04948        | .17482        | .35536        | .55381        |
| #1        | 2666.3        | 5070.0        | 72925.        | 10686.        |
| #2        | 2668.3        | 5083.8        | 73389.        | 10582.        |
| #3        | 2668.8        | 5067.3        | 72955.        | 10587.        |

Sample Name: CCB3      Acquired: 5/7/2015 10:12:19      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00032        | .00589        | .00069        | .00195        | .00014        | .00016        |
| Stddev | .00032        | .01257        | .00206        | .00016        | .00012        | .00004        |
| %RSD   | 100.01        | 213.35        | 300.20        | 8.2386        | 89.083        | 27.507        |

|    |         |         |         |        |        |        |
|----|---------|---------|---------|--------|--------|--------|
| #1 | .00063  | -.00464 | .00153  | .00190 | .00027 | .00017 |
| #2 | -.00001 | .00251  | -.00166 | .00213 | .00003 | .00020 |
| #3 | .00035  | .01981  | .00219  | .00182 | .00012 | .00011 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00848        | -.00000       | .00020        | .00013        | .00051        | .00373        |
| Stddev | .00074        | .00002        | .00029        | .00034        | .00056        | .00137        |
| %RSD   | 8.7782        | 878.58        | 144.03        | 269.53        | 111.52        | 36.701        |

|    |        |         |         |         |         |        |
|----|--------|---------|---------|---------|---------|--------|
| #1 | .00763 | -.00003 | .00020  | .00004  | -.00004 | .00285 |
| #2 | .00901 | .00000  | -.00009 | .00050  | .00109  | .00303 |
| #3 | .00881 | .00002  | .00049  | -.00016 | .00047  | .00531 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: CCB3      Acquired: 5/7/2015 10:12:19      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .08810        | .00057        | .00041        | .00012        | .00272        | .02615        |
| Stddev | .03850        | .00140        | .01498        | .00001        | .00039        | .00326        |
| %RSD   | 43.697        | 245.17        | 3690.3        | 12.240        | 14.414        | 12.463        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | .07514 | .00185  | .00650  | .00011 | .00309 | .02530 |
| #2 | .13140 | -.00092 | -.01666 | .00012 | .00276 | .02975 |
| #3 | .05775 | .00079  | .01138  | .00014 | .00231 | .02340 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00025        | -.00008       | -.00051       | .00197        | -.00080       | .00044        |
| Stddev | .00017        | .00075        | .00044        | .00276        | .00530        | .00009        |
| %RSD   | 67.404        | 945.55        | 86.209        | 140.06        | 661.13        | 19.909        |

|    |        |         |         |        |         |        |
|----|--------|---------|---------|--------|---------|--------|
| #1 | .00024 | -.00078 | -.00101 | .00067 | .00332  | .00039 |
| #2 | .00009 | .00072  | -.00035 | .00513 | -.00678 | .00038 |
| #3 | .00043 | -.00018 | -.00017 | .00010 | .00106  | .00054 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB3      Acquired: 5/7/2015 10:12:19      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00038        | .00029        | .00058        | .00093        | .00019        |
| Stddev | .00250        | .00006        | .00054        | .00079        | .00007        |
| %RSD   | 664.76        | 20.334        | 93.500        | 85.201        | 40.096        |

|    |         |        |        |        |        |
|----|---------|--------|--------|--------|--------|
| #1 | .00084  | .00036 | .00116 | .00181 | .00021 |
| #2 | -.00233 | .00024 | .00011 | .00069 | .00025 |
| #3 | .00261  | .00029 | .00045 | .00028 | .00010 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3248.8        | 5412.0        | 79647.        | 10775.        |
| Stddev    | 3.1           | 6.5           | 797.          | 68.           |
| %RSD      | .09550        | .11970        | 1.0002        | .63101        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3251.3 | 5416.3 | 80423. | 10700. |
| #2 | 3245.3 | 5404.5 | 79688. | 10791. |
| #3 | 3249.8 | 5415.0 | 78831. | 10834. |

Sample Name: 180-43724-C-1-A      Acquired: 5/7/2015 10:17:31      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |                |               |               |               |                |
|--------|----------------|----------------|---------------|---------------|---------------|----------------|
| Elem   | Ag             | Al             | As            | B_            | Ba            | Be             |
| Line   | 328.068 {103}  | 308.215 {109}  | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108}  |
| IS Ref | (Y_3600)       | (Y_3710)       | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)       |
| Units  | ppm            | ppm            | ppm           | ppm           | ppm           | ppm            |
| Avg    | <b>-.00125</b> | <b>-.01876</b> | <b>.00161</b> | <b>.05237</b> | <b>.96311</b> | <b>-.00097</b> |
| Stddev | .00046         | .01216         | .00065        | .00180        | .02038        | .00006         |
| %RSD   | 36.562         | 64.795         | 40.353        | 3.4308        | 2.1162        | 5.8147         |

|    |                |                |               |               |               |                |
|----|----------------|----------------|---------------|---------------|---------------|----------------|
| #1 | <b>-.00177</b> | <b>-.00824</b> | <b>.00107</b> | <b>.05434</b> | <b>.95659</b> | <b>-.00100</b> |
| #2 | <b>-.00095</b> | <b>-.01598</b> | <b>.00233</b> | <b>.05195</b> | <b>.98595</b> | <b>-.00091</b> |
| #3 | <b>-.00102</b> | <b>-.03207</b> | <b>.00142</b> | <b>.05082</b> | <b>.94678</b> | <b>-.00101</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |                |                |               |               |               |               |
|--------|----------------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Ca             | Cd             | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106}  | 228.802 {447}  | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)       | (Y_2243)       | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>^ *****</b> | <b>-.00248</b> | <b>.00210</b> | <b>.00036</b> | <b>.05725</b> | <b>.01103</b> |
| Stddev | -----          | .00009         | .00046        | .00020        | .00088        | .00266        |
| %RSD   | -----          | 3.5809         | 21.882        | 55.666        | 1.5414        | 24.080        |

|    |                |                |               |               |               |               |
|----|----------------|----------------|---------------|---------------|---------------|---------------|
| #1 | <b>^ -----</b> | <b>-.00239</b> | <b>.00246</b> | <b>.00020</b> | <b>.05628</b> | <b>.01325</b> |
| #2 | <b>^ -----</b> | <b>-.00246</b> | <b>.00158</b> | <b>.00058</b> | <b>.05744</b> | <b>.00809</b> |
| #3 | <b>^ -----</b> | <b>-.00257</b> | <b>.00225</b> | <b>.00029</b> | <b>.05801</b> | <b>.01174</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43724-C-1-A      Acquired: 5/7/2015 10:17:31      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem       | K_            | Li            | Mg            | Mn            | Mo            | Na            |
|------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line       | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref     | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units      | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg        | 138.01        | .58295        | 12.989        | .18575        | .00075        | F 1593.8      |
| Stddev     | 3.43          | .01247        | .312          | .00413        | .00040        | 37.4          |
| %RSD       | 2.4858        | 2.1394        | 2.4015        | 2.2221        | 53.322        | 2.3442        |
| #1         | 136.75        | .57547        | 12.859        | .18485        | .00034        | 1581.2        |
| #2         | 141.90        | .59734        | 13.345        | .19025        | .00113        | 1635.8        |
| #3         | 135.39        | .57603        | 12.763        | .18214        | .00078        | 1564.4        |
| Check ?    | Chk Pass      | Chk Pass      | Chk Pass      | Chk Pass      | Chk Pass      | Chk Fail      |
| High Limit |               |               |               |               |               | 500.00        |
| Low Limit  |               |               |               |               |               | -5.0000       |

| Elem       | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
|------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line       | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref     | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units      | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg        | .02298        | -.00165       | F -.03861     | .00968        | 3.7774        | -.00187       |
| Stddev     | .00030        | .00277        | .00217        | .00192        | .0944         | .00136        |
| %RSD       | 1.3217        | 167.95        | 5.6220        | 19.819        | 2.4993        | 72.584        |
| #1         | .02328        | -.00483       | -.03617       | .01183        | 3.7373        | -.00280       |
| #2         | .02301        | .00019        | -.03933       | .00814        | 3.8853        | -.00031       |
| #3         | .02267        | -.00030       | -.04033       | .00907        | 3.7097        | -.00249       |
| Check ?    | Chk Pass      | Chk Pass      | Chk Fail      | Chk Pass      | Chk Pass      | Chk Pass      |
| High Limit |               |               | 10.000        |               |               |               |
| Low Limit  |               |               | -.01000       |               |               |               |

Sample Name: 180-43724-C-1-A      Acquired: 5/7/2015 10:17:31      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                 |                |                |                |                |
|--------|-----------------|----------------|----------------|----------------|----------------|
| Elem   | Sr              | Ti             | Ti             | V_             | Zn             |
| Line   | 346.446 { 97}   | 337.280 {100}  | 190.856 {477}  | 290.882 {116}  | 206.200 {463}  |
| IS Ref | (Y_3710)        | (Y_3710)       | (In2306)       | (Y_3600)       | (Y_2243)       |
| Units  | ppm             | ppm            | ppm            | ppm            | ppm            |
| Avg    | <b>F 16.603</b> | <b>-.00782</b> | <b>-.00483</b> | <b>-.00285</b> | <b>-.00059</b> |
| Stddev | .364            | .00031         | .00428         | .00589         | .00021         |
| %RSD   | 2.1907          | 4.0210         | 88.595         | 206.49         | 36.319         |

|    |        |         |         |         |         |
|----|--------|---------|---------|---------|---------|
| #1 | 16.544 | -.00803 | -.00005 | -.00568 | -.00076 |
| #2 | 16.992 | -.00797 | -.00612 | -.00679 | -.00065 |
| #3 | 16.272 | -.00746 | -.00831 | .00392  | -.00035 |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Fail</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit | <b>10.000</b>   |                 |                 |                 |                 |
| Low Limit  | <b>-.05000</b>  |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>1776.9</b> | <b>3746.0</b> | <b>53772.</b> | <b>9509.0</b> |
| Stddev    | 6.4           | 18.2          | 363.          | 193.1         |
| %RSD      | .35804        | .48617        | .67475        | 2.0305        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 1769.9 | 3726.7 | 54129. | 9558.3 |
| #2 | 1778.5 | 3748.5 | 53784. | 9296.1 |
| #3 | 1782.3 | 3762.9 | 53404. | 9672.7 |

Sample Name: 180-43724-C-2-A      Acquired: 5/7/2015 10:22:50      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |                |               |               |               |                |
|--------|----------------|----------------|---------------|---------------|---------------|----------------|
| Elem   | Ag             | Al             | As            | B_            | Ba            | Be             |
| Line   | 328.068 {103}  | 308.215 {109}  | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108}  |
| IS Ref | (Y_3600)       | (Y_3710)       | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)       |
| Units  | ppm            | ppm            | ppm           | ppm           | ppm           | ppm            |
| Avg    | <b>-.00095</b> | <b>-.00811</b> | <b>.00135</b> | <b>.05106</b> | <b>.95967</b> | <b>-.00105</b> |
| Stddev | .00029         | .00395         | .00079        | .00096        | .00267        | .00007         |
| %RSD   | 30.877         | 48.743         | 58.729        | 1.8832        | .27841        | 6.9589         |

|    |                |                |               |               |               |                |
|----|----------------|----------------|---------------|---------------|---------------|----------------|
| #1 | <b>-.00126</b> | <b>-.00557</b> | <b>.00063</b> | <b>.05217</b> | <b>.95671</b> | <b>-.00098</b> |
| #2 | <b>-.00092</b> | <b>-.00610</b> | <b>.00219</b> | <b>.05047</b> | <b>.96190</b> | <b>-.00112</b> |
| #3 | <b>-.00067</b> | <b>-.01266</b> | <b>.00121</b> | <b>.05054</b> | <b>.96040</b> | <b>-.00105</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |                |                |               |               |               |               |
|--------|----------------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Ca             | Cd             | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106}  | 228.802 {447}  | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)       | (Y_2243)       | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>^ *****</b> | <b>-.00259</b> | <b>.00272</b> | <b>.00004</b> | <b>.05555</b> | <b>.00800</b> |
| Stddev | -----          | .00024         | .00022        | .00007        | .00110        | .00143        |
| %RSD   | -----          | 9.1289         | 8.1001        | 169.82        | 1.9865        | 17.886        |

|    |                |                |               |                |               |               |
|----|----------------|----------------|---------------|----------------|---------------|---------------|
| #1 | <b>^ -----</b> | <b>-.00232</b> | <b>.00273</b> | <b>.00011</b>  | <b>.05501</b> | <b>.00664</b> |
| #2 | <b>^ -----</b> | <b>-.00273</b> | <b>.00250</b> | <b>-.00003</b> | <b>.05681</b> | <b>.00787</b> |
| #3 | <b>^ -----</b> | <b>-.00273</b> | <b>.00294</b> | <b>.00004</b>  | <b>.05481</b> | <b>.00950</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43724-C-2-A      Acquired: 5/7/2015 10:22:50      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 136.55        | .60522        | 12.809        | .18417        | .00089        | F 1578.0      |
| Stddev | .33           | .00227        | .086          | .00052        | .00032        | 13.9          |
| %RSD   | .24147        | .37428        | .67499        | .28173        | 36.041        | .87853        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 136.57 | .60263 | 12.792 | .18475 | .00059 | 1586.7 |
| #2 | 136.21 | .60616 | 12.732 | .18374 | .00085 | 1585.3 |
| #3 | 136.87 | .60686 | 12.902 | .18402 | .00123 | 1562.0 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit |          |          |          |          |          | 500.00   |
| Low Limit  |          |          |          |          |          | -5.0000  |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .02294        | -.00521       | F -.03501     | .00801        | 3.7534        | -.00120       |
| Stddev | .00020        | .00344        | .00154        | .00265        | .0225         | .00109        |
| %RSD   | .88179        | 65.979        | 4.3987        | 33.067        | .59831        | 91.034        |

|    |        |         |         |        |        |         |
|----|--------|---------|---------|--------|--------|---------|
| #1 | .02285 | -.00679 | -.03367 | .00582 | 3.7282 | -.00167 |
| #2 | .02280 | -.00127 | -.03466 | .00725 | 3.7711 | .00005  |
| #3 | .02317 | -.00757 | -.03669 | .01095 | 3.7609 | -.00198 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          | 10.000   |          |          |          |
| Low Limit  |          |          | -.01000  |          |          |          |

Sample Name: 180-43724-C-2-A      Acquired: 5/7/2015 10:22:50      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                 |                |                |               |                |
|--------|-----------------|----------------|----------------|---------------|----------------|
| Elem   | Sr              | Ti             | Ti             | V_            | Zn             |
| Line   | 346.446 { 97}   | 337.280 {100}  | 190.856 {477}  | 290.882 {116} | 206.200 {463}  |
| IS Ref | (Y_3710)        | (Y_3710)       | (In2306)       | (Y_3600)      | (Y_2243)       |
| Units  | ppm             | ppm            | ppm            | ppm           | ppm            |
| Avg    | <b>F 16.383</b> | <b>-.00792</b> | <b>-.00504</b> | <b>.00098</b> | <b>-.00034</b> |
| Stddev | .025            | .00033         | .00259         | .00094        | .00025         |
| %RSD   | .15401          | 4.2267         | 51.421         | 96.795        | 71.477         |

|    |        |         |         |        |         |
|----|--------|---------|---------|--------|---------|
| #1 | 16.354 | -.00820 | -.00776 | .00190 | -.00063 |
| #2 | 16.393 | -.00801 | -.00259 | .00102 | -.00022 |
| #3 | 16.402 | -.00755 | -.00479 | .00001 | -.00018 |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Fail</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit | <b>10.000</b>   |                 |                 |                 |                 |
| Low Limit  | <b>-.05000</b>  |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>1781.4</b> | <b>3742.7</b> | <b>53947.</b> | <b>9590.0</b> |
| Stddev    | 2.1           | 7.9           | 68.           | 28.8          |
| %RSD      | .11660        | .21233        | .12687        | .30042        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 1782.4 | 3751.2 | 54005. | 9590.5 |
| #2 | 1782.8 | 3741.6 | 53871. | 9618.6 |
| #3 | 1779.0 | 3735.4 | 53965. | 9561.0 |



Sample Name: 180-43724-C-3-A      Acquired: 5/7/2015 10:28:08      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |                  |               |               |                |
|--------|----------------|---------------|------------------|---------------|---------------|----------------|
| Elem   | Ag             | Al            | As               | B_            | Ba            | Be             |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478}    | 182.641 {485} | 455.403 { 74} | 313.042 {108}  |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)         | (Y_2243)      | (Y_3710)      | (Y_3710)       |
| Units  | ppm            | ppm           | ppm              | ppm           | ppm           | ppm            |
| Avg    | <b>-.00454</b> | <b>.00064</b> | <b>F -.01420</b> | <b>.06894</b> | <b>38.652</b> | <b>-.00328</b> |
| Stddev | .00098         | .01882        | .01008           | .00085        | .085          | .00006         |
| %RSD   | 21.678         | 2922.8        | 71.007           | 1.2282        | .21961        | 1.9522         |

|    |                |                |                |               |               |                |
|----|----------------|----------------|----------------|---------------|---------------|----------------|
| #1 | <b>-.00562</b> | <b>.01757</b>  | <b>-.02143</b> | <b>.06983</b> | <b>38.727</b> | <b>-.00334</b> |
| #2 | <b>-.00368</b> | <b>.00400</b>  | <b>-.01849</b> | <b>.06814</b> | <b>38.669</b> | <b>-.00321</b> |
| #3 | <b>-.00432</b> | <b>-.01963</b> | <b>-.00268</b> | <b>.06887</b> | <b>38.560</b> | <b>-.00330</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Fail</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 | <b>10.000</b>   |                 |                 |                 |
| Low Limit  |                 |                 | <b>-.01000</b>  |                 |                 |                 |

|        |                |                  |                |               |               |               |
|--------|----------------|------------------|----------------|---------------|---------------|---------------|
| Elem   | Ca             | Cd               | Co             | Cr            | Cu            | Fe            |
| Line   | 317.933 {106}  | 228.802 {447}    | 228.616 {447}  | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)       | (Y_2243)         | (ln2306)       | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm              | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>^ *****</b> | <b>F -.00637</b> | <b>-.00453</b> | <b>.00383</b> | <b>.11267</b> | <b>122.38</b> |
| Stddev | -----          | .00030           | .00022         | .00098        | .00072        | 1.01          |
| %RSD   | -----          | 4.6837           | 4.8950         | 25.630        | .64137        | .82688        |

|    |                |                |                |               |               |               |
|----|----------------|----------------|----------------|---------------|---------------|---------------|
| #1 | <b>^ -----</b> | <b>-.00617</b> | <b>-.00428</b> | <b>.00305</b> | <b>.11185</b> | <b>121.24</b> |
| #2 | <b>^ -----</b> | <b>-.00671</b> | <b>-.00460</b> | <b>.00350</b> | <b>.11321</b> | <b>123.17</b> |
| #3 | <b>^ -----</b> | <b>-.00623</b> | <b>-.00470</b> | <b>.00493</b> | <b>.11294</b> | <b>122.73</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Fail</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 | <b>5.0000</b>   |                 |                 |                 |                 |
| Low Limit  |                 | <b>-.00500</b>  |                 |                 |                 |                 |

Sample Name: 180-43724-C-3-A      Acquired: 5/7/2015 10:28:08      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 98.595        | 1.1813        | 108.68        | 6.8976        | -.00286       | F 1939.5      |
| Stddev | .182          | .0145         | .43           | .0103         | .00028        | 13.4          |
| %RSD   | .18416        | 1.2290        | .39679        | .14938        | 9.6621        | .69023        |

|    |        |        |        |        |         |        |
|----|--------|--------|--------|--------|---------|--------|
| #1 | 98.804 | 1.1648 | 108.23 | 6.8926 | -.00265 | 1954.4 |
| #2 | 98.474 | 1.1870 | 109.09 | 6.8908 | -.00317 | 1935.7 |
| #3 | 98.508 | 1.1921 | 108.73 | 6.9095 | -.00275 | 1928.5 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit |          |          |          |          |          | 500.00   |
| Low Limit  |          |          |          |          |          | -5.0000  |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .04733        | .00279        | F -.07973     | .02437        | 8.7401        | -.00715       |
| Stddev | .00090        | .00352        | .01306        | .00660        | .0466         | .00207        |
| %RSD   | 1.9117        | 126.11        | 16.385        | 27.060        | .53314        | 28.980        |

|    |        |         |         |        |        |         |
|----|--------|---------|---------|--------|--------|---------|
| #1 | .04808 | .00202  | -.07303 | .02188 | 8.6880 | -.00583 |
| #2 | .04759 | .00663  | -.09479 | .03185 | 8.7779 | -.00954 |
| #3 | .04632 | -.00028 | -.07138 | .01939 | 8.7545 | -.00609 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          | 10.000   |          |          |          |
| Low Limit  |          |          | -.01000  |          |          |          |

Sample Name: 180-43724-C-3-A      Acquired: 5/7/2015 10:28:08      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                 |                 |                 |               |               |
|--------|-----------------|-----------------|-----------------|---------------|---------------|
| Elem   | Sr              | Ti              | Ti              | V_            | Zn            |
| Line   | 346.446 { 97}   | 337.280 {100}   | 190.856 {477}   | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)        | (Y_3710)        | (In2306)        | (Y_3600)      | (Y_2243)      |
| Units  | ppm             | ppm             | ppm             | ppm           | ppm           |
| Avg    | <b>F 45.689</b> | <b>-0.01809</b> | <b>-0.01121</b> | <b>.00994</b> | <b>.00085</b> |
| Stddev | .075            | .00026          | .00713          | .00581        | .00031        |
| %RSD   | .16333          | 1.4317          | 63.596          | 58.437        | 36.615        |

|    |        |          |          |        |        |
|----|--------|----------|----------|--------|--------|
| #1 | 45.603 | -0.01838 | -0.00421 | .00616 | .00052 |
| #2 | 45.722 | -0.01803 | -0.01846 | .00704 | .00090 |
| #3 | 45.741 | -0.01787 | -0.01095 | .01663 | .00113 |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Fail</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit | <b>10.000</b>   |                 |                 |                 |                 |
| Low Limit  | <b>-.05000</b>  |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>1097.2</b> | <b>2490.0</b> | <b>38778.</b> | <b>8118.0</b> |
| Stddev    | 1.5           | 7.0           | 89.           | 31.6          |
| %RSD      | .13707        | .28059        | .22966        | .38973        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 1095.4 | 2488.9 | 38794. | 8147.2 |
| #2 | 1097.8 | 2483.6 | 38683. | 8084.4 |
| #3 | 1098.3 | 2497.5 | 38859. | 8122.3 |

Sample Name: 180-43724-C-4-A      Acquired: 5/7/2015 10:33:33      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |                |                  |               |               |                |
|--------|----------------|----------------|------------------|---------------|---------------|----------------|
| Elem   | Ag             | Al             | As               | B_            | Ba            | Be             |
| Line   | 328.068 {103}  | 308.215 {109}  | 189.042 {478}    | 182.641 {485} | 455.403 { 74} | 313.042 {108}  |
| IS Ref | (Y_3600)       | (Y_3710)       | (Y_2243)         | (Y_2243)      | (Y_3710)      | (Y_3710)       |
| Units  | ppm            | ppm            | ppm              | ppm           | ppm           | ppm            |
| Avg    | <b>-.00454</b> | <b>-.03993</b> | <b>F -.01688</b> | <b>.06780</b> | <b>39.255</b> | <b>-.00334</b> |
| Stddev | .00139         | .00482         | .00461           | .00130        | .722          | .00010         |
| %RSD   | 30.620         | 12.065         | 27.331           | 1.9228        | 1.8382        | 2.9429         |

|    |                |                |                |               |               |                |
|----|----------------|----------------|----------------|---------------|---------------|----------------|
| #1 | <b>-.00319</b> | <b>-.03441</b> | <b>-.01292</b> | <b>.06840</b> | <b>40.070</b> | <b>-.00343</b> |
| #2 | <b>-.00597</b> | <b>-.04210</b> | <b>-.01577</b> | <b>.06631</b> | <b>38.999</b> | <b>-.00324</b> |
| #3 | <b>-.00445</b> | <b>-.04328</b> | <b>-.02195</b> | <b>.06870</b> | <b>38.697</b> | <b>-.00337</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Fail</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 | <b>10.000</b>   |                 |                 |                 |
| Low Limit  |                 |                 | <b>-.01000</b>  |                 |                 |                 |

|        |                |                  |                |               |               |               |
|--------|----------------|------------------|----------------|---------------|---------------|---------------|
| Elem   | Ca             | Cd               | Co             | Cr            | Cu            | Fe            |
| Line   | 317.933 {106}  | 228.802 {447}    | 228.616 {447}  | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)       | (Y_2243)         | (In2306)       | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm              | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>^ *****</b> | <b>F -.00635</b> | <b>-.00355</b> | <b>.00319</b> | <b>.11342</b> | <b>124.15</b> |
| Stddev | -----          | .00014           | .00068         | .00026        | .00241        | 1.19          |
| %RSD   | -----          | 2.2504           | 19.235         | 8.2014        | 2.1251        | .95677        |

|    |                |                |                |               |               |               |
|----|----------------|----------------|----------------|---------------|---------------|---------------|
| #1 | <b>^ -----</b> | <b>-.00620</b> | <b>-.00414</b> | <b>.00301</b> | <b>.11608</b> | <b>125.52</b> |
| #2 | <b>^ -----</b> | <b>-.00635</b> | <b>-.00372</b> | <b>.00349</b> | <b>.11137</b> | <b>123.50</b> |
| #3 | <b>^ -----</b> | <b>-.00649</b> | <b>-.00280</b> | <b>.00308</b> | <b>.11282</b> | <b>123.42</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Fail</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 | <b>5.0000</b>   |                 |                 |                 |                 |
| Low Limit  |                 | <b>-.00500</b>  |                 |                 |                 |                 |

Sample Name: 180-43724-C-4-A      Acquired: 5/7/2015 10:33:33      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 96.797        | 1.0769        | 110.28        | 7.0881        | -.00266       | F 1924.6      |
| Stddev | 1.003         | .0158         | 1.58          | .1268         | .00053        | 16.4          |
| %RSD   | 1.0364        | 1.4664        | 1.4292        | 1.7887        | 20.052        | .85086        |

|    |        |        |        |        |         |        |
|----|--------|--------|--------|--------|---------|--------|
| #1 | 97.955 | 1.0949 | 112.08 | 7.2303 | -.00316 | 1930.5 |
| #2 | 96.195 | 1.0707 | 109.13 | 6.9867 | -.00272 | 1937.2 |
| #3 | 96.240 | 1.0652 | 109.64 | 7.0475 | -.00210 | 1906.1 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit |          |          |          |          |          | 500.00   |
| Low Limit  |          |          |          |          |          | -5.0000  |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .04805        | .00264        | F -.07737     | .03452        | 8.8645        | -.00474       |
| Stddev | .00437        | .00667        | .00092        | .00607        | .0673         | .00226        |
| %RSD   | 9.0872        | 252.20        | 1.1931        | 17.584        | .75908        | 47.722        |

|    |        |         |         |        |        |         |
|----|--------|---------|---------|--------|--------|---------|
| #1 | .04843 | .00495  | -.07747 | .03030 | 8.9417 | -.00385 |
| #2 | .05221 | -.00487 | -.07639 | .03178 | 8.8185 | -.00731 |
| #3 | .04350 | .00785  | -.07823 | .04148 | 8.8334 | -.00306 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          | 10.000   |          |          |          |
| Low Limit  |          |          | -.01000  |          |          |          |

Sample Name: 180-43724-C-4-A      Acquired: 5/7/2015 10:33:33      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                 |                |                |               |               |
|--------|-----------------|----------------|----------------|---------------|---------------|
| Elem   | Sr              | Ti             | Ti             | V_            | Zn            |
| Line   | 346.446 { 97}   | 337.280 {100}  | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)        | (Y_3710)       | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm             | ppm            | ppm            | ppm           | ppm           |
| Avg    | <b>F 45.753</b> | <b>-.01873</b> | <b>-.00501</b> | <b>.00812</b> | <b>.00018</b> |
| Stddev | .578            | .00055         | .00569         | .00828        | .00024        |
| %RSD   | 1.2641          | 2.9320         | 113.52         | 101.94        | 132.80        |

|    |        |         |         |        |         |
|----|--------|---------|---------|--------|---------|
| #1 | 46.406 | -.01890 | -.01138 | .00597 | -.00007 |
| #2 | 45.306 | -.01812 | -.00320 | .01727 | .00022  |
| #3 | 45.547 | -.01917 | -.00044 | .00114 | .00041  |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Fail</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit | <b>10.000</b>   |                 |                 |                 |                 |
| Low Limit  | <b>-.05000</b>  |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>1122.9</b> | <b>2547.6</b> | <b>38931.</b> | <b>8111.7</b> |
| Stddev    | 5.4           | 7.4           | 95.           | 107.3         |
| %RSD      | .48175        | .28877        | .24392        | 1.3232        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 1117.2 | 2540.0 | 38828. | 7989.2 |
| #2 | 1123.7 | 2548.2 | 38952. | 8189.4 |
| #3 | 1127.9 | 2554.7 | 39015. | 8156.5 |

Sample Name: 180-43724-C-5-A      Acquired: 5/7/2015 10:38:56      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem       | Ag               | Al              | As              | B_              | Ba              | Be              |
|------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Line       | 328.068 {103}    | 308.215 {109}   | 189.042 {478}   | 182.641 {485}   | 455.403 { 74}   | 313.042 {108}   |
| IS Ref     | (Y_3600)         | (Y_3710)        | (Y_2243)        | (Y_2243)        | (Y_3710)        | (Y_3710)        |
| Units      | ppm              | ppm             | ppm             | ppm             | ppm             | ppm             |
| Avg        | <b>F -.00500</b> | <b>.00609</b>   | <b>-.00574</b>  | <b>.11638</b>   | <b>28.628</b>   | <b>-.00329</b>  |
| Stddev     | .00036           | .02770          | .00455          | .00021          | .169            | .00021          |
| %RSD       | 7.1352           | 454.42          | 79.248          | .18026          | .59156          | 6.2832          |
| #1         | -.00467          | -.02119         | -.00366         | .11620          | 28.465          | -.00310         |
| #2         | -.00495          | .03418          | -.00260         | .11661          | 28.803          | -.00351         |
| #3         | -.00538          | .00529          | -.01096         | .11633          | 28.615          | -.00327         |
| Check ?    | <b>Chk Fail</b>  | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit | <b>2.0000</b>    |                 |                 |                 |                 |                 |
| Low Limit  | <b>-.00500</b>   |                 |                 |                 |                 |                 |

| Elem       | Ca              | Cd               | Co              | Cr              | Cu              | Fe              |
|------------|-----------------|------------------|-----------------|-----------------|-----------------|-----------------|
| Line       | 317.933 {106}   | 228.802 {447}    | 228.616 {447}   | 267.716 {126}   | 327.396 {103}   | 259.940 {130}   |
| IS Ref     | (Y_3710)        | (Y_2243)         | (In2306)        | (Y_3600)        | (Y_3710)        | (Y_3710)        |
| Units      | ppm             | ppm              | ppm             | ppm             | ppm             | ppm             |
| Avg        | <b>^ *****</b>  | <b>F -.00639</b> | <b>-.00129</b>  | <b>.00277</b>   | <b>.11179</b>   | <b>83.609</b>   |
| Stddev     | -----           | .00018           | .00083          | .00090          | .00175          | .419            |
| %RSD       | -----           | 2.8632           | 64.323          | 32.440          | 1.5617          | .50092          |
| #1         | <b>^ -----</b>  | -.00638          | -.00165         | .00218          | .11113          | 83.238          |
| #2         | <b>^ -----</b>  | -.00622          | -.00034         | .00232          | .11047          | 84.063          |
| #3         | <b>^ -----</b>  | -.00658          | -.00188         | .00380          | .11377          | 83.525          |
| Check ?    | <b>Chk Pass</b> | <b>Chk Fail</b>  | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 | <b>5.0000</b>    |                 |                 |                 |                 |
| Low Limit  |                 | <b>-.00500</b>   |                 |                 |                 |                 |

Sample Name: 180-43724-C-5-A      Acquired: 5/7/2015 10:38:56      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 88.496        | .97762        | 87.740        | 5.9710        | -.00210       | F 1893.2      |
| Stddev | .467          | .00833        | .722          | .0533         | .00054        | 28.1          |
| %RSD   | .52779        | .85202        | .82281        | .89236        | 25.552        | 1.4855        |

|    |        |        |        |        |         |        |
|----|--------|--------|--------|--------|---------|--------|
| #1 | 88.061 | .97253 | 87.010 | 5.9111 | -.00266 | 1871.7 |
| #2 | 88.990 | .98723 | 88.453 | 6.0131 | -.00159 | 1925.0 |
| #3 | 88.439 | .97309 | 87.758 | 5.9888 | -.00206 | 1882.8 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit |          |          |          |          |          | 500.00   |
| Low Limit  |          |          |          |          |          | -5.0000  |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .04510        | -.00284       | F -.07427     | .01795        | 8.5838        | -.00589       |
| Stddev | .00104        | .00850        | .00299        | .01008        | .0258         | .00144        |
| %RSD   | 2.2978        | 299.13        | 4.0300        | 56.156        | .30007        | 24.509        |

|    |        |         |         |        |        |         |
|----|--------|---------|---------|--------|--------|---------|
| #1 | .04477 | -.01174 | -.07111 | .01765 | 8.5541 | -.00455 |
| #2 | .04426 | -.00198 | -.07462 | .02818 | 8.5974 | -.00742 |
| #3 | .04626 | .00519  | -.07707 | .00803 | 8.5999 | -.00569 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          | 10.000   |          |          |          |
| Low Limit  |          |          | -.01000  |          |          |          |



Sample Name: 180-43724-C-5-A      Acquired: 5/7/2015 10:38:56      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                 |                |                |                |                |
|--------|-----------------|----------------|----------------|----------------|----------------|
| Elem   | Sr              | Ti             | Ti             | V_             | Zn             |
| Line   | 346.446 { 97}   | 337.280 {100}  | 190.856 {477}  | 290.882 {116}  | 206.200 {463}  |
| IS Ref | (Y_3710)        | (Y_3710)       | (In2306)       | (Y_3600)       | (Y_2243)       |
| Units  | ppm             | ppm            | ppm            | ppm            | ppm            |
| Avg    | <b>F 42.204</b> | <b>-.01728</b> | <b>-.01322</b> | <b>-.00118</b> | <b>-.00055</b> |
| Stddev | .297            | .00016         | .00193         | .00608         | .00071         |
| %RSD   | .70445          | .94086         | 14.594         | 516.22         | 128.80         |

|    |        |         |         |         |         |
|----|--------|---------|---------|---------|---------|
| #1 | 41.880 | -.01713 | -.01528 | -.00782 | .00007  |
| #2 | 42.465 | -.01745 | -.01145 | .00409  | -.00132 |
| #3 | 42.268 | -.01726 | -.01292 | .00020  | -.00040 |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Fail</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit | <b>10.000</b>   |                 |                 |                 |                 |
| Low Limit  | <b>-.05000</b>  |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>1151.6</b> | <b>2624.1</b> | <b>39760.</b> | <b>8279.8</b> |
| Stddev    | 3.0           | 8.4           | 121.          | 74.1          |
| %RSD      | .26231        | .31892        | .30339        | .89465        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 1150.3 | 2629.2 | 39644. | 8357.4 |
| #2 | 1155.1 | 2628.7 | 39884. | 8209.8 |
| #3 | 1149.5 | 2614.4 | 39752. | 8272.4 |

Sample Name: 180-43724-C-6-A      Acquired: 5/7/2015 10:44:19      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem       | Ag               | Al              | As               | B_              | Ba              | Be              |
|------------|------------------|-----------------|------------------|-----------------|-----------------|-----------------|
| Line       | 328.068 {103}    | 308.215 {109}   | 189.042 {478}    | 182.641 {485}   | 455.403 { 74}   | 313.042 {108}   |
| IS Ref     | (Y_3600)         | (Y_3710)        | (Y_2243)         | (Y_2243)        | (Y_3710)        | (Y_3710)        |
| Units      | ppm              | ppm             | ppm              | ppm             | ppm             | ppm             |
| Avg        | F <b>-.00563</b> | <b>.01840</b>   | F <b>-.01284</b> | <b>.11568</b>   | <b>28.344</b>   | <b>-.00306</b>  |
| Stddev     | .00070           | .00540          | .01191           | .00064          | .064            | .00007          |
| %RSD       | 12.405           | 29.349          | 92.746           | .55363          | .22425          | 2.4397          |
| #1         | <b>-.00503</b>   | <b>.02252</b>   | <b>-.01218</b>   | <b>.11592</b>   | <b>28.307</b>   | <b>-.00311</b>  |
| #2         | <b>-.00547</b>   | <b>.01228</b>   | <b>-.02506</b>   | <b>.11495</b>   | <b>28.417</b>   | <b>-.00297</b>  |
| #3         | <b>-.00640</b>   | <b>.02039</b>   | <b>-.00127</b>   | <b>.11616</b>   | <b>28.307</b>   | <b>-.00310</b>  |
| Check ?    | <b>Chk Fail</b>  | <b>Chk Pass</b> | <b>Chk Fail</b>  | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit | <b>2.0000</b>    |                 | <b>10.000</b>    |                 |                 |                 |
| Low Limit  | <b>-.00500</b>   |                 | <b>-.01000</b>   |                 |                 |                 |

| Elem       | Ca              | Cd               | Co              | Cr              | Cu              | Fe              |
|------------|-----------------|------------------|-----------------|-----------------|-----------------|-----------------|
| Line       | 317.933 {106}   | 228.802 {447}    | 228.616 {447}   | 267.716 {126}   | 327.396 {103}   | 259.940 {130}   |
| IS Ref     | (Y_3710)        | (Y_2243)         | (In2306)        | (Y_3600)        | (Y_3710)        | (Y_3710)        |
| Units      | ppm             | ppm              | ppm             | ppm             | ppm             | ppm             |
| Avg        | <b>^ *****</b>  | F <b>-.00637</b> | <b>-.00046</b>  | <b>.00389</b>   | <b>.11023</b>   | <b>83.604</b>   |
| Stddev     | -----           | .00021           | .00043          | .00041          | .00199          | .819            |
| %RSD       | -----           | 3.2995           | 92.810          | 10.633          | 1.8064          | .97977          |
| #1         | <b>^ -----</b>  | <b>-.00628</b>   | <b>-.00096</b>  | <b>.00341</b>   | <b>.10864</b>   | <b>83.340</b>   |
| #2         | <b>^ -----</b>  | <b>-.00661</b>   | <b>-.00021</b>  | <b>.00417</b>   | <b>.11246</b>   | <b>84.523</b>   |
| #3         | <b>^ -----</b>  | <b>-.00623</b>   | <b>-.00022</b>  | <b>.00409</b>   | <b>.10958</b>   | <b>82.949</b>   |
| Check ?    | <b>Chk Pass</b> | <b>Chk Fail</b>  | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 | <b>5.0000</b>    |                 |                 |                 |                 |
| Low Limit  |                 | <b>-.00500</b>   |                 |                 |                 |                 |

Sample Name: 180-43724-C-6-A      Acquired: 5/7/2015 10:44:19      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 88.863        | .98320        | 87.888        | 5.9334        | -.00248       | F 1830.6      |
| Stddev | .598          | .01089        | .839          | .0650         | .00080        | 24.2          |
| %RSD   | .67270        | 1.1073        | .95470        | 1.0954        | 32.198        | 1.3237        |

|    |        |        |        |        |         |        |
|----|--------|--------|--------|--------|---------|--------|
| #1 | 88.662 | .97585 | 87.869 | 5.9076 | -.00177 | 1828.6 |
| #2 | 89.535 | .99571 | 88.736 | 6.0074 | -.00233 | 1855.7 |
| #3 | 88.391 | .97804 | 87.059 | 5.8853 | -.00334 | 1807.4 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit |          |          |          |          |          | 500.00   |
| Low Limit  |          |          |          |          |          | -5.0000  |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .04356        | .00117        | F -.07752     | .02303        | 8.4816        | -.00384       |
| Stddev | .00164        | .00108        | .00204        | .00213        | .0624         | .00212        |
| %RSD   | 3.7551        | 92.272        | 2.6357        | 9.2711        | .73542        | 55.159        |

|    |        |         |         |        |        |         |
|----|--------|---------|---------|--------|--------|---------|
| #1 | .04311 | .00191  | -.07594 | .02232 | 8.4924 | -.00471 |
| #2 | .04221 | .00168  | -.07681 | .02133 | 8.5380 | -.00143 |
| #3 | .04538 | -.00007 | -.07983 | .02542 | 8.4146 | -.00539 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          | 10.000   |          |          |          |
| Low Limit  |          |          | -.01000  |          |          |          |

Sample Name: 180-43724-C-6-A      Acquired: 5/7/2015 10:44:19      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507A      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                 |                |                |                |                |
|--------|-----------------|----------------|----------------|----------------|----------------|
| Elem   | Sr              | Ti             | Ti             | V_             | Zn             |
| Line   | 346.446 { 97}   | 337.280 {100}  | 190.856 {477}  | 290.882 {116}  | 206.200 {463}  |
| IS Ref | (Y_3710)        | (Y_3710)       | (In2306)       | (Y_3600)       | (Y_2243)       |
| Units  | ppm             | ppm            | ppm            | ppm            | ppm            |
| Avg    | <b>F 42.499</b> | <b>-.01797</b> | <b>-.01040</b> | <b>-.00126</b> | <b>-.00016</b> |
| Stddev | .431            | .00028         | .00366         | .00348         | .00050         |
| %RSD   | 1.0136          | 1.5691         | 35.170         | 276.56         | 319.72         |

|    |        |         |         |         |         |
|----|--------|---------|---------|---------|---------|
| #1 | 42.412 | -.01773 | -.00630 | .00039  | -.00010 |
| #2 | 42.966 | -.01828 | -.01331 | -.00525 | -.00068 |
| #3 | 42.118 | -.01791 | -.01161 | .00109  | .00031  |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Fail</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit | <b>10.000</b>   |                 |                 |                 |                 |
| Low Limit  | <b>-.05000</b>  |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>1128.6</b> | <b>2552.6</b> | <b>39424.</b> | <b>8203.5</b> |
| Stddev    | 3.7           | 4.8           | 73.           | 76.6          |
| %RSD      | .33125        | .18953        | .18411        | .93419        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 1124.3 | 2550.7 | 39469. | 8185.2 |
| #2 | 1131.0 | 2558.1 | 39340. | 8137.7 |
| #3 | 1130.6 | 2549.1 | 39462. | 8287.7 |

Sample Name: 180-43724-C-7-A      Acquired: 5/7/2015 10:49:43      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |                |               |               |               |                |
|--------|----------------|----------------|---------------|---------------|---------------|----------------|
| Elem   | Ag             | Al             | As            | B_            | Ba            | Be             |
| Line   | 328.068 {103}  | 308.215 {109}  | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108}  |
| IS Ref | (Y_3600)       | (Y_3710)       | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)       |
| Units  | ppm            | ppm            | ppm           | ppm           | ppm           | ppm            |
| Avg    | <b>-.00292</b> | <b>-.00296</b> | <b>.00029</b> | <b>.20174</b> | <b>3.2778</b> | <b>-.00178</b> |
| Stddev | .00052         | .01470         | .00332        | .00014        | .0100         | .00007         |
| %RSD   | 17.773         | 496.24         | 1132.6        | .06946        | .30430        | 3.9674         |

|    |                |                |                |               |               |                |
|----|----------------|----------------|----------------|---------------|---------------|----------------|
| #1 | <b>-.00315</b> | <b>.00784</b>  | <b>.00400</b>  | <b>.20185</b> | <b>3.2855</b> | <b>-.00173</b> |
| #2 | <b>-.00233</b> | <b>.00298</b>  | <b>-.00241</b> | <b>.20158</b> | <b>3.2666</b> | <b>-.00176</b> |
| #3 | <b>-.00329</b> | <b>-.01971</b> | <b>-.00071</b> | <b>.20178</b> | <b>3.2814</b> | <b>-.00186</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

|        |                |                |               |               |               |               |
|--------|----------------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Ca             | Cd             | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106}  | 228.802 {447}  | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)       | (Y_2243)       | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>^ *****</b> | <b>-.00426</b> | <b>.00303</b> | <b>.00253</b> | <b>.08438</b> | <b>24.022</b> |
| Stddev | -----          | .00033         | .00090        | .00057        | .00040        | .148          |
| %RSD   | -----          | 7.6591         | 29.859        | 22.408        | .47191        | .61687        |

|    |                |                |               |               |               |               |
|----|----------------|----------------|---------------|---------------|---------------|---------------|
| #1 | <b>^ -----</b> | <b>-.00459</b> | <b>.00268</b> | <b>.00311</b> | <b>.08420</b> | <b>23.867</b> |
| #2 | <b>^ -----</b> | <b>-.00393</b> | <b>.00236</b> | <b>.00198</b> | <b>.08484</b> | <b>24.036</b> |
| #3 | <b>^ -----</b> | <b>-.00426</b> | <b>.00406</b> | <b>.00249</b> | <b>.08411</b> | <b>24.163</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

Sample Name: 180-43724-C-7-A      Acquired: 5/7/2015 10:49:43      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 135.44        | .80624        | 85.956        | 3.0987        | -.00138       | F 1872.7      |
| Stddev | .31           | .00269        | .421          | .0063         | .00047        | 25.1          |
| %RSD   | .23036        | .33425        | .48967        | .20255        | 33.719        | 1.3391        |

|    |        |        |        |        |         |        |
|----|--------|--------|--------|--------|---------|--------|
| #1 | 135.23 | .80443 | 85.496 | 3.0950 | -.00191 | 1851.9 |
| #2 | 135.29 | .80495 | 86.052 | 3.0951 | -.00119 | 1900.5 |
| #3 | 135.80 | .80933 | 86.321 | 3.1059 | -.00104 | 1865.5 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit |          |          |          |          |          | 500.00   |
| Low Limit  |          |          |          |          |          | -5.0000  |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .03138        | -.00859       | F -.05491     | .01673        | 7.6564        | -.00252       |
| Stddev | .00148        | .00227        | .00258        | .00695        | .0316         | .00153        |
| %RSD   | 4.7039        | 26.466        | 4.6893        | 41.547        | .41254        | 60.565        |

|    |        |         |         |        |        |         |
|----|--------|---------|---------|--------|--------|---------|
| #1 | .02973 | -.01096 | -.05403 | .02456 | 7.6316 | -.00302 |
| #2 | .03184 | -.00840 | -.05782 | .01128 | 7.6455 | -.00374 |
| #3 | .03257 | -.00642 | -.05290 | .01436 | 7.6919 | -.00081 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          | 10.000   |          |          |          |
| Low Limit  |          |          | -.01000  |          |          |          |

Sample Name: 180-43724-C-7-A      Acquired: 5/7/2015 10:49:43      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                 |                |                |               |               |
|--------|-----------------|----------------|----------------|---------------|---------------|
| Elem   | Sr              | Ti             | Ti             | V_            | Zn            |
| Line   | 346.446 { 97}   | 337.280 {100}  | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)        | (Y_3710)       | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm             | ppm            | ppm            | ppm           | ppm           |
| Avg    | <b>F 35.541</b> | <b>-.01285</b> | <b>-.00683</b> | <b>.00027</b> | <b>.00066</b> |
| Stddev | .115            | .00022         | .00446         | .00206        | .00006        |
| %RSD   | .32363          | 1.7126         | 65.353         | 752.20        | 9.5901        |

|    |        |         |         |         |        |
|----|--------|---------|---------|---------|--------|
| #1 | 35.423 | -.01261 | -.01092 | .00256  | .00065 |
| #2 | 35.548 | -.01292 | -.00207 | -.00033 | .00061 |
| #3 | 35.653 | -.01303 | -.00749 | -.00142 | .00073 |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Fail</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit | <b>10.000</b>   |                 |                 |                 |                 |
| Low Limit  | <b>-.05000</b>  |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>1408.2</b> | <b>3120.6</b> | <b>46002.</b> | <b>8873.4</b> |
| Stddev    | 4.7           | 10.8          | 158.          | 46.5          |
| %RSD      | .33080        | .34456        | .34446        | .52415        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 1408.5 | 3113.1 | 45844. | 8926.2 |
| #2 | 1403.4 | 3115.7 | 46000. | 8855.4 |
| #3 | 1412.7 | 3132.9 | 46161. | 8838.6 |

Sample Name: 180-43724-C-8-A      Acquired: 5/7/2015 10:54:57      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |                |                |               |               |                |
|--------|----------------|----------------|----------------|---------------|---------------|----------------|
| Elem   | Ag             | Al             | As             | B_            | Ba            | Be             |
| Line   | 328.068 {103}  | 308.215 {109}  | 189.042 {478}  | 182.641 {485} | 455.403 { 74} | 313.042 {108}  |
| IS Ref | (Y_3600)       | (Y_3710)       | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_3710)       |
| Units  | ppm            | ppm            | ppm            | ppm           | ppm           | ppm            |
| Avg    | <b>-.00348</b> | <b>-.00903</b> | <b>-.00305</b> | <b>.19733</b> | <b>3.3178</b> | <b>-.00188</b> |
| Stddev | .00057         | .00251         | .00248         | .00062        | .0173         | .00012         |
| %RSD   | 16.447         | 27.731         | 81.324         | .31239        | .52243        | 6.3139         |

|    |                |                |                |               |               |                |
|----|----------------|----------------|----------------|---------------|---------------|----------------|
| #1 | <b>-.00282</b> | <b>-.01028</b> | <b>-.00296</b> | <b>.19749</b> | <b>3.3378</b> | <b>-.00201</b> |
| #2 | <b>-.00384</b> | <b>-.00615</b> | <b>-.00062</b> | <b>.19665</b> | <b>3.3093</b> | <b>-.00183</b> |
| #3 | <b>-.00379</b> | <b>-.01067</b> | <b>-.00558</b> | <b>.19785</b> | <b>3.3064</b> | <b>-.00179</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |                |                |               |               |               |               |
|--------|----------------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Ca             | Cd             | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106}  | 228.802 {447}  | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)       | (Y_2243)       | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>^ *****</b> | <b>-.00412</b> | <b>.00329</b> | <b>.00156</b> | <b>.08486</b> | <b>23.982</b> |
| Stddev | -----          | .00009         | .00022        | .00034        | .00054        | .167          |
| %RSD   | -----          | 2.2124         | 6.8309        | 21.656        | .63288        | .69839        |

|    |                |                |               |               |               |               |
|----|----------------|----------------|---------------|---------------|---------------|---------------|
| #1 | <b>^ -----</b> | <b>-.00413</b> | <b>.00305</b> | <b>.00129</b> | <b>.08434</b> | <b>23.835</b> |
| #2 | <b>^ -----</b> | <b>-.00402</b> | <b>.00333</b> | <b>.00194</b> | <b>.08541</b> | <b>24.164</b> |
| #3 | <b>^ -----</b> | <b>-.00421</b> | <b>.00350</b> | <b>.00145</b> | <b>.08483</b> | <b>23.948</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43724-C-8-A      Acquired: 5/7/2015 10:54:57      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 137.08        | .78217        | 85.780        | 3.2122        | -.00139       | F 1933.8      |
| Stddev | .40           | .00518        | .535          | .0104         | .00019        | 2.5           |
| %RSD   | .29379        | .66206        | .62367        | .32545        | 13.774        | .12855        |

|    |        |        |        |        |         |        |
|----|--------|--------|--------|--------|---------|--------|
| #1 | 137.00 | .77894 | 85.437 | 3.2110 | -.00130 | 1935.2 |
| #2 | 137.52 | .78814 | 86.396 | 3.2232 | -.00126 | 1930.9 |
| #3 | 136.72 | .77943 | 85.506 | 3.2024 | -.00161 | 1935.3 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Fail |
| High Limit |          |          |          |          |          | 500.00   |
| Low Limit  |          |          |          |          |          | -5.0000  |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .02942        | -.00981       | F -.05541     | .02280        | 7.6991        | -.00289       |
| Stddev | .00101        | .00496        | .00228        | .00513        | .0335         | .00065        |
| %RSD   | 3.4498        | 50.526        | 4.1111        | 22.509        | .43478        | 22.371        |

|    |        |         |         |        |        |         |
|----|--------|---------|---------|--------|--------|---------|
| #1 | .02954 | -.00410 | -.05620 | .02756 | 7.6856 | -.00324 |
| #2 | .03036 | -.01303 | -.05284 | .01737 | 7.7372 | -.00328 |
| #3 | .02834 | -.01230 | -.05718 | .02347 | 7.6745 | -.00214 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Fail | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          | 10.000   |          |          |          |
| Low Limit  |          |          | -.01000  |          |          |          |

Sample Name: 180-43724-C-8-A      Acquired: 5/7/2015 10:54:57      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                 |                |                |                |                |
|--------|-----------------|----------------|----------------|----------------|----------------|
| Elem   | Sr              | Ti             | Ti             | V_             | Zn             |
| Line   | 346.446 { 97}   | 337.280 {100}  | 190.856 {477}  | 290.882 {116}  | 206.200 {463}  |
| IS Ref | (Y_3710)        | (Y_3710)       | (In2306)       | (Y_3600)       | (Y_2243)       |
| Units  | ppm             | ppm            | ppm            | ppm            | ppm            |
| Avg    | <b>F 35.550</b> | <b>-.01308</b> | <b>-.00688</b> | <b>-.00367</b> | <b>-.00075</b> |
| Stddev | .078            | .00017         | .00173         | .00221         | .00035         |
| %RSD   | .21898          | 1.3308         | 25.126         | 60.313         | 47.395         |

|    |        |         |         |         |         |
|----|--------|---------|---------|---------|---------|
| #1 | 35.522 | -.01288 | -.00802 | -.00121 | -.00113 |
| #2 | 35.638 | -.01321 | -.00489 | -.00549 | -.00043 |
| #3 | 35.490 | -.01315 | -.00774 | -.00430 | -.00068 |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Fail</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit | <b>10.000</b>   |                 |                 |                 |                 |
| Low Limit  | <b>-.05000</b>  |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>1416.6</b> | <b>3141.8</b> | <b>45930.</b> | <b>8924.7</b> |
| Stddev    | 6.8           | 14.3          | 60.           | 26.0          |
| %RSD      | .47875        | .45653        | .13018        | .29080        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 1419.5 | 3148.8 | 45897. | 8921.9 |
| #2 | 1421.5 | 3151.3 | 45999. | 8900.3 |
| #3 | 1408.9 | 3125.3 | 45895. | 8952.0 |

Sample Name: 180-43725-M-3-A      Acquired: 5/7/2015 11:00:11      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00027        | -.00654       | .00112        | .00111        | .02695        | -.00001       |
| Stddev | .00030        | .00524        | .00044        | .00042        | .00018        | .00002        |
| %RSD   | 111.19        | 80.190        | 38.841        | 37.668        | .66871        | 267.71        |

|    |         |         |        |        |        |         |
|----|---------|---------|--------|--------|--------|---------|
| #1 | .00059  | -.00070 | .00157 | .00078 | .02710 | .00001  |
| #2 | -.00001 | -.00807 | .00109 | .00158 | .02698 | -.00000 |
| #3 | .00024  | -.01084 | .00070 | .00096 | .02675 | -.00003 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 60.406        | -.00013       | .00043        | .00015        | .00175        | .02223        |
| Stddev | .286          | .00003        | .00012        | .00035        | .00022        | .00175        |
| %RSD   | .47379        | 20.613        | 27.501        | 233.36        | 12.304        | 7.8892        |

|    |        |         |        |         |        |        |
|----|--------|---------|--------|---------|--------|--------|
| #1 | 60.733 | -.00010 | .00041 | .00011  | .00178 | .02424 |
| #2 | 60.283 | -.00015 | .00056 | -.00018 | .00195 | .02101 |
| #3 | 60.202 | -.00013 | .00032 | .00052  | .00152 | .02144 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43725-M-3-A      Acquired: 5/7/2015 11:00:11      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .64803        | .00985        | 1.0867        | .00075        | .00035        | 5.2267        |
| Stddev | .01902        | .00016        | .0185         | .00003        | .00003        | .3128         |
| %RSD   | 2.9350        | 1.6349        | 1.7020        | 3.7843        | 8.7590        | 5.9853        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .63966 | .01002 | 1.0660 | .00078 | .00038 | 5.5203 |
| #2 | .66980 | .00970 | 1.1015 | .00072 | .00035 | 5.2621 |
| #3 | .63462 | .00984 | 1.0925 | .00074 | .00032 | 4.8976 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00035        | .00115        | -.00137       | .00105        | .31217        | .00057        |
| Stddev | .00075        | .00036        | .00076        | .00075        | .00344        | .00055        |
| %RSD   | 212.49        | 31.687        | 55.614        | 71.341        | 1.1027        | 96.867        |

|    |         |        |         |        |        |        |
|----|---------|--------|---------|--------|--------|--------|
| #1 | .00061  | .00134 | -.00052 | .00020 | .30826 | .00008 |
| #2 | .00095  | .00138 | -.00161 | .00133 | .31352 | .00117 |
| #3 | -.00049 | .00073 | -.00198 | .00162 | .31474 | .00046 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43725-M-3-A      Acquired: 5/7/2015 11:00:11      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .46340        | .00012        | .00055        | -.00133       | .00070        |
| Stddev | .00359        | .00011        | .00042        | .00236        | .00012        |
| %RSD   | .77562        | 96.267        | 76.402        | 177.30        | 17.885        |

|    |        |        |        |         |        |
|----|--------|--------|--------|---------|--------|
| #1 | .46113 | .00003 | .00102 | -.00363 | .00080 |
| #2 | .46754 | .00024 | .00019 | .00109  | .00056 |
| #3 | .46152 | .00008 | .00046 | -.00145 | .00072 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3073.3        | 5289.9        | 77957.        | 11108.        |
| Stddev    | 11.0          | 15.6          | 151.          | 88.           |
| %RSD      | .35782        | .29481        | .19307        | .78985        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3086.0 | 5304.0 | 77836. | 11065. |
| #2 | 3066.8 | 5292.5 | 78125. | 11209. |
| #3 | 3067.0 | 5273.1 | 77910. | 11049. |

Sample Name: 180-43725-M-3-A SD@5      Acquired: 5/7/2015 11:05:18      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00047        | .01494        | -.00125       | -.00027       | .00520        | .00002        |
| Stddev | .00051        | .01577        | .00104        | .00009        | .00011        | .00004        |
| %RSD   | 109.06        | 105.56        | 83.474        | 32.585        | 2.1051        | 227.05        |

|    |         |         |         |         |        |         |
|----|---------|---------|---------|---------|--------|---------|
| #1 | .00065  | .02255  | -.00222 | -.00022 | .00513 | .00001  |
| #2 | -.00011 | .02548  | -.00015 | -.00037 | .00513 | -.00002 |
| #3 | .00086  | -.00319 | -.00138 | -.00022 | .00532 | .00007  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 11.759        | -.00008       | .00015        | .00002        | .00084        | .00308        |
| Stddev | .079          | .00009        | .00012        | .00047        | .00018        | .00243        |
| %RSD   | .67184        | 104.75        | 83.229        | 3129.3        | 20.789        | 78.985        |

|    |        |         |        |         |        |        |
|----|--------|---------|--------|---------|--------|--------|
| #1 | 11.690 | -.00012 | .00010 | -.00049 | .00104 | .00216 |
| #2 | 11.845 | .00002  | .00029 | .00009  | .00074 | .00584 |
| #3 | 11.742 | -.00015 | .00006 | .00045  | .00074 | .00125 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43725-M-3-A SD@5      Acquired: 5/7/2015 11:05:18      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .16609        | .00184        | .22376        | -.00001       | .00011        | 1.1698        |
| Stddev | .02207        | .00067        | .02655        | .00004        | .00019        | .0046         |
| %RSD   | 13.288        | 36.170        | 11.864        | 320.36        | 183.74        | .39677        |

|    |        |        |        |         |         |        |
|----|--------|--------|--------|---------|---------|--------|
| #1 | .18395 | .00226 | .23717 | -.00005 | .00009  | 1.1650 |
| #2 | .14142 | .00108 | .24093 | .00002  | .00031  | 1.1743 |
| #3 | .17291 | .00220 | .19319 | -.00001 | -.00008 | 1.1701 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00017       | .00076        | -.00005       | .00176        | .05941        | .00056        |
| Stddev | .00032        | .00037        | .00070        | .00222        | .00310        | .00036        |
| %RSD   | 186.18        | 49.114        | 1493.6        | 126.24        | 5.2264        | 64.017        |

|    |         |        |         |         |        |        |
|----|---------|--------|---------|---------|--------|--------|
| #1 | .00013  | .00111 | -.00069 | .00348  | .06270 | .00097 |
| #2 | -.00050 | .00080 | -.00014 | .00253  | .05653 | .00042 |
| #3 | -.00014 | .00037 | .00069  | -.00074 | .05900 | .00030 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43725-M-3-A SD@5      Acquired: 5/7/2015 11:05:18      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .09388        | .00000        | -.00224       | .00144        | -.00039       |
| Stddev | .00218        | .00005        | .00167        | .00260        | .00009        |
| %RSD   | 2.3208        | 1035.5        | 74.609        | 180.30        | 23.413        |

|    |        |         |         |         |         |
|----|--------|---------|---------|---------|---------|
| #1 | .09224 | .00006  | -.00402 | .00410  | -.00048 |
| #2 | .09304 | -.00002 | -.00199 | .00132  | -.00030 |
| #3 | .09635 | -.00003 | -.00071 | -.00109 | -.00038 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3196.1        | 5389.4        | 79367.        | 10919.        |
| Stddev    | 13.3          | 24.9          | 282.          | 104.          |
| %RSD      | .41606        | .46214        | .35498        | .95415        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3180.8 | 5360.7 | 79390. | 10928. |
| #2 | 3205.0 | 5402.0 | 79074. | 10811. |
| #3 | 3202.5 | 5405.5 | 79636. | 11019. |



Sample Name: CCV 1551842      Acquired: 5/7/2015 11:10:28      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>1.0381</b> | <b>24.552</b> | <b>.50387</b> | <b>2.0167</b> | <b>1.9675</b> | <b>1.9980</b> |
| Stddev | .0032         | .074          | .00333        | .0011         | .0027         | .0020         |
| %RSD   | .30995        | .30211        | .66000        | .05318        | .13453        | .10032        |
| #1     | 1.0417        | 24.637        | .50016        | 2.0157        | 1.9669        | 1.9964        |
| #2     | 1.0358        | 24.498        | .50658        | 2.0166        | 1.9653        | 1.9972        |
| #3     | 1.0366        | 24.521        | .50488        | 2.0179        | 1.9705        | 2.0002        |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>49.573</b> | <b>.50402</b> | <b>2.0386</b> | <b>1.9620</b> | <b>1.9036</b> | <b>24.899</b> |
| Stddev | .098          | .00085        | .0028         | .0062         | .0147         | .059          |
| %RSD   | .19750        | .16922        | .13726        | .31737        | .77313        | .23824        |
| #1     | 49.682        | .50308        | 2.0369        | 1.9669        | 1.9206        | 24.890        |
| #2     | 49.547        | .50474        | 2.0418        | 1.9550        | 1.8960        | 24.844        |
| #3     | 49.491        | .50426        | 2.0370        | 1.9642        | 1.8943        | 24.962        |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/7/2015 11:10:28      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 122.07        | 1.9953        | 48.997        | 1.8634        | 1.9416        | 123.60        |
| Stddev | .23           | .0049         | .023          | .0099         | .0048         | .20           |
| %RSD   | .18783        | .24381        | .04742        | .53283        | .24903        | .16092        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 122.13 | 1.9976 | 49.024 | 1.8730 | 1.9360 | 123.71 |
| #2 | 121.82 | 1.9898 | 48.983 | 1.8532 | 1.9443 | 123.37 |
| #3 | 122.27 | 1.9987 | 48.985 | 1.8639 | 1.9445 | 123.71 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 2.0148        | .49935        | .49375        | .49910        | 2.0042        | 1.8920        |
| Stddev | .0024         | .00166        | .00151        | .00314        | .0104         | .0017         |
| %RSD   | .11754        | .33325        | .30545        | .62933        | .51800        | .08778        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 2.0121 | .49951 | .49202 | .50182 | 1.9925 | 1.8933 |
| #2 | 2.0166 | .50092 | .49449 | .49983 | 2.0124 | 1.8926 |
| #3 | 2.0156 | .49761 | .49475 | .49566 | 2.0077 | 1.8901 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/7/2015 11:10:28      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.9329        | 1.8856        | .95606        | 2.0924        | 1.9452        |
| Stddev | .0027         | .0091         | .00345        | .0097         | .0033         |
| %RSD   | .14175        | .48484        | .36130        | .46479        | .17039        |

|    |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|
| #1 | 1.9347 | 1.8961 | .95227 | 2.0830 | 1.9420 |
| #2 | 1.9341 | 1.8793 | .95902 | 2.0917 | 1.9486 |
| #3 | 1.9297 | 1.8815 | .95690 | 2.1024 | 1.9451 |

|         |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |
| Range   |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2676.3        | 5114.6        | 73024.        | 10666.        |
| Stddev    | 6.1           | 11.9          | 55.           | 47.           |
| %RSD      | .22950        | .23342        | .07537        | .43700        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2682.2 | 5128.0 | 73056. | 10613. |
| #2 | 2669.9 | 5105.1 | 73056. | 10699. |
| #3 | 2676.8 | 5110.7 | 72960. | 10686. |

Sample Name: CCB4      Acquired: 5/7/2015 11:15:15      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |                |               |               |               |
|--------|----------------|---------------|----------------|---------------|---------------|---------------|
| Elem   | Ag             | Al            | As             | B_            | Ba            | Be            |
| Line   | 328.068 {103}  | 308.215 {109} | 189.042 {478}  | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)      | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm           | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>-.00012</b> | <b>.00700</b> | <b>-.00018</b> | <b>.00147</b> | <b>.00026</b> | <b>.00022</b> |
| Stddev | .00027         | .01081        | .00022         | .00035        | .00002        | .00003        |
| %RSD   | 227.29         | 154.42        | 122.50         | 24.161        | 5.8160        | 13.718        |

|    |                |                |                |               |               |               |
|----|----------------|----------------|----------------|---------------|---------------|---------------|
| #1 | <b>-.00018</b> | <b>.00719</b>  | <b>-.00018</b> | <b>.00175</b> | <b>.00025</b> | <b>.00023</b> |
| #2 | <b>.00018</b>  | <b>-.00390</b> | <b>.00004</b>  | <b>.00158</b> | <b>.00028</b> | <b>.00018</b> |
| #3 | <b>-.00035</b> | <b>.01771</b>  | <b>-.00039</b> | <b>.00107</b> | <b>.00026</b> | <b>.00024</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.00952</b> | <b>.00002</b> | <b>.00016</b> | <b>.00033</b> | <b>.00037</b> | <b>.00381</b> |
| Stddev | .00351        | .00008        | .00023        | .00037        | .00032        | .00085        |
| %RSD   | 36.860        | 466.94        | 147.36        | 111.90        | 85.977        | 22.244        |

|    |               |                |                |                |               |               |
|----|---------------|----------------|----------------|----------------|---------------|---------------|
| #1 | <b>.01328</b> | <b>.00005</b>  | <b>.00038</b>  | <b>-.00004</b> | <b>.00025</b> | <b>.00440</b> |
| #2 | <b>.00896</b> | <b>-.00007</b> | <b>-.00008</b> | <b>.00069</b>  | <b>.00073</b> | <b>.00284</b> |
| #3 | <b>.00633</b> | <b>.00007</b>  | <b>.00017</b>  | <b>.00034</b>  | <b>.00013</b> | <b>.00419</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB4      Acquired: 5/7/2015 11:15:15      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .09739        | .00186        | .01252        | .00013        | .00319        | .40840        |
| Stddev | .03230        | .00163        | .01367        | .00003        | .00047        | .00312        |
| %RSD   | 33.163        | 87.653        | 109.12        | 25.711        | 14.789        | .76404        |

|    |        |        |         |        |        |        |
|----|--------|--------|---------|--------|--------|--------|
| #1 | .12238 | .00005 | -.00121 | .00014 | .00371 | .40691 |
| #2 | .10887 | .00232 | .02612  | .00017 | .00307 | .40631 |
| #3 | .06092 | .00322 | .01266  | .00010 | .00279 | .41199 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00019        | .00007        | -.00022       | .00169        | -.00095       | .00083        |
| Stddev | .00033        | .00017        | .00147        | .00172        | .00577        | .00038        |
| %RSD   | 171.02        | 249.19        | 657.30        | 102.31        | 604.57        | 46.106        |

|    |         |         |         |         |         |        |
|----|---------|---------|---------|---------|---------|--------|
| #1 | .00057  | .00013  | -.00188 | -.00028 | .00497  | .00039 |
| #2 | .00009  | -.00013 | .00026  | .00294  | -.00129 | .00103 |
| #3 | -.00008 | .00020  | .00095  | .00240  | -.00654 | .00108 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB4      Acquired: 5/7/2015 11:15:15      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |                |               |               |
|--------|----------------|---------------|----------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti             | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>-.00059</b> | <b>.00028</b> | <b>-.00010</b> | <b>.00115</b> | <b>.00011</b> |
| Stddev | .00387         | .00008        | .00119         | .00143        | .00006        |
| %RSD   | 659.35         | 26.494        | 1166.3         | 123.78        | 60.337        |

|    |                |               |                |                |               |
|----|----------------|---------------|----------------|----------------|---------------|
| #1 | <b>-.00436</b> | <b>.00020</b> | <b>-.00141</b> | <b>-.00043</b> | <b>.00004</b> |
| #2 | <b>-.00078</b> | <b>.00031</b> | <b>.00091</b>  | <b>.00154</b>  | <b>.00017</b> |
| #3 | <b>.00338</b>  | <b>.00034</b> | <b>.00019</b>  | <b>.00235</b>  | <b>.00011</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3266.0</b> | <b>5391.2</b> | <b>79193.</b> | <b>10715.</b> |
| Stddev    | 4.1           | 11.3          | 179.          | 94.           |
| %RSD      | .12432        | .20906        | .22580        | .87728        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3268.6 | 5401.1 | 79358. | 10817. |
| #2 | 3268.1 | 5393.4 | 79219. | 10695. |
| #3 | 3261.3 | 5378.9 | 79003. | 10632. |

Sample Name: 180-43725-M-2-A      Acquired: 5/7/2015 11:20:26      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00052        | .00946        | .00146        | .00865        | .00847        | .00013        |
| Stddev | .00016        | .01346        | .00204        | .00036        | .00013        | .00002        |
| %RSD   | 31.077        | 142.26        | 140.00        | 4.2116        | 1.5802        | 18.413        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | .00065 | -.00600 | -.00053 | .00906 | .00849 | .00016 |
| #2 | .00057 | .01578  | .00354  | .00855 | .00833 | .00011 |
| #3 | .00034 | .01861  | .00136  | .00835 | .00860 | .00012 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 57.968        | -.00002       | .00063        | .00018        | .00082        | .52278        |
| Stddev | .144          | .00006        | .00017        | .00031        | .00002        | .00154        |
| %RSD   | .24759        | 254.95        | 27.189        | 177.26        | 2.4006        | .29505        |

|    |        |         |        |         |        |        |
|----|--------|---------|--------|---------|--------|--------|
| #1 | 58.031 | -.00009 | .00081 | -.00016 | .00082 | .52292 |
| #2 | 57.803 | .00001  | .00060 | .00024  | .00080 | .52424 |
| #3 | 58.068 | .00001  | .00047 | .00046  | .00084 | .52117 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43725-M-2-A      Acquired: 5/7/2015 11:20:26      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .96283        | .00583        | 8.8995        | .00907        | .00095        | 44.089        |
| Stddev | .01980        | .00077        | .0402         | .00007        | .00009        | .117          |
| %RSD   | 2.0561        | 13.264        | .45147        | .72884        | 8.9441        | .26568        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .98330 | .00496 | 8.9442 | .00914 | .00093 | 44.135 |
| #2 | .94378 | .00644 | 8.8663 | .00901 | .00105 | 43.956 |
| #3 | .96140 | .00610 | 8.8881 | .00907 | .00088 | 44.176 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00016        | .00083        | -.00105       | .00012        | .67217        | .00050        |
| Stddev | .00021        | .00063        | .00164        | .00106        | .00439        | .00030        |
| %RSD   | 132.13        | 76.762        | 156.53        | 857.22        | .65384        | 59.318        |

|    |         |        |         |         |        |        |
|----|---------|--------|---------|---------|--------|--------|
| #1 | .00029  | .00012 | -.00120 | .00098  | .67089 | .00083 |
| #2 | -.00008 | .00103 | .00066  | .00046  | .67707 | .00040 |
| #3 | .00027  | .00133 | -.00262 | -.00107 | .66856 | .00027 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43725-M-2-A      Acquired: 5/7/2015 11:20:26      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .55188        | .00011        | .00005        | .00030        | .00079        |
| Stddev | .00224        | .00016        | .00091        | .00283        | .00006        |
| %RSD   | .40636        | 142.93        | 1703.4        | 934.29        | 7.4003        |

|    |        |         |         |         |        |
|----|--------|---------|---------|---------|--------|
| #1 | .55002 | .00014  | .00009  | -.00114 | .00084 |
| #2 | .55124 | -.00006 | -.00088 | -.00151 | .00080 |
| #3 | .55437 | .00025  | .00095  | .00356  | .00073 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2899.9        | 5126.8        | 75677.        | 10824.        |
| Stddev    | 15.3          | 21.5          | 196.          | 54.           |
| %RSD      | .52662        | .41863        | .25923        | .50192        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2898.0 | 5130.3 | 75750. | 10802. |
| #2 | 2885.7 | 5103.8 | 75455. | 10886. |
| #3 | 2916.0 | 5146.2 | 75827. | 10784. |

Sample Name: 180-43725-M-1-A      Acquired: 5/7/2015 11:25:34      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00008        | .00441        | .00047        | .00018        | .01198        | .00007        |
| Stddev | .00037        | .01395        | .00148        | .00030        | .00007        | .00004        |
| %RSD   | 441.17        | 316.14        | 312.98        | 165.20        | .54772        | 60.041        |

|    |         |         |         |         |        |        |
|----|---------|---------|---------|---------|--------|--------|
| #1 | -.00008 | -.01146 | .00175  | .00025  | .01206 | .00003 |
| #2 | .00051  | .00995  | .00081  | .00044  | .01194 | .00011 |
| #3 | -.00018 | .01475  | -.00115 | -.00015 | .01195 | .00007 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 60.655        | -.00008       | .00053        | -.00010       | .00227        | .00223        |
| Stddev | .195          | .00006        | .00022        | .00026        | .00038        | .00315        |
| %RSD   | .32174        | 73.239        | 40.992        | 268.91        | 16.868        | 141.19        |

|    |        |         |        |         |        |         |
|----|--------|---------|--------|---------|--------|---------|
| #1 | 60.880 | -.00007 | .00029 | -.00024 | .00252 | -.00096 |
| #2 | 60.537 | -.00003 | .00056 | .00021  | .00246 | .00232  |
| #3 | 60.548 | -.00014 | .00072 | -.00026 | .00183 | .00532  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43725-M-1-A      Acquired: 5/7/2015 11:25:34      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .42284        | .00554        | -.00329       | .00000        | .00042        | .92175        |
| Stddev | .01555        | .00005        | .00932        | .00002        | .00019        | .00500        |
| %RSD   | 3.6769        | .82090        | 283.17        | 862.63        | 44.656        | .54263        |

|    |        |        |         |         |        |        |
|----|--------|--------|---------|---------|--------|--------|
| #1 | .42119 | .00551 | -.01347 | -.00001 | .00060 | .92146 |
| #2 | .40819 | .00553 | -.00121 | .00003  | .00044 | .92689 |
| #3 | .43915 | .00560 | .00481  | -.00001 | .00022 | .91690 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00053        | .00063        | -.00066       | .00121        | .00843        | -.00009       |
| Stddev | .00029        | .00087        | .00024        | .00188        | .00945        | .00046        |
| %RSD   | 54.798        | 136.89        | 35.683        | 155.93        | 112.12        | 525.40        |

|    |        |         |         |         |         |         |
|----|--------|---------|---------|---------|---------|---------|
| #1 | .00043 | .00107  | -.00088 | .00259  | .01643  | -.00013 |
| #2 | .00085 | -.00037 | -.00070 | -.00094 | -.00200 | .00039  |
| #3 | .00030 | .00120  | -.00041 | .00197  | .01086  | -.00052 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43725-M-1-A      Acquired: 5/7/2015 11:25:34      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .25132        | .00007        | -.00039       | -.00317       | .00023        |
| Stddev | .00237        | .00010        | .00032        | .00292        | .00005        |
| %RSD   | .94491        | 152.58        | 80.545        | 92.056        | 19.904        |

|    |        |         |         |         |        |
|----|--------|---------|---------|---------|--------|
| #1 | .24978 | .00008  | -.00013 | -.00568 | .00028 |
| #2 | .25012 | -.00004 | -.00075 | .00003  | .00022 |
| #3 | .25405 | .00016  | -.00031 | -.00388 | .00019 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 3055.2        | 5250.0        | 76841.        | 10811.        |
| Stddev    | 6.2           | 8.0           | 118.          | 69.           |
| %RSD      | .20144        | .15268        | .15321        | .63931        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3048.3 | 5240.8 | 76951. | 10737. |
| #2 | 3060.1 | 5255.8 | 76717. | 10823. |
| #3 | 3057.2 | 5253.4 | 76855. | 10873. |

Sample Name: 180-43724-C-1-A@50      Acquired: 5/7/2015 11:30:42      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |                |               |               |               |               |
|--------|----------------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Ag             | Al             | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103}  | 308.215 {109}  | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)       | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00036</b> | <b>-.01214</b> | <b>.00047</b> | <b>.00088</b> | <b>.01832</b> | <b>.00006</b> |
| Stddev | .00052         | .03315         | .00047        | .00039        | .00019        | .00005        |
| %RSD   | 144.01         | 273.10         | 100.98        | 43.858        | 1.0405        | 85.300        |

|    |         |         |        |        |        |        |
|----|---------|---------|--------|--------|--------|--------|
| #1 | .00022  | -.02615 | .00025 | .00064 | .01854 | .00004 |
| #2 | -.00078 | .02572  | .00101 | .00133 | .01822 | .00011 |
| #3 | -.00053 | -.03598 | .00015 | .00068 | .01820 | .00002 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |                |               |                |               |               |
|--------|---------------|----------------|---------------|----------------|---------------|---------------|
| Elem   | Ca            | Cd             | Co            | Cr             | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447} | 267.716 {126}  | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (In2306)      | (Y_3600)       | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm            | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>87.488</b> | <b>-.00005</b> | <b>.00016</b> | <b>-.00020</b> | <b>.00116</b> | <b>.00110</b> |
| Stddev | .259          | .00009         | .00022        | .00037         | .00021        | .00081        |
| %RSD   | .29572        | 185.51         | 135.58        | 185.74         | 18.151        | 73.716        |

|    |        |         |        |         |        |        |
|----|--------|---------|--------|---------|--------|--------|
| #1 | 87.201 | -.00006 | .00006 | .00020  | .00093 | .00202 |
| #2 | 87.703 | -.00013 | .00001 | -.00026 | .00120 | .00080 |
| #3 | 87.560 | .00005  | .00041 | -.00054 | .00135 | .00048 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43724-C-1-A@50      Acquired: 5/7/2015 11:30:42      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>2.4810</b> | <b>.01063</b> | <b>.27747</b> | <b>.00469</b> | <b>.00012</b> | <b>48.110</b> |
| Stddev | .0506         | .00074        | .01513        | .00005        | .00010        | .112          |
| %RSD   | 2.0390        | 6.9315        | 5.4539        | 1.0507        | 89.513        | .23376        |

|    |               |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>2.4226</b> | <b>.01078</b> | <b>.28579</b> | <b>.00469</b> | <b>.00022</b> | <b>47.981</b> |
| #2 | <b>2.5086</b> | <b>.01128</b> | <b>.26000</b> | <b>.00474</b> | <b>.00001</b> | <b>48.192</b> |
| #3 | <b>2.5118</b> | <b>.00983</b> | <b>.28662</b> | <b>.00464</b> | <b>.00011</b> | <b>48.155</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |                |                |               |               |               |
|--------|---------------|----------------|----------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb             | Sb             | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453}  | 217.581 {455}  | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)       | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm            | ppm            | ppm           | ppm           | ppm           |
| Avg    | <b>.00054</b> | <b>-.00031</b> | <b>-.00257</b> | <b>.00001</b> | <b>.07003</b> | <b>.00034</b> |
| Stddev | .00073        | .00144         | .00224         | .00119        | .00551        | .00028        |
| %RSD   | 133.83        | 456.58         | 87.130         | 8069.9        | 7.8653        | 82.373        |

|    |                |                |                |                |               |               |
|----|----------------|----------------|----------------|----------------|---------------|---------------|
| #1 | <b>.00121</b>  | <b>-.00048</b> | <b>-.00165</b> | <b>-.00135</b> | <b>.07410</b> | <b>.00038</b> |
| #2 | <b>-.00024</b> | <b>.00119</b>  | <b>-.00093</b> | <b>.00057</b>  | <b>.06376</b> | <b>.00061</b> |
| #3 | <b>.00066</b>  | <b>-.00166</b> | <b>-.00511</b> | <b>.00083</b>  | <b>.07222</b> | <b>.00004</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43724-C-1-A@50      Acquired: 5/7/2015 11:30:42      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .35221        | -.00000       | -.00162       | -.00159       | -.00051       |
| Stddev | .00414        | .00003        | .00091        | .00095        | .00010        |
| %RSD   | 1.1756        | 12516.        | 56.452        | 59.912        | 19.407        |

|    |        |         |         |         |         |
|----|--------|---------|---------|---------|---------|
| #1 | .35039 | .00003  | -.00124 | -.00269 | -.00051 |
| #2 | .35695 | -.00003 | -.00095 | -.00102 | -.00041 |
| #3 | .34928 | -.00000 | -.00266 | -.00106 | -.00061 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2896.3        | 5141.8        | 74313.        | 10624.        |
| Stddev    | 7.0           | 14.8          | 133.          | 92.           |
| %RSD      | .24153        | .28719        | .17834        | .86893        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2900.8 | 5154.8 | 74454. | 10731. |
| #2 | 2899.8 | 5144.8 | 74191. | 10572. |
| #3 | 2888.2 | 5125.7 | 74293. | 10570. |

Sample Name: 180-43724-C-2-A@50      Acquired: 5/7/2015 11:35:51      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00017        | -.01773       | -.00100       | .00084        | .01857        | .00003        |
| Stddev | .00019        | .01040        | .00074        | .00023        | .00011        | .00004        |
| %RSD   | 111.45        | 58.684        | 73.854        | 27.253        | .59006        | 132.57        |

|    |        |         |         |        |        |         |
|----|--------|---------|---------|--------|--------|---------|
| #1 | .00038 | -.01220 | -.00031 | .00093 | .01869 | .00005  |
| #2 | .00011 | -.01125 | -.00091 | .00058 | .01856 | -.00002 |
| #3 | .00002 | -.02973 | -.00177 | .00102 | .01847 | .00007  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 87.832        | -.00003       | .00033        | .00006        | .00104        | .00123        |
| Stddev | .122          | .00005        | .00012        | .00038        | .00061        | .00158        |
| %RSD   | .13930        | 144.78        | 34.922        | 639.90        | 58.705        | 127.74        |

|    |        |         |        |         |        |         |
|----|--------|---------|--------|---------|--------|---------|
| #1 | 87.727 | .00002  | .00020 | .00004  | .00034 | -.00017 |
| #2 | 87.804 | -.00007 | .00040 | .00045  | .00130 | .00294  |
| #3 | 87.966 | -.00004 | .00039 | -.00031 | .00148 | .00093  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43724-C-2-A@50      Acquired: 5/7/2015 11:35:51      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 2.4996        | .01016        | .27478        | .00475        | .00027        | 48.644        |
| Stddev | .0444         | .00099        | .01445        | .00004        | .00009        | .138          |
| %RSD   | 1.7768        | 9.7114        | 5.2583        | .81796        | 32.594        | .28443        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 2.5204 | .01040 | .26430 | .00471 | .00027 | 48.628 |
| #2 | 2.4486 | .00908 | .29126 | .00479 | .00035 | 48.515 |
| #3 | 2.5298 | .01101 | .26877 | .00475 | .00018 | 48.790 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00037        | -.00015       | -.00185       | -.00051       | .06693        | -.00019       |
| Stddev | .00008        | .00019        | .00195        | .00290        | .00872        | .00024        |
| %RSD   | 21.337        | 131.62        | 105.38        | 572.32        | 13.025        | 127.23        |

|    |        |         |         |         |        |         |
|----|--------|---------|---------|---------|--------|---------|
| #1 | .00046 | -.00037 | -.00032 | .00258  | .06495 | -.00039 |
| #2 | .00032 | -.00003 | -.00405 | -.00094 | .05936 | .00008  |
| #3 | .00033 | -.00004 | -.00118 | -.00317 | .07646 | -.00026 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43724-C-2-A@50      Acquired: 5/7/2015 11:35:51      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .35728        | -.00012       | -.00165       | .00106        | -.00060       |
| Stddev | .00483        | .00010        | .00066        | .00106        | .00004        |
| %RSD   | 1.3522        | 80.766        | 40.148        | 100.52        | 6.5581        |

|    |        |         |         |         |         |
|----|--------|---------|---------|---------|---------|
| #1 | .36282 | -.00004 | -.00093 | .00145  | -.00062 |
| #2 | .35509 | -.00023 | -.00181 | -.00015 | -.00055 |
| #3 | .35394 | -.00009 | -.00223 | .00187  | -.00062 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2842.7        | 5057.2        | 74442.        | 10610.        |
| Stddev    | 6.7           | 12.7          | 169.          | 58.           |
| %RSD      | .23657        | .25045        | .22659        | .54769        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2845.6 | 5062.0 | 74344. | 10674. |
| #2 | 2835.1 | 5042.8 | 74345. | 10597. |
| #3 | 2847.5 | 5066.8 | 74636. | 10560. |

Sample Name: 180-43724-C-3-A@50      Acquired: 5/7/2015 11:41:00      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |                |               |               |               |                |
|--------|----------------|----------------|---------------|---------------|---------------|----------------|
| Elem   | Ag             | Al             | As            | B_            | Ba            | Be             |
| Line   | 328.068 {103}  | 308.215 {109}  | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108}  |
| IS Ref | (Y_3600)       | (Y_3710)       | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)       |
| Units  | ppm            | ppm            | ppm           | ppm           | ppm           | ppm            |
| Avg    | <b>-.00030</b> | <b>-.00610</b> | <b>.00008</b> | <b>.00029</b> | <b>.71507</b> | <b>-.00007</b> |
| Stddev | .00005         | .01667         | .00281        | .00016        | .00098        | .00008         |
| %RSD   | 17.474         | 273.17         | 3436.2        | 56.606        | .13696        | 114.53         |

|    |                |                |                |               |               |                |
|----|----------------|----------------|----------------|---------------|---------------|----------------|
| #1 | <b>-.00032</b> | <b>-.00003</b> | <b>-.00287</b> | <b>.00014</b> | <b>.71458</b> | <b>-.00012</b> |
| #2 | <b>-.00034</b> | <b>-.02495</b> | <b>.00039</b>  | <b>.00027</b> | <b>.71443</b> | <b>-.00013</b> |
| #3 | <b>-.00024</b> | <b>.00668</b>  | <b>.00273</b>  | <b>.00046</b> | <b>.71620</b> | <b>.00002</b>  |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

|        |               |                |               |                |               |               |
|--------|---------------|----------------|---------------|----------------|---------------|---------------|
| Elem   | Ca            | Cd             | Co            | Cr             | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447} | 267.716 {126}  | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (In2306)      | (Y_3600)       | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm            | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>330.17</b> | <b>-.00032</b> | <b>.00027</b> | <b>-.00013</b> | <b>.00556</b> | <b>2.8840</b> |
| Stddev | 5.09          | .00009         | .00004        | .00005         | .00017        | .0112         |
| %RSD   | 1.5418        | 27.041         | 14.013        | 39.250         | 3.0188        | .38887        |

|    |               |                |               |                |               |               |
|----|---------------|----------------|---------------|----------------|---------------|---------------|
| #1 | <b>336.05</b> | <b>-.00041</b> | <b>.00031</b> | <b>-.00015</b> | <b>.00546</b> | <b>2.8894</b> |
| #2 | <b>327.10</b> | <b>-.00028</b> | <b>.00023</b> | <b>-.00007</b> | <b>.00548</b> | <b>2.8915</b> |
| #3 | <b>327.36</b> | <b>-.00026</b> | <b>.00026</b> | <b>-.00017</b> | <b>.00576</b> | <b>2.8711</b> |

|            |                 |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |                 |

Sample Name: 180-43724-C-3-A@50      Acquired: 5/7/2015 11:41:00      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | K_            | Li            | Mg            | Mn            | Mo             | Na            |
|--------|---------------|---------------|---------------|---------------|----------------|---------------|
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467}  | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)       | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm            | ppm           |
| Avg    | <b>1.4972</b> | <b>.01078</b> | <b>2.5668</b> | <b>.23626</b> | <b>-.00003</b> | <b>208.54</b> |
| Stddev | .0376         | .00013        | .0168         | .00198        | .00020         | 2.97          |
| %RSD   | 2.5121        | 1.2497        | .65366        | .83711        | 758.01         | 1.4265        |
| #1     | 1.4742        | .01074        | 2.5552        | .23840        | .00011         | 211.19        |
| #2     | 1.4769        | .01094        | 2.5591        | .23588        | .00007         | 209.12        |
| #3     | 1.5406        | .01068        | 2.5860        | .23450        | -.00026        | 205.32        |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

| Elem   | Ni            | Pb            | Sb             | Se            | Si            | Sn             |
|--------|---------------|---------------|----------------|---------------|---------------|----------------|
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455}  | 196.090 {472} | 251.611 {134} | 189.989 {477}  |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_2243)       |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           | ppm            |
| Avg    | <b>.00240</b> | <b>.00040</b> | <b>-.00623</b> | <b>.00214</b> | <b>.16134</b> | <b>-.00024</b> |
| Stddev | .00009        | .00384        | .00256         | .00159        | .00283        | .00066         |
| %RSD   | 3.8083        | 951.65        | 41.021         | 74.537        | 1.7541        | 272.35         |
| #1     | .00235        | -.00043       | -.00369        | .00250        | .16456        | .00050         |
| #2     | .00233        | -.00295       | -.00621        | .00353        | .16023        | -.00047        |
| #3     | .00250        | .00459        | -.00880        | .00040        | .15923        | -.00075        |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43724-C-3-A@50      Acquired: 5/7/2015 11:41:00      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.0793        | -0.0052       | -0.00130      | .00000        | -0.00036      |
| Stddev | .0009         | .00010        | .00096        | .00327        | .00005        |
| %RSD   | .07980        | 19.050        | 74.213        | 90307.        | 12.814        |

|    |        |          |          |          |          |
|----|--------|----------|----------|----------|----------|
| #1 | 1.0785 | -0.00054 | -0.00054 | .00057   | -0.00040 |
| #2 | 1.0793 | -0.00041 | -0.00097 | .00295   | -0.00038 |
| #3 | 1.0802 | -0.00060 | -0.00239 | -0.00351 | -0.00031 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2533.8        | 4765.0        | 69453.        | 10382.        |
| Stddev    | 20.8          | 42.2          | 208.          | 78.           |
| %RSD      | .81914        | .88469        | .30018        | .75150        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2546.1 | 4789.6 | 69684. | 10292. |
| #2 | 2545.6 | 4789.0 | 69394. | 10418. |
| #3 | 2509.9 | 4716.3 | 69280. | 10435. |

Sample Name: 180-43724-C-4-A@50      Acquired: 5/7/2015 11:46:24      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |                |               |               |               |                |
|--------|----------------|----------------|---------------|---------------|---------------|----------------|
| Elem   | Ag             | Al             | As            | B_            | Ba            | Be             |
| Line   | 328.068 {103}  | 308.215 {109}  | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108}  |
| IS Ref | (Y_3600)       | (Y_3710)       | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)       |
| Units  | ppm            | ppm            | ppm           | ppm           | ppm           | ppm            |
| Avg    | <b>-.00025</b> | <b>-.01784</b> | <b>.00333</b> | <b>.00047</b> | <b>.73009</b> | <b>-.00005</b> |
| Stddev | .00014         | .00841         | .00063        | .00016        | .00484        | .00001         |
| %RSD   | 55.517         | 47.112         | 18.808        | 33.961        | .66347        | 27.196         |

|    |                |                |               |               |               |                |
|----|----------------|----------------|---------------|---------------|---------------|----------------|
| #1 | <b>-.00040</b> | <b>-.00949</b> | <b>.00341</b> | <b>.00060</b> | <b>.72454</b> | <b>-.00006</b> |
| #2 | <b>-.00013</b> | <b>-.01773</b> | <b>.00267</b> | <b>.00050</b> | <b>.73223</b> | <b>-.00006</b> |
| #3 | <b>-.00021</b> | <b>-.02630</b> | <b>.00391</b> | <b>.00029</b> | <b>.73349</b> | <b>-.00004</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |                |               |               |               |               |
|--------|---------------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd             | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>337.40</b> | <b>-.00033</b> | <b>.00023</b> | <b>.00014</b> | <b>.00537</b> | <b>2.8845</b> |
| Stddev | 1.52          | .00010         | .00016        | .00031        | .00050        | .0253         |
| %RSD   | .45120        | 29.166         | 68.080        | 223.62        | 9.2827        | .87599        |

|    |               |                |               |                |               |               |
|----|---------------|----------------|---------------|----------------|---------------|---------------|
| #1 | <b>335.75</b> | <b>-.00035</b> | <b>.00018</b> | <b>.00034</b>  | <b>.00594</b> | <b>2.8557</b> |
| #2 | <b>337.72</b> | <b>-.00023</b> | <b>.00041</b> | <b>-.00022</b> | <b>.00513</b> | <b>2.8952</b> |
| #3 | <b>338.74</b> | <b>-.00042</b> | <b>.00011</b> | <b>.00030</b>  | <b>.00504</b> | <b>2.9028</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43724-C-4-A@50      Acquired: 5/7/2015 11:46:24      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.4854        | .01064        | 2.6042        | .24089        | -.00020       | 209.30        |
| Stddev | .0187         | .00069        | .0396         | .00124        | .00007        | 1.93          |
| %RSD   | 1.2578        | 6.4642        | 1.5219        | .51314        | 33.578        | .92376        |

|    |        |        |        |        |         |        |
|----|--------|--------|--------|--------|---------|--------|
| #1 | 1.4787 | .01041 | 2.5691 | .23953 | -.00026 | 208.66 |
| #2 | 1.4709 | .01141 | 2.5963 | .24122 | -.00013 | 207.76 |
| #3 | 1.5064 | .01009 | 2.6472 | .24193 | -.00021 | 211.47 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00220        | -.00108       | -.00582       | .00160        | .15972        | .00033        |
| Stddev | .00047        | .00035        | .00138        | .00060        | .00294        | .00051        |
| %RSD   | 21.160        | 32.576        | 23.763        | 37.623        | 1.8380        | 153.73        |

|    |        |         |         |        |        |         |
|----|--------|---------|---------|--------|--------|---------|
| #1 | .00183 | -.00105 | -.00573 | .00119 | .15682 | -.00010 |
| #2 | .00273 | -.00075 | -.00448 | .00229 | .16269 | .00089  |
| #3 | .00205 | -.00145 | -.00724 | .00131 | .15965 | .00021  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43724-C-4-A@50      Acquired: 5/7/2015 11:46:24      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.0678        | -.00058       | -.00096       | .00161        | -.00039       |
| Stddev | .0066         | .00014        | .00109        | .00167        | .00022        |
| %RSD   | .62290        | 23.917        | 112.67        | 103.84        | 56.842        |

|    |        |         |         |         |         |
|----|--------|---------|---------|---------|---------|
| #1 | 1.0609 | -.00072 | -.00222 | .00286  | -.00020 |
| #2 | 1.0683 | -.00045 | -.00041 | .00227  | -.00034 |
| #3 | 1.0742 | -.00056 | -.00026 | -.00029 | -.00064 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2575.3        | 4839.5        | 69069.        | 10521.        |
| Stddev    | 6.4           | 4.0           | 33.           | 82.           |
| %RSD      | .24904        | .08188        | .04790        | .77696        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2575.1 | 4840.8 | 69082. | 10602. |
| #2 | 2569.0 | 4835.1 | 69094. | 10524. |
| #3 | 2581.8 | 4842.7 | 69031. | 10438. |



Sample Name: 180-43724-C-5-A@50      Acquired: 5/7/2015 11:51:48      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |                |                |               |               |                |
|--------|----------------|----------------|----------------|---------------|---------------|----------------|
| Elem   | Ag             | Al             | As             | B_            | Ba            | Be             |
| Line   | 328.068 {103}  | 308.215 {109}  | 189.042 {478}  | 182.641 {485} | 455.403 { 74} | 313.042 {108}  |
| IS Ref | (Y_3600)       | (Y_3710)       | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_3710)       |
| Units  | ppm            | ppm            | ppm            | ppm           | ppm           | ppm            |
| Avg    | <b>-.00038</b> | <b>-.00726</b> | <b>-.00058</b> | <b>.00155</b> | <b>.55983</b> | <b>-.00002</b> |
| Stddev | .00035         | .00850         | .00140         | .00035        | .03092        | .00004         |
| %RSD   | 92.098         | 117.13         | 241.84         | 22.386        | 5.5237        | 149.05         |

|    |                |                |                |               |               |                |
|----|----------------|----------------|----------------|---------------|---------------|----------------|
| #1 | <b>-.00078</b> | <b>-.01705</b> | <b>.00057</b>  | <b>.00195</b> | <b>.59547</b> | <b>-.00004</b> |
| #2 | <b>-.00018</b> | <b>-.00174</b> | <b>-.00017</b> | <b>.00134</b> | <b>.54010</b> | <b>-.00005</b> |
| #3 | <b>-.00017</b> | <b>-.00298</b> | <b>-.00213</b> | <b>.00136</b> | <b>.54393</b> | <b>.00002</b>  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |                |               |                |               |               |
|--------|---------------|----------------|---------------|----------------|---------------|---------------|
| Elem   | Ca            | Cd             | Co            | Cr             | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447} | 267.716 {126}  | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (In2306)      | (Y_3600)       | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm            | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>333.18</b> | <b>-.00033</b> | <b>.00028</b> | <b>-.00014</b> | <b>.00464</b> | <b>2.0749</b> |
| Stddev | 14.67         | .00011         | .00018        | .00014         | .00016        | .1091         |
| %RSD   | 4.4036        | 32.476         | 65.423        | 95.454         | 3.3486        | 5.2576        |

|    |               |                |               |                |               |               |
|----|---------------|----------------|---------------|----------------|---------------|---------------|
| #1 | <b>350.11</b> | <b>-.00031</b> | <b>.00013</b> | <b>-.00021</b> | <b>.00447</b> | <b>2.2006</b> |
| #2 | <b>325.27</b> | <b>-.00044</b> | <b>.00049</b> | <b>.00001</b>  | <b>.00467</b> | <b>2.0179</b> |
| #3 | <b>324.16</b> | <b>-.00023</b> | <b>.00022</b> | <b>-.00023</b> | <b>.00478</b> | <b>2.0061</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43724-C-5-A@50      Acquired: 5/7/2015 11:51:48      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.4595        | .00999        | 2.2198        | .21217        | -.00007       | 213.75        |
| Stddev | .0454         | .00043        | .1122         | .00968        | .00019        | 9.68          |
| %RSD   | 3.1089        | 4.2584        | 5.0549        | 4.5623        | 269.59        | 4.5265        |

|    |        |        |        |        |         |        |
|----|--------|--------|--------|--------|---------|--------|
| #1 | 1.5118 | .01014 | 2.3456 | .22331 | -.00024 | 224.87 |
| #2 | 1.4317 | .00951 | 2.1299 | .20731 | -.00011 | 209.09 |
| #3 | 1.4348 | .01032 | 2.1839 | .20587 | .00014  | 207.29 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00260        | .00002        | -.00678       | .00041        | .17419        | .00011        |
| Stddev | .00030        | .00192        | .00063        | .00157        | .00554        | .00058        |
| %RSD   | 11.715        | 11806.        | 9.3070        | 384.98        | 3.1814        | 517.00        |

|    |        |         |         |         |        |         |
|----|--------|---------|---------|---------|--------|---------|
| #1 | .00229 | .00138  | -.00612 | .00210  | .17789 | -.00050 |
| #2 | .00290 | -.00218 | -.00738 | .00014  | .16782 | .00065  |
| #3 | .00262 | .00086  | -.00683 | -.00101 | .17686 | .00018  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43724-C-5-A@50      Acquired: 5/7/2015 11:51:48      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.0566        | -.00062       | -.00255       | -.00141       | -.00072       |
| Stddev | .0478         | .00002        | .00092        | .00241        | .00005        |
| %RSD   | 4.5269        | 2.6617        | 36.161        | 170.44        | 7.3765        |

|    |        |         |         |         |         |
|----|--------|---------|---------|---------|---------|
| #1 | 1.1118 | -.00063 | -.00189 | -.00290 | -.00073 |
| #2 | 1.0269 | -.00063 | -.00214 | .00136  | -.00066 |
| #3 | 1.0311 | -.00060 | -.00360 | -.00270 | -.00076 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2555.9        | 4766.8        | 68520.        | 10121.        |
| Stddev    | 12.6          | 23.2          | 150.          | 448.          |
| %RSD      | .49117        | .48697        | .21863        | 4.4282        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2552.1 | 4756.3 | 68591. | 9606.2 |
| #2 | 2545.6 | 4750.8 | 68622. | 10332. |
| #3 | 2569.8 | 4793.5 | 68348. | 10424. |

Sample Name: 180-43724-C-6-A@50      Acquired: 5/7/2015 11:57:10      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00019        | .00319        | .00050        | .00171        | .53200        | -.00003       |
| Stddev | .00032        | .01298        | .00139        | .00010        | .00078        | .00002        |
| %RSD   | 166.39        | 406.60        | 276.29        | 6.0994        | .14584        | 60.114        |

|    |         |         |         |        |        |         |
|----|---------|---------|---------|--------|--------|---------|
| #1 | .00056  | -.00847 | .00027  | .00178 | .53225 | -.00002 |
| #2 | -.00001 | .00087  | -.00076 | .00159 | .53113 | -.00006 |
| #3 | .00003  | .01718  | .00200  | .00177 | .53262 | -.00003 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 316.42        | -.00028       | .00021        | -.00001       | .00557        | 1.9934        |
| Stddev | 4.05          | .00013        | .00026        | .00025        | .00032        | .0057         |
| %RSD   | 1.2800        | 45.834        | 124.19        | 1768.9        | 5.7467        | .28854        |

|    |        |         |         |         |        |        |
|----|--------|---------|---------|---------|--------|--------|
| #1 | 319.29 | -.00015 | .00015  | .00026  | .00580 | 1.9876 |
| #2 | 318.17 | -.00027 | -.00002 | -.00023 | .00571 | 1.9935 |
| #3 | 311.79 | -.00040 | .00049  | -.00007 | .00521 | 1.9991 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43724-C-6-A@50      Acquired: 5/7/2015 11:57:10      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.4099        | .01056        | 2.1324        | .20356        | -.00014       | 204.48        |
| Stddev | .0116         | .00080        | .0389         | .00138        | .00026        | 1.38          |
| %RSD   | .82217        | 7.6126        | 1.8224        | .67965        | 186.17        | .67419        |

|    |        |        |        |        |         |        |
|----|--------|--------|--------|--------|---------|--------|
| #1 | 1.4176 | .01106 | 2.1749 | .20449 | -.00034 | 205.57 |
| #2 | 1.3965 | .01099 | 2.0986 | .20423 | -.00024 | 204.95 |
| #3 | 1.4155 | .00963 | 2.1238 | .20197 | .00016  | 202.93 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00263        | -.00005       | -.00481       | .00035        | .16082        | .00017        |
| Stddev | .00048        | .00103        | .00176        | .00177        | .00721        | .00072        |
| %RSD   | 18.360        | 2004.6        | 36.625        | 505.32        | 4.4860        | 429.08        |

|    |        |         |         |         |        |         |
|----|--------|---------|---------|---------|--------|---------|
| #1 | .00318 | .00049  | -.00454 | .00036  | .16166 | .00055  |
| #2 | .00227 | -.00124 | -.00669 | -.00142 | .16758 | -.00066 |
| #3 | .00243 | .00059  | -.00320 | .00211  | .15323 | .00061  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43724-C-6-A@50      Acquired: 5/7/2015 11:57:10      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.0229        | -.00054       | -.00148       | -.00076       | -.00039       |
| Stddev | .0044         | .00009        | .00101        | .00283        | .00014        |
| %RSD   | .42924        | 16.903        | 68.294        | 370.24        | 35.186        |

|    |        |         |         |         |         |
|----|--------|---------|---------|---------|---------|
| #1 | 1.0232 | -.00047 | -.00188 | .00202  | -.00024 |
| #2 | 1.0272 | -.00051 | -.00223 | -.00363 | -.00051 |
| #3 | 1.0184 | -.00064 | -.00033 | -.00067 | -.00043 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2534.1        | 4754.3        | 69487.        | 10358.        |
| Stddev    | 32.9          | 69.7          | 12.           | 86.           |
| %RSD      | 1.2972        | 1.4660        | .01726        | .82674        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2496.9 | 4675.4 | 69480. | 10294. |
| #2 | 2546.2 | 4780.0 | 69501. | 10326. |
| #3 | 2559.3 | 4807.4 | 69481. | 10456. |

Sample Name: 180-43724-C-7-A@50      Acquired: 5/7/2015 12:02:32      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |                |               |               |               |               |
|--------|----------------|----------------|---------------|---------------|---------------|---------------|
| Elem   | Ag             | Al             | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103}  | 308.215 {109}  | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)       | (Y_3710)       | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm            | ppm            | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>-.00002</b> | <b>-.01391</b> | <b>.00008</b> | <b>.00287</b> | <b>.06191</b> | <b>.00001</b> |
| Stddev | .00023         | .01683         | .00129        | .00031        | .00016        | .00005        |
| %RSD   | 1461.2         | 121.06         | 1526.9        | 10.693        | .26071        | 408.96        |

|    |         |         |         |        |        |         |
|----|---------|---------|---------|--------|--------|---------|
| #1 | .00025  | .00476  | -.00039 | .00321 | .06190 | .00006  |
| #2 | -.00013 | -.01854 | .00154  | .00260 | .06207 | -.00004 |
| #3 | -.00017 | -.02794 | -.00090 | .00282 | .06175 | .00002  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |                |               |                |               |               |
|--------|---------------|----------------|---------------|----------------|---------------|---------------|
| Elem   | Ca            | Cd             | Co            | Cr             | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447}  | 228.616 {447} | 267.716 {126}  | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)       | (In2306)      | (Y_3600)       | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm            | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>174.80</b> | <b>-.00025</b> | <b>.00044</b> | <b>-.00020</b> | <b>.00219</b> | <b>.53406</b> |
| Stddev | 2.14          | .00012         | .00047        | .00011         | .00021        | .00498        |
| %RSD   | 1.2215        | 47.828         | 107.92        | 58.312         | 9.6351        | .93206        |

|    |        |         |         |         |        |        |
|----|--------|---------|---------|---------|--------|--------|
| #1 | 175.40 | -.00014 | .00064  | -.00011 | .00229 | .52958 |
| #2 | 176.56 | -.00023 | -.00010 | -.00016 | .00233 | .53942 |
| #3 | 172.42 | -.00037 | .00078  | -.00033 | .00195 | .53318 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43724-C-7-A@50      Acquired: 5/7/2015 12:02:32      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>2.2701</b> | <b>.01128</b> | <b>1.9491</b> | <b>.09228</b> | <b>.00002</b> | <b>133.63</b> |
| Stddev | .0450         | .00044        | .0237         | .00127        | .00012        | .25           |
| %RSD   | 1.9836        | 3.8971        | 1.2170        | 1.3773        | 497.06        | .19022        |

|    |               |               |               |               |                |               |
|----|---------------|---------------|---------------|---------------|----------------|---------------|
| #1 | <b>2.2181</b> | <b>.01154</b> | <b>1.9491</b> | <b>.09208</b> | <b>.00015</b>  | <b>133.63</b> |
| #2 | <b>2.2973</b> | <b>.01152</b> | <b>1.9729</b> | <b>.09364</b> | <b>-.00009</b> | <b>133.88</b> |
| #3 | <b>2.2949</b> | <b>.01077</b> | <b>1.9254</b> | <b>.09113</b> | <b>.00001</b>  | <b>133.37</b> |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |                |               |               |                |
|--------|---------------|---------------|----------------|---------------|---------------|----------------|
| Elem   | Ni            | Pb            | Sb             | Se            | Si            | Sn             |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455}  | 196.090 {472} | 251.611 {134} | 189.989 {477}  |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)       | (Y_2243)      | (Y_3710)      | (Y_2243)       |
| Units  | ppm           | ppm           | ppm            | ppm           | ppm           | ppm            |
| Avg    | <b>.00107</b> | <b>.00069</b> | <b>-.00196</b> | <b>.00125</b> | <b>.14007</b> | <b>-.00022</b> |
| Stddev | .00042        | .00137        | .00056         | .00144        | .00367        | .00047         |
| %RSD   | 39.226        | 197.32        | 28.448         | 115.23        | 2.6177        | 209.49         |

|    |               |                |                |                |               |                |
|----|---------------|----------------|----------------|----------------|---------------|----------------|
| #1 | <b>.00131</b> | <b>-.00057</b> | <b>-.00225</b> | <b>.00111</b>  | <b>.14335</b> | <b>-.00024</b> |
| #2 | <b>.00058</b> | <b>.00215</b>  | <b>-.00232</b> | <b>-.00011</b> | <b>.14075</b> | <b>-.00068</b> |
| #3 | <b>.00130</b> | <b>.00050</b>  | <b>-.00132</b> | <b>.00276</b>  | <b>.13611</b> | <b>.00025</b>  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: 180-43724-C-7-A@50      Acquired: 5/7/2015 12:02:32      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .80092        | -.00014       | -.00161       | .00020        | -.00060       |
| Stddev | .00748        | .00010        | .00055        | .00236        | .00018        |
| %RSD   | .93412        | 70.611        | 34.165        | 1207.5        | 29.654        |

|    |        |         |         |         |         |
|----|--------|---------|---------|---------|---------|
| #1 | .80955 | -.00026 | -.00221 | .00219  | -.00050 |
| #2 | .79698 | -.00009 | -.00113 | -.00241 | -.00050 |
| #3 | .79624 | -.00008 | -.00149 | .00080  | -.00081 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2704.0        | 4977.3        | 71364.        | 10550.        |
| Stddev    | 7.1           | 8.5           | 219.          | 110.          |
| %RSD      | .26203        | .17026        | .30679        | 1.0396        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2698.1 | 4971.4 | 71522. | 10583. |
| #2 | 2711.8 | 4987.0 | 71456. | 10428. |
| #3 | 2702.0 | 4973.5 | 71114. | 10640. |

Sample Name: 180-43724-C-8-A@50      Acquired: 5/7/2015 12:07:47      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00001        | .00258        | .00125        | .00256        | .06322        | -.00001       |
| Stddev | .00021        | .00960        | .00039        | .00013        | .00004        | .00001        |
| %RSD   | 1408.7        | 372.46        | 31.330        | 5.1600        | .06677        | 146.01        |

|    |         |         |        |        |        |         |
|----|---------|---------|--------|--------|--------|---------|
| #1 | .00011  | .01365  | .00147 | .00251 | .06323 | -.00002 |
| #2 | -.00022 | -.00242 | .00080 | .00247 | .06317 | -.00001 |
| #3 | .00015  | -.00350 | .00148 | .00271 | .06326 | .00000  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 178.93        | -.00026       | .00033        | -.00004       | .00263        | .54575        |
| Stddev | 1.71          | .00011        | .00022        | .00027        | .00066        | .00300        |
| %RSD   | .95536        | 42.852        | 64.838        | 620.28        | 25.198        | .55021        |

|    |        |         |        |         |        |        |
|----|--------|---------|--------|---------|--------|--------|
| #1 | 177.07 | -.00014 | .00009 | .00021  | .00269 | .54883 |
| #2 | 180.43 | -.00028 | .00042 | -.00033 | .00193 | .54557 |
| #3 | 179.29 | -.00036 | .00049 | -.00001 | .00325 | .54284 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43724-C-8-A@50      Acquired: 5/7/2015 12:07:47      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 2.3417        | .01089        | 1.9589        | .09670        | -.00016       | 136.87        |
| Stddev | .0236         | .00063        | .0114         | .00036        | .00011        | .26           |
| %RSD   | 1.0068        | 5.8131        | .57961        | .37062        | 71.091        | .19075        |

|    |        |        |        |        |         |        |
|----|--------|--------|--------|--------|---------|--------|
| #1 | 2.3216 | .01120 | 1.9462 | .09642 | -.00016 | 136.64 |
| #2 | 2.3677 | .01130 | 1.9679 | .09656 | -.00004 | 137.15 |
| #3 | 2.3360 | .01016 | 1.9628 | .09710 | -.00026 | 136.81 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00113        | .00033        | -.00218       | .00146        | .14367        | -.00006       |
| Stddev | .00085        | .00192        | .00233        | .00045        | .00578        | .00023        |
| %RSD   | 74.991        | 577.45        | 107.00        | 30.957        | 4.0224        | 355.63        |

|    |        |         |         |        |        |         |
|----|--------|---------|---------|--------|--------|---------|
| #1 | .00159 | .00255  | .00028  | .00094 | .13952 | -.00013 |
| #2 | .00015 | -.00076 | -.00247 | .00172 | .14122 | -.00026 |
| #3 | .00164 | -.00079 | -.00436 | .00172 | .15027 | .00019  |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: 180-43724-C-8-A@50      Acquired: 5/7/2015 12:07:47      Type: Unk  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .81817        | -.00015       | -.00128       | -.00167       | -.00059       |
| Stddev | .00370        | .00009        | .00012        | .00383        | .00003        |
| %RSD   | .45241        | 58.864        | 9.4835        | 229.50        | 4.8505        |

|    |        |         |         |         |         |
|----|--------|---------|---------|---------|---------|
| #1 | .81394 | -.00018 | -.00142 | -.00110 | -.00062 |
| #2 | .81976 | -.00021 | -.00121 | .00184  | -.00059 |
| #3 | .82081 | -.00005 | -.00121 | -.00575 | -.00056 |

|            |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2689.5        | 4929.5        | 71250.        | 10478.        |
| Stddev    | 1.7           | .9            | 542.          | 39.           |
| %RSD      | .06385        | .01807        | .76000        | .37530        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 2689.6 | 4928.5 | 71252. | 10523. |
| #2 | 2691.2 | 4930.2 | 70707. | 10457. |
| #3 | 2687.8 | 4929.7 | 71790. | 10453. |

Sample Name: CCV 1551842      Acquired: 5/7/2015 12:13:04      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>1.0208</b> | <b>24.903</b> | <b>.52151</b> | <b>2.0780</b> | <b>2.0095</b> | <b>2.0715</b> |
| Stddev | .0003         | .076          | .00137        | .0040         | .0038         | .0040         |
| %RSD   | .03191        | .30471        | .26291        | .19472        | .18802        | .19366        |
| #1     | 1.0211        | 24.893        | .52010        | 2.0734        | 2.0057        | 2.0671        |
| #2     | 1.0209        | 24.983        | .52160        | 2.0795        | 2.0094        | 2.0750        |
| #3     | 1.0205        | 24.832        | .52284        | 2.0811        | 2.0133        | 2.0722        |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>50.266</b> | <b>.51547</b> | <b>2.0800</b> | <b>1.9574</b> | <b>1.9070</b> | <b>25.686</b> |
| Stddev | .167          | .00055        | .0044         | .0078         | .0079         | .050          |
| %RSD   | .33311        | .10677        | .21229        | .39942        | .41411        | .19468        |
| #1     | 50.196        | .51554        | 2.0817        | 1.9657        | 1.9001        | 25.691        |
| #2     | 50.458        | .51488        | 2.0750        | 1.9562        | 1.9156        | 25.734        |
| #3     | 50.146        | .51598        | 2.0834        | 1.9502        | 1.9054        | 25.634        |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/7/2015 12:13:04      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 125.80        | 2.0308        | 50.576        | 1.9191        | 1.9960        | 128.52        |
| Stddev | .21           | .0051         | .138          | .0009         | .0015         | .13           |
| %RSD   | .16712        | .24922        | .27335        | .04767        | .07727        | .10254        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 125.58 | 2.0249 | 50.508 | 1.9197 | 1.9942 | 128.37 |
| #2 | 125.81 | 2.0340 | 50.735 | 1.9196 | 1.9965 | 128.59 |
| #3 | 126.00 | 2.0334 | 50.486 | 1.9181 | 1.9972 | 128.61 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 2.0771        | .51225        | .50922        | .51992        | 2.0716        | 1.9301        |
| Stddev | .0050         | .00078        | .00235        | .00158        | .0123         | .0023         |
| %RSD   | .24300        | .15191        | .46124        | .30453        | .59308        | .11836        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 2.0798 | .51202 | .50651 | .51829 | 2.0714 | 1.9280 |
| #2 | 2.0713 | .51162 | .51067 | .52000 | 2.0840 | 1.9299 |
| #3 | 2.0802 | .51312 | .51048 | .52146 | 2.0594 | 1.9325 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CCV 1551842      Acquired: 5/7/2015 12:13:04      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
|--------|---------------|---------------|---------------|---------------|---------------|
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 1.9983        | 1.9231        | .98346        | 2.1063        | 1.9980        |
| Stddev | .0131         | .0030         | .00191        | .0080         | .0087         |
| %RSD   | .65561        | .15455        | .19426        | .37780        | .43563        |
| #1     | 1.9920        | 1.9205        | .98126        | 2.1033        | 2.0008        |
| #2     | 2.0134        | 1.9263        | .98464        | 2.1153        | 1.9882        |
| #3     | 1.9896        | 1.9226        | .98448        | 2.1003        | 2.0050        |

|         |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |
| Range   |          |          |          |          |          |

| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
|-----------|---------------|---------------|---------------|---------------|
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | 2605.8        | 4967.9        | 72295.        | 10476.        |
| Stddev    | 5.1           | 8.9           | 53.           | 26.           |
| %RSD      | .19595        | .17853        | .07288        | .24807        |
| #1        | 2601.8        | 4961.3        | 72285.        | 10498.        |
| #2        | 2611.6        | 4978.0        | 72248.        | 10448.        |
| #3        | 2604.2        | 4964.4        | 72352.        | 10483.        |

Sample Name: CCB5      Acquired: 5/7/2015 12:17:51      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00047        | .01282        | .00025        | .00135        | .00044        | .00031        |
| Stddev | .00044        | .01967        | .00103        | .00041        | .00009        | .00003        |
| %RSD   | 93.070        | 153.41        | 418.26        | 30.050        | 20.133        | 8.9476        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | .00020 | .00580  | -.00002 | .00176 | .00054 | .00034 |
| #2 | .00023 | -.00237 | -.00062 | .00095 | .00039 | .00028 |
| #3 | .00097 | .03504  | .00138  | .00135 | .00038 | .00032 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .02382        | -.00001       | .00032        | .00036        | .00072        | .00484        |
| Stddev | .00262        | .00009        | .00003        | .00031        | .00036        | .00153        |
| %RSD   | 11.013        | 660.91        | 7.9694        | 83.699        | 50.422        | 31.604        |

|    |        |         |        |        |        |        |
|----|--------|---------|--------|--------|--------|--------|
| #1 | .02489 | .00005  | .00031 | .00030 | .00049 | .00599 |
| #2 | .02574 | .00003  | .00034 | .00070 | .00114 | .00311 |
| #3 | .02083 | -.00012 | .00029 | .00010 | .00054 | .00543 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |



Sample Name: CCB5      Acquired: 5/7/2015 12:17:51      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .09162        | -.00071       | .01006        | .00023        | .00231        | .21181        |
| Stddev | .03946        | .00082        | .01656        | .00004        | .00039        | .00215        |
| %RSD   | 43.072        | 114.88        | 164.65        | 16.020        | 16.670        | 1.0168        |

|    |        |         |         |        |        |        |
|----|--------|---------|---------|--------|--------|--------|
| #1 | .13252 | -.00060 | .02886  | .00023 | .00275 | .21078 |
| #2 | .05377 | .00004  | .00366  | .00019 | .00218 | .21429 |
| #3 | .08858 | -.00158 | -.00235 | .00026 | .00201 | .21037 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | -.00000       | .00110        | .00008        | .00069        | -.00085       | .00068        |
| Stddev | .00030        | .00077        | .00115        | .00202        | .00445        | .00024        |
| %RSD   | 5968.1        | 70.393        | 1456.1        | 292.35        | 522.22        | 35.600        |

|    |         |        |         |         |         |        |
|----|---------|--------|---------|---------|---------|--------|
| #1 | -.00012 | .00171 | .00118  | -.00138 | -.00368 | .00081 |
| #2 | -.00023 | .00023 | .00018  | .00078  | .00428  | .00083 |
| #3 | .00033  | .00137 | -.00112 | .00267  | -.00315 | .00040 |

|            |          |          |          |          |          |          |
|------------|----------|----------|----------|----------|----------|----------|
| Check ?    | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| High Limit |          |          |          |          |          |          |
| Low Limit  |          |          |          |          |          |          |

Sample Name: CCB5      Acquired: 5/7/2015 12:17:51      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |                |               |                |               |               |
|--------|----------------|---------------|----------------|---------------|---------------|
| Elem   | Sr             | Ti            | Ti             | V_            | Zn            |
| Line   | 346.446 { 97}  | 337.280 {100} | 190.856 {477}  | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)       | (Y_3710)      | (In2306)       | (Y_3600)      | (Y_2243)      |
| Units  | ppm            | ppm           | ppm            | ppm           | ppm           |
| Avg    | <b>-.00136</b> | <b>.00033</b> | <b>-.00058</b> | <b>.00107</b> | <b>.00034</b> |
| Stddev | .00357         | .00010        | .00043         | .00184        | .00005        |
| %RSD   | 262.52         | 28.742        | 73.808         | 171.45        | 13.630        |

|    |                |               |                |                |               |
|----|----------------|---------------|----------------|----------------|---------------|
| #1 | <b>-.00516</b> | <b>.00028</b> | <b>-.00080</b> | <b>.00252</b>  | <b>.00035</b> |
| #2 | <b>-.00082</b> | <b>.00028</b> | <b>-.00009</b> | <b>-.00100</b> | <b>.00029</b> |
| #3 | <b>.00191</b>  | <b>.00045</b> | <b>-.00085</b> | <b>.00170</b>  | <b>.00038</b> |

|            |                 |                 |                 |                 |                 |
|------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ?    | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| High Limit |                 |                 |                 |                 |                 |
| Low Limit  |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3224.3</b> | <b>5376.3</b> | <b>78918.</b> | <b>10723.</b> |
| Stddev    | 7.0           | 13.3          | 116.          | 67.           |
| %RSD      | .21585        | .24754        | .14731        | .62526        |

|    |        |        |        |        |
|----|--------|--------|--------|--------|
| #1 | 3218.1 | 5364.4 | 78970. | 10668. |
| #2 | 3223.0 | 5373.8 | 79000. | 10703. |
| #3 | 3231.8 | 5390.7 | 78785. | 10798. |

Sample Name: CRI 1550960      Acquired: 5/7/2015 12:23:03      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ag            | Al            | As            | B_            | Ba            | Be            |
| Line   | 328.068 {103} | 308.215 {109} | 189.042 {478} | 182.641 {485} | 455.403 { 74} | 313.042 {108} |
| IS Ref | (Y_3600)      | (Y_3710)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | .00531        | .18574        | .00956        | .19680        | .19476        | .00393        |
| Stddev | .00006        | .00814        | .00124        | .00027        | .00033        | .00003        |
| %RSD   | 1.1914        | 4.3809        | 12.989        | .13826        | .17063        | .78889        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .00530 | .18697 | .01089 | .19686 | .19439 | .00396 |
| #2 | .00526 | .17705 | .00843 | .19703 | .19504 | .00393 |
| #3 | .00538 | .19318 | .00935 | .19650 | .19484 | .00390 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ca            | Cd            | Co            | Cr            | Cu            | Fe            |
| Line   | 317.933 {106} | 228.802 {447} | 228.616 {447} | 267.716 {126} | 327.396 {103} | 259.940 {130} |
| IS Ref | (Y_3710)      | (Y_2243)      | (In2306)      | (Y_3600)      | (Y_3710)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | 4.9643        | .00482        | .04757        | .00468        | .02555        | .10406        |
| Stddev | .0042         | .00009        | .00042        | .00029        | .00007        | .00057        |
| %RSD   | .08423        | 1.8911        | .88080        | 6.1490        | .25693        | .54428        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 4.9650 | .00477 | .04805 | .00475 | .02559 | .10461 |
| #2 | 4.9682 | .00492 | .04728 | .00493 | .02558 | .10408 |
| #3 | 4.9599 | .00477 | .04738 | .00437 | .02547 | .10348 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CRI 1550960      Acquired: 5/7/2015 12:23:03      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | K_            | Li            | Mg            | Mn            | Mo            | Na            |
| Line   | 766.490 { 44} | 670.784 { 50} | 279.079 {121} | 257.610 {131} | 202.030 {467} | 589.592 { 57} |
| IS Ref | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_3710)      | (Y_2243)      | (Y_3710)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>4.9280</b> | <b>.04986</b> | <b>4.9627</b> | <b>.01514</b> | <b>.03980</b> | <b>5.2669</b> |
| Stddev | .0466         | .00048        | .0301         | .00011        | .00007        | .0070         |
| %RSD   | .94659        | .97256        | .60552        | .75345        | .16943        | .13364        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | 4.9308 | .05040 | 4.9841 | .01520 | .03973 | 5.2626 |
| #2 | 4.8800 | .04973 | 4.9756 | .01520 | .03987 | 5.2750 |
| #3 | 4.9731 | .04945 | 4.9283 | .01501 | .03981 | 5.2631 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

|        |               |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Ni            | Pb            | Sb            | Se            | Si            | Sn            |
| Line   | 231.604 {446} | 220.353 {453} | 217.581 {455} | 196.090 {472} | 251.611 {134} | 189.989 {477} |
| IS Ref | (In2306)      | (In2306)      | (Y_2243)      | (Y_2243)      | (Y_3710)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.03789</b> | <b>.01038</b> | <b>.00892</b> | <b>.01031</b> | <b>.48020</b> | <b>.09820</b> |
| Stddev | .00047        | .00054        | .00083        | .00187        | .00611        | .00047        |
| %RSD   | 1.2512        | 5.1910        | 9.3040        | 18.137        | 1.2722        | .47409        |

|    |        |        |        |        |        |        |
|----|--------|--------|--------|--------|--------|--------|
| #1 | .03842 | .00980 | .00846 | .01022 | .47427 | .09852 |
| #2 | .03775 | .01087 | .00843 | .01222 | .47985 | .09766 |
| #3 | .03751 | .01046 | .00988 | .00848 | .48647 | .09840 |

|         |          |          |          |          |          |          |
|---------|----------|----------|----------|----------|----------|----------|
| Check ? | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass | Chk Pass |
| Value   |          |          |          |          |          |          |
| Range   |          |          |          |          |          |          |

Sample Name: CRI 1550960      Acquired: 5/7/2015 12:23:03      Type: QC  
Method: PITT-6500ICP-2(v638)      Mode: CONC      Corr. Factor: 1.000000  
User: RRosenbaum      Custom ID1: C50507B      Custom ID2: RJR      Custom ID3: Int: 1556779  
Comment: TestAmerica Pittsburgh ICP Metals Analysis - Inst 6500ICP2

|        |               |               |               |               |               |
|--------|---------------|---------------|---------------|---------------|---------------|
| Elem   | Sr            | Ti            | Ti            | V_            | Zn            |
| Line   | 346.446 { 97} | 337.280 {100} | 190.856 {477} | 290.882 {116} | 206.200 {463} |
| IS Ref | (Y_3710)      | (Y_3710)      | (In2306)      | (Y_3600)      | (Y_2243)      |
| Units  | ppm           | ppm           | ppm           | ppm           | ppm           |
| Avg    | <b>.04883</b> | <b>.04975</b> | <b>.01803</b> | <b>.04882</b> | <b>.01864</b> |
| Stddev | .00135        | .00017        | .00073        | .00083        | .00004        |
| %RSD   | 2.7607        | .33944        | 4.0539        | 1.7059        | .20394        |

|    |               |               |               |               |               |
|----|---------------|---------------|---------------|---------------|---------------|
| #1 | <b>.04785</b> | <b>.04983</b> | <b>.01886</b> | <b>.04802</b> | <b>.01869</b> |
| #2 | <b>.04828</b> | <b>.04956</b> | <b>.01750</b> | <b>.04968</b> | <b>.01863</b> |
| #3 | <b>.05037</b> | <b>.04987</b> | <b>.01773</b> | <b>.04875</b> | <b>.01862</b> |

|         |                 |                 |                 |                 |                 |
|---------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Check ? | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> | <b>Chk Pass</b> |
| Value   |                 |                 |                 |                 |                 |
| Range   |                 |                 |                 |                 |                 |

|           |               |               |               |               |
|-----------|---------------|---------------|---------------|---------------|
| Int. Std. | In2306        | Y_2243        | Y_3600        | Y_3710        |
| Line      | 230.606 {446} | 224.306 {450} | 360.073 { 94} | 371.030 { 91} |
| Units     | Cts/S         | Cts/S         | Cts/S         | Cts/S         |
| Avg       | <b>3156.0</b> | <b>5357.9</b> | <b>77339.</b> | <b>10766.</b> |
| Stddev    | 4.3           | 5.9           | 47.           | 48.           |
| %RSD      | .13734        | .10961        | .06091        | .44564        |

|    |               |               |               |               |
|----|---------------|---------------|---------------|---------------|
| #1 | <b>3151.3</b> | <b>5352.9</b> | <b>77314.</b> | <b>10723.</b> |
| #2 | <b>3159.9</b> | <b>5356.3</b> | <b>77393.</b> | <b>10757.</b> |
| #3 | <b>3156.7</b> | <b>5364.3</b> | <b>77310.</b> | <b>10818.</b> |

## Dilution Corrected Concentrations

STD1 1542085

5/1/2015 3:49:36 PM

User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be    | 10B    | 11B      | 13C    | 23Na     | 25Mg     | 26Mg     |
|------|----------|----------|--------|--------|----------|--------|----------|----------|----------|
|      |          | ppb      | ppb    | ppb    | ppb      | ppb    | ppb      | ppb      | ppb      |
| 1    | 15:48:42 | 99.013%  | 0.002  | -0.009 | 0.034    | 0.000  | 0.126    | 0.054    | -0.122   |
| 2    | 15:48:50 | 98.595%  | -0.006 | 0.006  | -0.017   | 0.000  | -0.028   | 0.094    | 0.016    |
| 3    | 15:48:58 | 102.392% | 0.004  | 0.003  | -0.017   | 0.000  | -0.098   | -0.148   | 0.106    |
| X    |          | 100.000% | 0.000  | 0.000  | 0.000    | 0.000  | -0.000   | -0.000   | -0.000   |
| σ    |          | 2.082%   | 0.005  | 0.008  | 0.030    | 0.000  | 0.114    | 0.129    | 0.115    |
| %RSD |          | 2.082    | 0.000  | 0.000  | 0.000    | 0.000  | 0.000    | 0.000    | 0.000    |
| Run  | Time     | 27Al     | 28Si   | 37Cl   | 39K      | 43Ca   | 44Ca     | 45Sc     | 47Ti     |
|      |          | ppb      | ppb    | ppb    | ppb      | ppb    | ppb      | ppb      | ppb      |
| 1    | 15:48:42 | -0.035   | 0.575  | 0.000  | -0.105   | 0.182  | 0.552    | 101.215% | -0.058   |
| 2    | 15:48:50 | 0.025    | 0.110  | 0.000  | 0.140    | 0.723  | 0.170    | 99.569%  | 0.004    |
| 3    | 15:48:58 | 0.010    | -0.686 | 0.000  | -0.034   | -0.906 | -0.722   | 99.216%  | 0.055    |
| X    |          | -0.000   | 0.000  | 0.000  | -0.000   | -0.000 | -0.000   | 100.000% | 0.000    |
| σ    |          | 0.031    | 0.638  | 0.000  | 0.126    | 0.830  | 0.654    | 1.067%   | 0.057    |
| %RSD |          | 0.000    | 0.000  | 0.000  | 0.000    | 0.000  | 0.000    | 1.067    | 0.000    |
| Run  | Time     | 51V      | 52Cr   | 55Mn   | 56Fe     | 57Fe   | 59Co     | 60Ni     | 63Cu     |
|      |          | ppb      | ppb    | ppb    | ppb      | ppb    | ppb      | ppb      | ppb      |
| 1    | 15:48:42 | -0.013   | -0.002 | 0.005  | -0.076   | -0.443 | 0.002    | 0.003    | 0.008    |
| 2    | 15:48:50 | 0.011    | -0.001 | -0.005 | 0.026    | 0.964  | 0.000    | -0.010   | -0.004   |
| 3    | 15:48:58 | 0.002    | 0.003  | -0.000 | 0.050    | -0.521 | -0.003   | 0.007    | -0.004   |
| X    |          | 0.000    | -0.000 | 0.000  | 0.000    | -0.000 | -0.000   | -0.000   | 0.000    |
| σ    |          | 0.012    | 0.003  | 0.005  | 0.067    | 0.836  | 0.003    | 0.009    | 0.007    |
| %RSD |          | 0.000    | 0.000  | 0.000  | 0.000    | 0.000  | 0.000    | 0.000    | 0.000    |
| Run  | Time     | 65Cu     | 66Zn   | 68Zn   | 75As     | 78Se   | 82Se     | 83Kr     | 88Sr     |
|      |          | ppb      | ppb    | ppb    | ppb      | ppb    | ppb      | ppb      | ppb      |
| 1    | 15:48:42 | 0.001    | -0.018 | 0.080  | 0.005    | -0.007 | -0.309   | 0.000    | 0.000    |
| 2    | 15:48:50 | -0.002   | -0.026 | -0.044 | -0.002   | -0.007 | -0.130   | 0.000    | 0.000    |
| 3    | 15:48:58 | 0.001    | 0.045  | -0.035 | -0.003   | 0.013  | 0.439    | 0.000    | -0.000   |
| X    |          | 0.000    | 0.000  | 0.000  | -0.000   | -0.000 | -0.000   | 0.000    | -0.000   |
| σ    |          | 0.001    | 0.039  | 0.069  | 0.004    | 0.011  | 0.391    | 0.000    | 0.000    |
| %RSD |          | 0.000    | 0.000  | 0.000  | 0.000    | 0.000  | 0.000    | 0.000    | 0.000    |
| Run  | Time     | 89Y      | 95Mo   | 98Mo   | 103Rh    | 107Ag  | 109Ag    | 111Cd    | 114Cd    |
|      |          | ppb      | ppb    | ppb    | ppb      | ppb    | ppb      | ppb      | ppb      |
| 1    | 15:48:42 | 99.070%  | -0.012 | 0.014  | 98.783%  | 0.002  | 0.006    | -0.004   | 0.003    |
| 2    | 15:48:50 | 98.914%  | 0.013  | -0.014 | 99.363%  | -0.005 | 0.002    | 0.008    | 0.018    |
| 3    | 15:48:58 | 102.015% | -0.001 | -0.000 | 101.854% | 0.003  | -0.008   | -0.004   | -0.021   |
| X    |          | 100.000% | -0.000 | 0.000  | 100.000% | -0.000 | 0.000    | 0.000    | 0.000    |
| σ    |          | 1.747%   | 0.013  | 0.014  | 1.631%   | 0.004  | 0.007    | 0.007    | 0.019    |
| %RSD |          | 1.747    | 0.000  | 0.000  | 1.631    | 0.000  | 0.000    | 0.000    | 0.000    |
| Run  | Time     | 115In    | 118Sn  | 121Sb  | 123Sb    | 135Ba  | 137Ba    | 159Tb    | 165Ho    |
|      |          | ppb      | ppb    | ppb    | ppb      | ppb    | ppb      | ppb      | ppb      |
| 1    | 15:48:42 | 99.881%  | -0.050 | -0.005 | -0.005   | 0.018  | 0.006    | 98.978%  | 99.508%  |
| 2    | 15:48:50 | 100.340% | 0.055  | -0.000 | 0.010    | -0.009 | 0.006    | 99.098%  | 99.277%  |
| 3    | 15:48:58 | 99.779%  | -0.005 | 0.006  | -0.006   | -0.009 | -0.011   | 101.924% | 101.215% |
| X    |          | 100.000% | -0.000 | 0.000  | -0.000   | 0.000  | 0.000    | 100.000% | 100.000% |
| σ    |          | 0.299%   | 0.053  | 0.005  | 0.009    | 0.016  | 0.010    | 1.667%   | 1.058%   |
| %RSD |          | 0.299    | 0.000  | 0.000  | 0.000    | 0.000  | 0.000    | 1.667    | 1.058    |
| Run  | Time     | 203Tl    | 205Tl  | 206Pb  | 207Pb    | 208Pb  | 209Bi    |          |          |
|      |          | ppb      | ppb    | ppb    | ppb      | ppb    | ppb      |          |          |
| 1    | 15:48:42 | -0.005   | -0.001 | -0.015 | 0.010    | -0.003 | 99.093%  |          |          |
| 2    | 15:48:50 | 0.006    | 0.002  | 0.012  | 0.002    | 0.007  | 100.400% |          |          |
| 3    | 15:48:58 | -0.001   | -0.000 | 0.003  | -0.012   | -0.004 | 100.506% |          |          |
| X    |          | -0.000   | -0.000 | 0.000  | 0.000    | -0.000 | 100.000% |          |          |
| σ    |          | 0.006    | 0.001  | 0.013  | 0.011    | 0.006  | 0.787%   |          |          |
| %RSD |          | 0.000    | 0.000  | 0.000  | 0.000    | 0.000  | 0.787    |          |          |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be     | 10B      | 11B        | 13C        | 23Na       | 25Mg       | 26Mg       |
|------|----------|----------|---------|----------|------------|------------|------------|------------|------------|
|      |          | ppb      | ppb     | ppb      | ppb        | ppb        | ppb        | ppb        | ppb        |
| 1    | 15:54:49 | 73.707%  | 201.500 | 0.441    | 0.373      | 0.000      | 100400.000 | 98610.000  | 99660.000  |
| 2    | 15:54:57 | 78.278%  | 195.500 | 0.378    | 0.284      | 0.000      | 97720.000  | 98770.000  | 97190.000  |
| 3    | 15:55:04 | 75.407%  | 202.900 | 0.458    | 0.262      | 0.000      | 101900.000 | 102600.000 | 103100.000 |
| X    |          | 75.797%  | 200.000 | 0.426    | 0.306      | 0.000      | 100000.000 | 100000.000 | 100000.000 |
| σ    |          | 2.310%   | 3.935   | 0.042    | 0.059      | 0.000      | 2121.000   | 2264.000   | 2995.000   |
| %RSD |          | 3.048    | 1.968   | 9.875    | 19.240     | 0.000      | 2.121      | 2.264      | 2.995      |
| Run  | Time     | 27Al     | 28Si    | 37Cl     | 39K        | 43Ca       | 44Ca       | 45Sc       | 47Ti       |
|      |          | ppb      | ppb     | ppb      | ppb        | ppb        | ppb        | ppb        | ppb        |
| 1    | 15:54:49 | 1011.000 | 10.540  | 0.000    | 100800.000 | 101800.000 | 100300.000 | 94.354%    | 0.415      |
| 2    | 15:54:57 | 938.000  | 7.970   | 0.000    | 97800.000  | 98560.000  | 97450.000  | 96.236%    | 0.436      |
| 3    | 15:55:04 | 1051.000 | 8.854   | 0.000    | 101400.000 | 99650.000  | 102200.000 | 92.728%    | 0.552      |
| X    |          | 1000.000 | 9.121   | 0.000    | 100000.000 | 100000.000 | 100000.000 | 94.439%    | 0.468      |
| σ    |          | 57.360   | 1.305   | 0.000    | 1925.000   | 1642.000   | 2401.000   | 1.756%     | 0.074      |
| %RSD |          | 5.736    | 14.310  | 0.000    | 1.925      | 1.642      | 2.401      | 1.859      | 15.810     |
| Run  | Time     | 51V      | 52Cr    | 55Mn     | 56Fe       | 57Fe       | 59Co       | 60Ni       | 63Cu       |
|      |          | ppb      | ppb     | ppb      | ppb        | ppb        | ppb        | ppb        | ppb        |
| 1    | 15:54:49 | 197.900  | 200.500 | 979.800  | 49530.000  | 49550.000  | 197.600    | 195.900    | 196.200    |
| 2    | 15:54:57 | 198.400  | 194.800 | 981.500  | 49720.000  | 49200.000  | 197.900    | 198.900    | 198.600    |
| 3    | 15:55:04 | 203.700  | 204.800 | 1039.000 | 50750.000  | 51250.000  | 204.500    | 205.200    | 205.300    |
| X    |          | 200.000  | 200.000 | 1000.000 | 50000.000  | 50000.000  | 200.000    | 200.000    | 200.000    |
| σ    |          | 3.223    | 5.024   | 33.490   | 653.900    | 1100.000   | 3.867      | 4.769      | 4.731      |
| %RSD |          | 1.611    | 2.512   | 3.349    | 1.308      | 2.201      | 1.933      | 2.385      | 2.366      |
| Run  | Time     | 65Cu     | 66Zn    | 68Zn     | 75As       | 78Se       | 82Se       | 83Kr       | 88Sr       |
|      |          | ppb      | ppb     | ppb      | ppb        | ppb        | ppb        | ppb        | ppb        |
| 1    | 15:54:49 | 198.400  | 199.700 | 198.000  | 199.100    | 200.600    | 194.600    | 0.000      | 200.800    |
| 2    | 15:54:57 | 196.800  | 195.200 | 199.700  | 198.300    | 199.500    | 203.100    | 0.000      | 200.900    |
| 3    | 15:55:04 | 204.800  | 205.100 | 202.300  | 202.600    | 199.900    | 202.300    | 0.000      | 198.300    |
| X    |          | 200.000  | 200.000 | 200.000  | 200.000    | 200.000    | 200.000    | 0.000      | 200.000    |
| σ    |          | 4.257    | 4.963   | 2.149    | 2.258      | 0.602      | 4.718      | 0.000      | 1.456      |
| %RSD |          | 2.129    | 2.482   | 1.075    | 1.129      | 0.301      | 2.359      | 0.000      | 0.728      |
| Run  | Time     | 89Y      | 95Mo    | 98Mo     | 103Rh      | 107Ag      | 109Ag      | 111Cd      | 114Cd      |
|      |          | ppb      | ppb     | ppb      | ppb        | ppb        | ppb        | ppb        | ppb        |
| 1    | 15:54:49 | 93.886%  | 0.165   | 0.165    | 75.695%    | 202.000    | 201.300    | 198.200    | 198.100    |
| 2    | 15:54:57 | 96.294%  | 0.130   | 0.172    | 78.469%    | 200.300    | 199.600    | 201.000    | 201.600    |
| 3    | 15:55:04 | 97.378%  | 0.072   | 0.120    | 78.542%    | 197.700    | 199.100    | 200.700    | 200.300    |
| X    |          | 95.853%  | 0.122   | 0.152    | 77.569%    | 200.000    | 200.000    | 200.000    | 200.000    |
| σ    |          | 1.787%   | 0.047   | 0.028    | 1.623%     | 2.184      | 1.117      | 1.540      | 1.803      |
| %RSD |          | 1.865    | 38.450  | 18.470   | 2.092      | 1.092      | 0.558      | 0.770      | 0.901      |
| Run  | Time     | 115In    | 118Sn   | 121Sb    | 123Sb      | 135Ba      | 137Ba      | 159Tb      | 165Ho      |
|      |          | ppb      | ppb     | ppb      | ppb        | ppb        | ppb        | ppb        | ppb        |
| 1    | 15:54:49 | 82.945%  | 0.086   | 0.197    | 0.163      | 197.200    | 198.100    | 84.836%    | 83.402%    |
| 2    | 15:54:57 | 83.743%  | 0.288   | 0.112    | 0.082      | 200.700    | 202.600    | 86.942%    | 86.105%    |
| 3    | 15:55:04 | 85.181%  | 0.264   | 0.155    | 0.160      | 202.100    | 199.400    | 87.834%    | 86.545%    |
| X    |          | 83.956%  | 0.212   | 0.154    | 0.135      | 200.000    | 200.000    | 86.537%    | 85.351%    |
| σ    |          | 1.133%   | 0.110   | 0.042    | 0.046      | 2.531      | 2.300      | 1.539%     | 1.702%     |
| %RSD |          | 1.350    | 51.870  | 27.380   | 33.790     | 1.266      | 1.150      | 1.779      | 1.994      |
| Run  | Time     | 203Tl    | 205Tl   | 206Pb    | 207Pb      | 208Pb      | 209Bi      |            |            |
|      |          | ppb      | ppb     | ppb      | ppb        | ppb        | ppb        |            |            |
| 1    | 15:54:49 | 197.400  | 198.900 | 198.300  | 197.300    | 197.400    | 65.601%    |            |            |
| 2    | 15:54:57 | 201.100  | 200.300 | 201.600  | 202.700    | 202.200    | 65.847%    |            |            |
| 3    | 15:55:04 | 201.500  | 200.900 | 200.100  | 200.000    | 200.400    | 66.608%    |            |            |
| X    |          | 200.000  | 200.000 | 200.000  | 200.000    | 200.000    | 66.019%    |            |            |
| σ    |          | 2.302    | 1.027   | 1.638    | 2.742      | 2.444      | 0.525%     |            |            |
| %RSD |          | 1.151    | 0.513   | 0.819    | 1.371      | 1.222      | 0.796      |            |            |

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5/1/2015 4:00:43 PM

User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be       | 10B     | 11B      | 13C     | 23Na     | 25Mg     | 26Mg     |
|------|----------|----------|-----------|---------|----------|---------|----------|----------|----------|
|      |          | ppb      | ppb       | ppb     | ppb      | ppb     | ppb      | ppb      | ppb      |
| 1    | 15:59:50 | 99.334%  | 0.210     | 193.600 | 194.800  | 0.000   | 96.380   | 69.970   | 68.410   |
| 2    | 15:59:58 | 93.975%  | 0.238     | 205.100 | 207.700  | 0.000   | 104.700  | 73.900   | 76.980   |
| 3    | 16:00:06 | 99.475%  | 0.209     | 201.300 | 197.500  | 0.000   | 103.400  | 76.080   | 74.360   |
| X    |          | 97.595%  | 0.219     | 200.000 | 200.000  | 0.000   | 101.500  | 73.320   | 73.250   |
| σ    |          | 3.136%   | 0.016     | 5.853   | 6.805    | 0.000   | 4.464    | 3.097    | 4.393    |
| %RSD |          | 3.213    | 7.376     | 2.926   | 3.403    | 0.000   | 4.399    | 4.224    | 5.997    |
| Run  | Time     | 27Al     | 28Si      | 37Cl    | 39K      | 43Ca    | 44Ca     | 45Sc     | 47Ti     |
|      |          | ppb      | ppb       | ppb     | ppb      | ppb     | ppb      | ppb      | ppb      |
| 1    | 15:59:50 | 22.760   | 9930.000  | 0.000   | 83.860   | 96.680  | 317.500  | 111.287% | 201.000  |
| 2    | 15:59:58 | 24.340   | 10180.000 | 0.000   | 77.340   | 93.670  | 294.500  | 110.538% | 194.600  |
| 3    | 16:00:06 | 23.730   | 9892.000  | 0.000   | 72.050   | 102.600 | 319.400  | 112.424% | 204.400  |
| X    |          | 23.610   | 10000.000 | 0.000   | 77.750   | 97.640  | 310.500  | 111.416% | 200.000  |
| σ    |          | 0.796    | 155.400   | 0.000   | 5.916    | 4.533   | 13.820   | 0.950%   | 4.972    |
| %RSD |          | 3.371    | 1.554     | 0.000   | 7.609    | 4.643   | 4.453    | 0.852    | 2.486    |
| Run  | Time     | 51V      | 52Cr      | 55Mn    | 56Fe     | 57Fe    | 59Co     | 60Ni     | 63Cu     |
|      |          | ppb      | ppb       | ppb     | ppb      | ppb     | ppb      | ppb      | ppb      |
| 1    | 15:59:50 | 0.322    | 0.322     | 1.721   | 79.410   | 78.900  | 0.149    | 0.355    | 3.325    |
| 2    | 15:59:58 | 0.221    | 0.277     | 1.755   | 71.660   | 65.910  | 0.160    | 0.267    | 3.402    |
| 3    | 16:00:06 | 0.240    | 0.314     | 1.560   | 68.220   | 66.020  | 0.178    | 0.431    | 3.345    |
| X    |          | 0.261    | 0.304     | 1.679   | 73.090   | 70.280  | 0.162    | 0.351    | 3.357    |
| σ    |          | 0.054    | 0.024     | 0.104   | 5.730    | 7.469   | 0.015    | 0.082    | 0.040    |
| %RSD |          | 20.590   | 7.999     | 6.185   | 7.839    | 10.630  | 8.994    | 23.510   | 1.187    |
| Run  | Time     | 65Cu     | 66Zn      | 68Zn    | 75As     | 78Se    | 82Se     | 83Kr     | 88Sr     |
|      |          | ppb      | ppb       | ppb     | ppb      | ppb     | ppb      | ppb      | ppb      |
| 1    | 15:59:50 | 3.735    | 7.008     | 7.325   | 1.631    | 1.430   | 1.843    | 0.000    | 0.228    |
| 2    | 15:59:58 | 3.339    | 7.081     | 7.100   | 1.310    | 1.125   | 1.635    | 0.000    | 0.354    |
| 3    | 16:00:06 | 3.583    | 6.718     | 6.550   | 1.202    | 1.269   | 0.810    | 0.000    | 0.306    |
| X    |          | 3.552    | 6.936     | 6.992   | 1.381    | 1.275   | 1.430    | 0.000    | 0.296    |
| σ    |          | 0.200    | 0.192     | 0.399   | 0.223    | 0.152   | 0.546    | 0.000    | 0.064    |
| %RSD |          | 5.615    | 2.771     | 5.705   | 16.170   | 11.960  | 38.210   | 0.000    | 21.550   |
| Run  | Time     | 89Y      | 95Mo      | 98Mo    | 103Rh    | 107Ag   | 109Ag    | 111Cd    | 114Cd    |
|      |          | ppb      | ppb       | ppb     | ppb      | ppb     | ppb      | ppb      | ppb      |
| 1    | 15:59:50 | 108.593% | 199.500   | 199.000 | 104.978% | 0.145   | 0.156    | 0.307    | 4.436    |
| 2    | 15:59:58 | 107.756% | 198.000   | 196.300 | 106.220% | 0.143   | 0.177    | 0.380    | 4.557    |
| 3    | 16:00:06 | 109.799% | 202.500   | 204.700 | 103.017% | 0.144   | 0.178    | 0.400    | 4.465    |
| X    |          | 108.716% | 200.000   | 200.000 | 104.738% | 0.144   | 0.170    | 0.362    | 4.486    |
| σ    |          | 1.027%   | 2.266     | 4.266   | 1.615%   | 0.001   | 0.012    | 0.049    | 0.063    |
| %RSD |          | 0.945    | 1.133     | 2.133   | 1.542    | 0.798   | 7.281    | 13.430   | 1.412    |
| Run  | Time     | 115In    | 118Sn     | 121Sb   | 123Sb    | 135Ba   | 137Ba    | 159Tb    | 165Ho    |
|      |          | ppb      | ppb       | ppb     | ppb      | ppb     | ppb      | ppb      | ppb      |
| 1    | 15:59:50 | 101.900% | 200.000   | 200.400 | 202.100  | 0.443   | 0.502    | 100.501% | 101.977% |
| 2    | 15:59:58 | 103.432% | 200.300   | 200.600 | 199.400  | 0.381   | 0.540    | 103.387% | 102.989% |
| 3    | 16:00:06 | 105.691% | 199.800   | 199.000 | 198.500  | 0.299   | 0.517    | 103.781% | 101.602% |
| X    |          | 103.674% | 200.000   | 200.000 | 200.000  | 0.374   | 0.520    | 102.557% | 102.190% |
| σ    |          | 1.907%   | 0.238     | 0.887   | 1.828    | 0.072   | 0.019    | 1.791%   | 0.717%   |
| %RSD |          | 1.840    | 0.119     | 0.444   | 0.914    | 19.260  | 3.625    | 1.746    | 0.702    |
| Run  | Time     | 203Tl    | 205Tl     | 206Pb   | 207Pb    | 208Pb   | 209Bi    |          |          |
|      |          | ppb      | ppb       | ppb     | ppb      | ppb     | ppb      |          |          |
| 1    | 15:59:50 | 0.291    | 0.272     | 0.431   | 0.418    | 0.433   | 97.657%  |          |          |
| 2    | 15:59:58 | 0.238    | 0.226     | 0.472   | 0.387    | 0.421   | 99.825%  |          |          |
| 3    | 16:00:06 | 0.242    | 0.228     | 0.506   | 0.375    | 0.459   | 100.344% |          |          |
| X    |          | 0.257    | 0.242     | 0.470   | 0.394    | 0.438   | 99.276%  |          |          |
| σ    |          | 0.030    | 0.026     | 0.037   | 0.022    | 0.019   | 1.425%   |          |          |
| %RSD |          | 11.550   | 10.760    | 7.926   | 5.543    | 4.345   | 1.436    |          |          |



ICV 1527873 5/1/2015 4:05:45 PM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be      | 10B      | 11B       | 13C       | 23Na      | 25Mg      | 26Mg      |
|------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 16:04:53 | 92.505%  | 82.450   | 85.400   | 81.980    | 0.000     | 40740.000 | 41370.000 | 40280.000 |
| 2    | 16:05:01 | 91.537%  | 83.350   | 83.260   | 82.550    | 0.000     | 39320.000 | 41000.000 | 41220.000 |
| 3    | 16:05:09 | 93.441%  | 82.080   | 81.200   | 81.300    | 0.000     | 39800.000 | 40980.000 | 39370.000 |
| X    |          | 92.494%  | 103.286% | 104.109% | 102.431%  | 0.000     | 99.887%   | 102.793%  | 100.720%  |
| σ    |          | 0.952%   | n/a      | n/a      | n/a       | 0.000     | n/a       | n/a       | n/a       |
| %RSD |          | 1.030    | 0.793    | 2.527    | 0.767     | 0.000     | 1.812     | 0.543     | 2.299     |
| Run  | Time     | 27Al     | 28Si     | 37Cl     | 39K       | 43Ca      | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 16:04:53 | 420.900  | 4080.000 | 0.000    | 40130.000 | 39100.000 | 38800.000 | 108.946%  | 79.630    |
| 2    | 16:05:01 | 415.500  | 4086.000 | 0.000    | 39650.000 | 38740.000 | 39150.000 | 111.882%  | 79.970    |
| 3    | 16:05:09 | 401.600  | 3980.000 | 0.000    | 39020.000 | 39060.000 | 39880.000 | 111.296%  | 83.270    |
| X    |          | 103.162% | 101.216% | 0.000    | 98.997%   | 97.421%   | 98.195%   | 110.708%  | 101.195%  |
| σ    |          | n/a      | n/a      | 0.000    | n/a       | n/a       | n/a       | 1.554%    | n/a       |
| %RSD |          | 2.406    | 1.474    | 0.000    | 1.401     | 0.516     | 1.405     | 1.404     | 2.484     |
| Run  | Time     | 51V      | 52Cr     | 55Mn     | 56Fe      | 57Fe      | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 16:04:53 | 74.340   | 75.410   | 397.400  | 18900.000 | 19460.000 | 78.070    | 78.250    | 81.480    |
| 2    | 16:05:01 | 73.270   | 76.070   | 400.200  | 18870.000 | 19200.000 | 75.170    | 76.070    | 80.900    |
| 3    | 16:05:09 | 73.050   | 75.520   | 402.400  | 18930.000 | 19060.000 | 74.110    | 75.690    | 79.230    |
| X    |          | 91.942%  | 94.581%  | 99.992%  | 94.497%   | 96.202%   | 94.731%   | 95.838%   | 100.668%  |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | n/a       | n/a       | n/a       |
| %RSD |          | 0.935    | 0.472    | 0.629    | 0.178     | 1.076     | 2.704     | 1.806     | 1.452     |
| Run  | Time     | 65Cu     | 66Zn     | 68Zn     | 75As      | 78Se      | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 16:04:53 | 80.740   | 89.500   | 88.730   | 81.710    | 87.130    | 86.020    | 0.000     | 73.200    |
| 2    | 16:05:01 | 78.740   | 86.420   | 85.050   | 80.720    | 79.660    | 86.490    | 0.000     | 71.730    |
| 3    | 16:05:09 | 78.230   | 85.930   | 85.670   | 82.000    | 83.340    | 85.020    | 0.000     | 72.070    |
| X    |          | 99.047%  | 109.107% | 108.104% | 101.848%  | 104.217%  | 107.305%  | 0.000     | 90.414%   |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | n/a       | 0.000     | n/a       |
| %RSD |          | 1.675    | 2.219    | 2.275    | 0.828     | 4.480     | 0.874     | 0.000     | 1.068     |
| Run  | Time     | 89Y      | 95Mo     | 98Mo     | 103Rh     | 107Ag     | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 16:04:53 | 111.359% | 83.370   | 84.290   | 95.258%   | 79.010    | 78.880    | 79.090    | 83.070    |
| 2    | 16:05:01 | 116.614% | 79.100   | 83.390   | 97.327%   | 77.300    | 78.270    | 80.430    | 83.040    |
| 3    | 16:05:09 | 117.053% | 79.600   | 84.130   | 96.922%   | 78.270    | 78.540    | 82.110    | 82.930    |
| X    |          | 115.009% | 100.862% | 104.923% | 96.502%   | 97.741%   | 98.207%   | 100.679%  | 103.762%  |
| σ    |          | 3.168%   | n/a      | n/a      | 1.096%    | n/a       | n/a       | n/a       | n/a       |
| %RSD |          | 2.755    | 2.893    | 0.569    | 1.136     | 1.096     | 0.392     | 1.876     | 0.089     |
| Run  | Time     | 115In    | 118Sn    | 121Sb    | 123Sb     | 135Ba     | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 16:04:53 | 96.047%  | 80.240   | 80.780   | 81.230    | 81.020    | 81.020    | 93.030%   | 92.057%   |
| 2    | 16:05:01 | 97.669%  | 79.800   | 79.780   | 81.500    | 82.020    | 84.620    | 94.266%   | 94.477%   |
| 3    | 16:05:09 | 99.005%  | 78.970   | 79.660   | 79.750    | 81.660    | 81.980    | 94.650%   | 94.678%   |
| X    |          | 97.573%  | 99.589%  | 100.089% | 101.036%  | 101.964%  | 103.177%  | 93.982%   | 93.737%   |
| σ    |          | 1.481%   | n/a      | n/a      | n/a       | n/a       | n/a       | 0.846%    | 1.459%    |
| %RSD |          | 1.518    | 0.815    | 0.772    | 1.163     | 0.621     | 2.260     | 0.901     | 1.556     |
| Run  | Time     | 203Tl    | 205Tl    | 206Pb    | 207Pb     | 208Pb     | 209Bi     |           |           |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       |           |           |
| 1    | 16:04:53 | 83.590   | 82.650   | 82.510   | 81.750    | 82.150    | 74.420%   |           |           |
| 2    | 16:05:01 | 82.780   | 83.310   | 83.520   | 80.640    | 81.840    | 75.385%   |           |           |
| 3    | 16:05:09 | 83.240   | 82.540   | 83.250   | 81.210    | 81.830    | 76.184%   |           |           |
| X    |          | 104.004% | 103.540% | 103.863% | 101.502%  | 102.427%  | 75.330%   |           |           |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | 0.883%    |           |           |
| %RSD |          | 0.486    | 0.501    | 0.632    | 0.686     | 0.225     | 1.173     |           |           |

ICB 5/1/2015 4:14:49 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be     | 10B    | 11B      | 13C     | 23Na     | 25Mg     | 26Mg     |
|------|----------|----------|---------|--------|----------|---------|----------|----------|----------|
|      |          | ppb      | ppb     | ppb    | ppb      | ppb     | ppb      | ppb      | ppb      |
| 1    | 16:13:56 | 98.211%  | -0.027  | 0.321  | 0.381    | 0.000   | 1.028    | -0.107   | 0.020    |
| 2    | 16:14:04 | 99.327%  | -0.025  | 0.220  | 0.259    | 0.000   | 1.496    | -0.354   | -0.290   |
| 3    | 16:14:12 | 96.148%  | -0.019  | 0.170  | 0.273    | 0.000   | 1.043    | -0.515   | 0.248    |
| X    |          | 97.895%  | -0.024  | 0.237  | 0.304    | 0.000   | 1.189    | -0.325   | -0.008   |
| σ    |          | 1.613%   | 0.004   | 0.077  | 0.066    | 0.000   | 0.266    | 0.205    | 0.270    |
| %RSD |          | 1.647    | 18.680  | 32.300 | 21.830   | 0.000   | 22.400   | 63.180   | 3502.000 |
| Run  | Time     | 27Al     | 28Si    | 37Cl   | 39K      | 43Ca    | 44Ca     | 45Sc     | 47Ti     |
|      |          | ppb      | ppb     | ppb    | ppb      | ppb     | ppb      | ppb      | ppb      |
| 1    | 16:13:56 | -1.171   | 11.660  | 0.000  | 2.445    | 3.363   | -0.210   | 109.412% | -0.142   |
| 2    | 16:14:04 | -1.167   | 6.614   | 0.000  | 2.664    | -0.505  | -0.707   | 105.262% | -0.216   |
| 3    | 16:14:12 | -1.137   | 4.993   | 0.000  | 2.069    | -0.717  | -1.353   | 108.525% | -0.133   |
| X    |          | -1.158   | 7.755   | 0.000  | 2.393    | 0.714   | -0.756   | 107.733% | -0.164   |
| σ    |          | 0.019    | 3.477   | 0.000  | 0.301    | 2.297   | 0.573    | 2.185%   | 0.046    |
| %RSD |          | 1.624    | 44.830  | 0.000  | 12.570   | 321.800 | 75.760   | 2.028    | 27.780   |
| Run  | Time     | 51V      | 52Cr    | 55Mn   | 56Fe     | 57Fe    | 59Co     | 60Ni     | 63Cu     |
|      |          | ppb      | ppb     | ppb    | ppb      | ppb     | ppb      | ppb      | ppb      |
| 1    | 16:13:56 | -0.011   | -0.001  | 0.055  | 5.133    | 5.277   | 0.003    | -0.009   | -0.001   |
| 2    | 16:14:04 | -0.003   | -0.000  | 0.039  | 5.018    | 4.858   | -0.001   | 0.001    | -0.011   |
| 3    | 16:14:12 | 0.018    | -0.001  | 0.038  | 5.162    | 5.698   | 0.004    | -0.005   | -0.057   |
| X    |          | 0.001    | -0.001  | 0.044  | 5.105    | 5.278   | 0.002    | -0.004   | -0.023   |
| σ    |          | 0.015    | 0.001   | 0.010  | 0.076    | 0.420   | 0.003    | 0.005    | 0.030    |
| %RSD |          | 1304.000 | 64.620  | 22.190 | 1.489    | 7.957   | 121.400  | 114.800  | 130.500  |
| Run  | Time     | 65Cu     | 66Zn    | 68Zn   | 75As     | 78Se    | 82Se     | 83Kr     | 88Sr     |
|      |          | ppb      | ppb     | ppb    | ppb      | ppb     | ppb      | ppb      | ppb      |
| 1    | 16:13:56 | -0.050   | 0.119   | -0.032 | 0.017    | 0.107   | 0.217    | 0.000    | -0.008   |
| 2    | 16:14:04 | -0.039   | -0.082  | -0.019 | 0.053    | 0.111   | 0.495    | 0.000    | -0.005   |
| 3    | 16:14:12 | -0.061   | 0.081   | -0.070 | 0.004    | 0.031   | 0.386    | 0.000    | -0.003   |
| X    |          | -0.050   | 0.039   | -0.040 | 0.025    | 0.083   | 0.366    | 0.000    | -0.005   |
| σ    |          | 0.011    | 0.107   | 0.027  | 0.025    | 0.045   | 0.140    | 0.000    | 0.002    |
| %RSD |          | 21.960   | 270.500 | 66.130 | 101.800  | 53.930  | 38.320   | 0.000    | 44.890   |
| Run  | Time     | 89Y      | 95Mo    | 98Mo   | 103Rh    | 107Ag   | 109Ag    | 111Cd    | 114Cd    |
|      |          | ppb      | ppb     | ppb    | ppb      | ppb     | ppb      | ppb      | ppb      |
| 1    | 16:13:56 | 105.633% | 0.159   | 0.255  | 96.198%  | -0.014  | -0.002   | -0.004   | -0.021   |
| 2    | 16:14:04 | 102.154% | 0.189   | 0.221  | 101.355% | -0.009  | -0.008   | -0.004   | -0.002   |
| 3    | 16:14:12 | 105.251% | 0.123   | 0.165  | 103.998% | -0.018  | -0.004   | -0.004   | -0.016   |
| X    |          | 104.346% | 0.157   | 0.214  | 100.517% | -0.013  | -0.005   | -0.004   | -0.013   |
| σ    |          | 1.908%   | 0.033   | 0.045  | 3.967%   | 0.004   | 0.003    | 0.000    | 0.010    |
| %RSD |          | 1.829    | 21.260  | 21.230 | 3.947    | 32.550  | 66.280   | 0.807    | 74.740   |
| Run  | Time     | 115In    | 118Sn   | 121Sb  | 123Sb    | 135Ba   | 137Ba    | 159Tb    | 165Ho    |
|      |          | ppb      | ppb     | ppb    | ppb      | ppb     | ppb      | ppb      | ppb      |
| 1    | 16:13:56 | 101.822% | -0.400  | -0.080 | -0.150   | 0.017   | 0.022    | 101.081% | 100.076% |
| 2    | 16:14:04 | 102.312% | -0.284  | -0.080 | -0.104   | 0.044   | 0.021    | 102.025% | 102.594% |
| 3    | 16:14:12 | 102.616% | -0.230  | -0.053 | -0.128   | 0.017   | -0.028   | 102.744% | 101.986% |
| X    |          | 102.250% | -0.305  | -0.071 | -0.127   | 0.026   | 0.005    | 101.950% | 101.552% |
| σ    |          | 0.401%   | 0.086   | 0.016  | 0.023    | 0.015   | 0.029    | 0.834%   | 1.314%   |
| %RSD |          | 0.392    | 28.360  | 22.120 | 17.970   | 58.170  | 577.000  | 0.818    | 1.294    |
| Run  | Time     | 203Tl    | 205Tl   | 206Pb  | 207Pb    | 208Pb   | 209Bi    |          |          |
|      |          | ppb      | ppb     | ppb    | ppb      | ppb     | ppb      |          |          |
| 1    | 16:13:56 | 0.013    | 0.026   | -0.033 | -0.032   | -0.018  | 99.179%  |          |          |
| 2    | 16:14:04 | 0.010    | 0.025   | -0.036 | -0.028   | -0.021  | 99.736%  |          |          |
| 3    | 16:14:12 | 0.021    | 0.017   | -0.042 | -0.032   | -0.018  | 101.031% |          |          |
| X    |          | 0.015    | 0.023   | -0.037 | -0.031   | -0.019  | 99.982%  |          |          |
| σ    |          | 0.006    | 0.005   | 0.005  | 0.002    | 0.002   | 0.950%   |          |          |
| %RSD |          | 37.750   | 23.330  | 12.720 | 6.497    | 10.980  | 0.950    |          |          |

CRI 1554040 5/1/2015 4:19:55 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be      | 10B      | 11B      | 13C      | 23Na     | 25Mg     | 26Mg     |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
|      |          | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      |
| 1    | 16:19:02 | 94.396%  | 1.027    | 20.660   | 19.750   | 0.000    | 508.900  | 517.900  | 511.500  |
| 2    | 16:19:10 | 93.671%  | 1.017    | 20.600   | 19.920   | 0.000    | 508.100  | 527.600  | 496.000  |
| 3    | 16:19:18 | 93.286%  | 1.111    | 21.070   | 20.780   | 0.000    | 556.800  | 544.300  | 533.000  |
| X    |          | 93.784%  | 105.143% | 415.553% | 403.031% | 0.000    | 655.765% | 529.936% | 513.525% |
| σ    |          | 0.564%   | n/a      | n/a      | n/a      | 0.000    | n/a      | n/a      | n/a      |
| %RSD |          | 0.601    | 4.892    | 1.236    | 2.735    | 0.000    | 5.311    | 2.520    | 3.612    |
| Run  | Time     | 27Al     | 28Si     | 37Cl     | 39K      | 43Ca     | 44Ca     | 45Sc     | 47Ti     |
|      |          | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      |
| 1    | 16:19:02 | 33.630   | 529.700  | 0.000    | 493.600  | 508.600  | 475.500  | 111.104% | 4.704    |
| 2    | 16:19:10 | 32.780   | 554.700  | 0.000    | 501.600  | 476.000  | 459.800  | 110.006% | 4.671    |
| 3    | 16:19:18 | 33.680   | 506.100  | 0.000    | 523.200  | 496.700  | 486.400  | 109.565% | 4.425    |
| X    |          | 111.216% | 106.034% | 0.000    | 506.128% | 493.786% | 473.917% | 110.225% | 91.998%  |
| σ    |          | n/a      | n/a      | 0.000    | n/a      | n/a      | n/a      | 0.792%   | n/a      |
| %RSD |          | 1.529    | 4.581    | 0.000    | 3.027    | 3.345    | 2.822    | 0.719    | 3.315    |
| Run  | Time     | 51V      | 52Cr     | 55Mn     | 56Fe     | 57Fe     | 59Co     | 60Ni     | 63Cu     |
|      |          | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      |
| 1    | 16:19:02 | 0.839    | 1.834    | 4.910    | 58.300   | 57.310   | 0.471    | 1.189    | 2.170    |
| 2    | 16:19:10 | 0.785    | 1.791    | 5.033    | 57.870   | 63.580   | 0.494    | 1.198    | 2.237    |
| 3    | 16:19:18 | 0.985    | 1.904    | 5.090    | 58.700   | 57.350   | 0.513    | 1.155    | 2.341    |
| X    |          | 86.946%  | 92.161%  | 100.215% | 116.577% | 118.822% | 98.556%  | 118.056% | 112.468% |
| σ    |          | n/a      | n/a      | n/a      | n/a      | n/a      | n/a      | n/a      | n/a      |
| %RSD |          | 11.900   | 3.102    | 1.837    | 0.712    | 6.072    | 4.313    | 1.896    | 3.821    |
| Run  | Time     | 65Cu     | 66Zn     | 68Zn     | 75As     | 78Se     | 82Se     | 83Kr     | 88Sr     |
|      |          | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      |
| 1    | 16:19:02 | 2.194    | 6.161    | 5.788    | 1.069    | 4.973    | 5.710    | 0.000    | 4.618    |
| 2    | 16:19:10 | 2.322    | 6.209    | 6.065    | 1.067    | 5.961    | 5.870    | 0.000    | 4.697    |
| 3    | 16:19:18 | 2.339    | 5.619    | 5.940    | 1.187    | 5.905    | 4.820    | 0.000    | 4.735    |
| X    |          | 114.250% | 119.927% | 118.620% | 110.757% | 112.260% | 109.332% | 0.000    | 93.667%  |
| σ    |          | n/a      | n/a      | n/a      | n/a      | n/a      | n/a      | 0.000    | n/a      |
| %RSD |          | 3.470    | 5.463    | 2.336    | 6.176    | 9.894    | 10.350   | 0.000    | 1.270    |
| Run  | Time     | 89Y      | 95Mo     | 98Mo     | 103Rh    | 107Ag    | 109Ag    | 111Cd    | 114Cd    |
|      |          | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      |
| 1    | 16:19:02 | 106.330% | 4.949    | 4.370    | 97.017%  | 1.242    | 1.048    | 1.080    | 1.267    |
| 2    | 16:19:10 | 107.190% | 4.731    | 4.630    | 99.513%  | 1.054    | 1.124    | 1.101    | 1.190    |
| 3    | 16:19:18 | 108.239% | 4.825    | 4.635    | 100.077% | 1.136    | 1.075    | 1.052    | 1.108    |
| X    |          | 107.253% | 96.699%  | 90.896%  | 98.869%  | 114.393% | 108.232% | 107.786% | 118.832% |
| σ    |          | 0.956%   | n/a      | n/a      | 1.628%   | n/a      | n/a      | n/a      | n/a      |
| %RSD |          | 0.892    | 2.254    | 3.332    | 1.647    | 8.217    | 3.571    | 2.268    | 6.713    |
| Run  | Time     | 115In    | 118Sn    | 121Sb    | 123Sb    | 135Ba    | 137Ba    | 159Tb    | 165Ho    |
|      |          | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      |
| 1    | 16:19:02 | 98.687%  | 3.835    | 1.696    | 2.107    | 10.900   | 10.200   | 98.581%  | 97.579%  |
| 2    | 16:19:10 | 99.278%  | 3.785    | 1.832    | 1.732    | 9.470    | 9.827    | 97.564%  | 99.533%  |
| 3    | 16:19:18 | 100.992% | 4.239    | 1.660    | 1.841    | 9.082    | 9.982    | 100.844% | 98.209%  |
| X    |          | 99.652%  | 79.060%  | 86.457%  | 94.686%  | 98.181%  | 100.020% | 98.996%  | 98.440%  |
| σ    |          | 1.197%   | n/a      | n/a      | n/a      | n/a      | n/a      | 1.679%   | 0.998%   |
| %RSD |          | 1.202    | 6.299    | 5.254    | 10.180   | 9.764    | 1.855    | 1.696    | 1.013    |
| Run  | Time     | 203Tl    | 205Tl    | 206Pb    | 207Pb    | 208Pb    | 209Bi    |          |          |
|      |          | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      |          |          |
| 1    | 16:19:02 | 0.842    | 0.761    | 0.774    | 0.877    | 0.881    | 95.185%  |          |          |
| 2    | 16:19:10 | 0.899    | 0.881    | 0.837    | 0.979    | 0.916    | 95.653%  |          |          |
| 3    | 16:19:18 | 0.887    | 0.877    | 0.896    | 0.830    | 0.858    | 96.449%  |          |          |
| X    |          | 87.612%  | 83.967%  | 83.569%  | 89.523%  | 88.496%  | 95.762%  |          |          |
| σ    |          | n/a      | n/a      | n/a      | n/a      | n/a      | 0.639%   |          |          |
| %RSD |          | 3.428    | 8.138    | 7.340    | 8.488    | 3.270    | 0.667    |          |          |

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5/1/2015 4:25:00 PM

QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

| Run  | Time     | 6Li       | 9Be      | 10B      | 11B        | 13C        | 23Na       | 25Mg       | 26Mg      |
|------|----------|-----------|----------|----------|------------|------------|------------|------------|-----------|
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb        | ppb        | ppb       |
| 1    | 16:24:08 | 68.543%   | 0.041    | 0.691    | 1.290      | 0.000      | 89660.000  | 95460.000  | 94110.000 |
| 2    | 16:24:16 | 68.837%   | 0.031    | 0.663    | 1.111      | 0.000      | 92820.000  | 93680.000  | 96220.000 |
| 3    | 16:24:24 | 68.978%   | 0.035    | 0.583    | 1.099      | 0.000      | 94610.000  | 100500.000 | 99970.000 |
| X    |          | 68.786%   | 0.035    | 0.645    | 1.167      | 0.000      | 92360.000  | 96540.000  | 96770.000 |
| σ    |          | 0.222%    | 0.005    | 0.056    | 0.107      | 0.000      | 2505.000   | 3532.000   | 2965.000  |
| %RSD |          | 0.323     | 14.250   | 8.651    | 9.192      | 0.000      | 2.712      | 3.659      | 3.064     |
| Run  | Time     | 27Al      | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca       | 45Sc       | 47Ti      |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb        | ppb        | ppb       |
| 1    | 16:24:08 | 91630.000 | 51.490   | 0.000    | 102100.000 | 101800.000 | 104300.000 | 82.518%    | 2227.000  |
| 2    | 16:24:16 | 92490.000 | 46.910   | 0.000    | 102600.000 | 103500.000 | 105000.000 | 82.451%    | 2298.000  |
| 3    | 16:24:24 | 96370.000 | 48.110   | 0.000    | 105800.000 | 110300.000 | 108600.000 | 78.144%    | 2309.000  |
| X    |          | 93500.000 | 48.840   | 0.000    | 103500.000 | 105200.000 | 106000.000 | 81.038%    | 2278.000  |
| σ    |          | 2525.000  | 2.374    | 0.000    | 2026.000   | 4496.000   | 2332.000   | 2.506%     | 44.550    |
| %RSD |          | 2.701     | 4.861    | 0.000    | 1.958      | 4.275      | 2.200      | 3.093      | 1.956     |
| Run  | Time     | 51V       | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co       | 60Ni       | 63Cu      |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb        | ppb        | ppb       |
| 1    | 16:24:08 | 0.119     | 1.414    | 1.893    | 97390.000  | 93080.000  | 0.294      | 0.507      | 1.375     |
| 2    | 16:24:16 | 0.364     | 1.414    | 1.937    | 95740.000  | 92770.000  | 0.271      | 0.458      | 1.443     |
| 3    | 16:24:24 | 0.106     | 1.508    | 1.904    | 101000.000 | 98150.000  | 0.284      | 0.491      | 1.213     |
| X    |          | 0.196     | 1.445    | 1.911    | 98050.000  | 94670.000  | 0.283      | 0.485      | 1.344     |
| σ    |          | 0.145     | 0.054    | 0.023    | 2695.000   | 3020.000   | 0.012      | 0.025      | 0.118     |
| %RSD |          | 74.040    | 3.756    | 1.195    | 2.749      | 3.190      | 4.241      | 5.202      | 8.779     |
| Run  | Time     | 65Cu      | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se       | 83Kr       | 88Sr      |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb        | ppb        | ppb       |
| 1    | 16:24:08 | 2.679     | 5.094    | 1.614    | 0.657      | 0.121      | 1.084      | 0.000      | 0.909     |
| 2    | 16:24:16 | 2.738     | 4.833    | 1.670    | 0.761      | 0.095      | 1.719      | 0.000      | 0.819     |
| 3    | 16:24:24 | 2.396     | 4.450    | 1.953    | 0.602      | 0.223      | 0.388      | 0.000      | 0.846     |
| X    |          | 2.604     | 4.792    | 1.746    | 0.673      | 0.146      | 1.064      | 0.000      | 0.858     |
| σ    |          | 0.182     | 0.324    | 0.182    | 0.081      | 0.068      | 0.666      | 0.000      | 0.046     |
| %RSD |          | 7.004     | 6.761    | 10.410   | 12.030     | 46.290     | 62.610     | 0.000      | 5.414     |
| Run  | Time     | 89Y       | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag      | 111Cd      | 114Cd     |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb        | ppb        | ppb       |
| 1    | 16:24:08 | 78.100%   | 2275.000 | 2359.000 | 70.147%    | 0.039      | 0.065      | 2.853      | 1.625     |
| 2    | 16:24:16 | 77.937%   | 2280.000 | 2371.000 | 70.677%    | 0.072      | 0.059      | 2.237      | 1.664     |
| 3    | 16:24:24 | 79.082%   | 2299.000 | 2370.000 | 71.304%    | 0.038      | 0.056      | 2.549      | 1.653     |
| X    |          | 78.373%   | 2284.000 | 2367.000 | 70.710%    | 0.050      | 0.060      | 2.546      | 1.647     |
| σ    |          | 0.619%    | 12.420   | 6.640    | 0.579%     | 0.019      | 0.005      | 0.308      | 0.020     |
| %RSD |          | 0.790     | 0.544    | 0.281    | 0.819      | 39.200     | 7.722      | 12.090     | 1.221     |
| Run  | Time     | 115In     | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba      | 159Tb      | 165Ho     |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb        | ppb        | ppb       |
| 1    | 16:24:08 | 72.412%   | -0.069   | 0.102    | -0.048     | 0.099      | 0.218      | 77.907%    | 76.813%   |
| 2    | 16:24:16 | 73.345%   | 0.030    | 0.023    | -0.062     | 0.274      | 0.192      | 79.464%    | 78.123%   |
| 3    | 16:24:24 | 73.208%   | -0.108   | 0.030    | -0.029     | 0.097      | 0.192      | 79.783%    | 79.804%   |
| X    |          | 72.988%   | -0.049   | 0.052    | -0.046     | 0.157      | 0.201      | 79.051%    | 78.247%   |
| σ    |          | 0.504%    | 0.071    | 0.044    | 0.016      | 0.102      | 0.015      | 1.004%     | 1.499%    |
| %RSD |          | 0.690     | 146.500  | 84.850   | 34.840     | 64.910     | 7.498      | 1.270      | 1.916     |
| Run  | Time     | 203Tl     | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi      |            |           |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb        |            |           |
| 1    | 16:24:08 | 0.078     | 0.102    | 0.280    | 0.327      | 0.323      | 62.534%    |            |           |
| 2    | 16:24:16 | 0.052     | 0.085    | 0.300    | 0.245      | 0.280      | 63.911%    |            |           |
| 3    | 16:24:24 | 0.042     | 0.085    | 0.337    | 0.193      | 0.273      | 63.816%    |            |           |
| X    |          | 0.057     | 0.091    | 0.306    | 0.255      | 0.292      | 63.420%    |            |           |
| σ    |          | 0.019     | 0.010    | 0.029    | 0.068      | 0.027      | 0.769%     |            |           |
| %RSD |          | 32.710    | 10.980   | 9.565    | 26.610     | 9.358      | 1.213      |            |           |

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QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

| Run  | Time     | 6Li       | 9Be      | 10B      | 11B        | 13C        | 23Na       | 25Mg      | 26Mg      |
|------|----------|-----------|----------|----------|------------|------------|------------|-----------|-----------|
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 16:29:13 | 74.097%   | 18.070   | 43.990   | 45.360     | 0.000      | 90800.000  | 93020.000 | 91020.000 |
| 2    | 16:29:21 | 71.585%   | 18.760   | 44.390   | 43.200     | 0.000      | 95470.000  | 99060.000 | 98180.000 |
| 3    | 16:29:28 | 71.908%   | 18.790   | 45.710   | 43.660     | 0.000      | 98260.000  | 99860.000 | 96970.000 |
| X    |          | 72.530%   | 92.702%  | 89.389%  | 88.144%    | 0.000      | 94.841%    | 97.313%   | 95.392%   |
| σ    |          | 1.367%    | n/a      | n/a      | n/a        | 0.000      | n/a        | n/a       | n/a       |
| %RSD |          | 1.884     | 2.177    | 2.020    | 2.581      | 0.000      | 3.973      | 3.840     | 4.020     |
| Run  | Time     | 27Al      | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca       | 45Sc      | 47Ti      |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 16:29:13 | 91410.000 | 580.300  | 0.000    | 103800.000 | 103800.000 | 106500.000 | 81.807%   | 2151.000  |
| 2    | 16:29:21 | 93070.000 | 591.700  | 0.000    | 106100.000 | 108100.000 | 108400.000 | 78.511%   | 2285.000  |
| 3    | 16:29:28 | 96230.000 | 600.800  | 0.000    | 105900.000 | 107700.000 | 109400.000 | 76.126%   | 2336.000  |
| X    |          | 93.567%   | 118.187% | 0.000    | 105.282%   | 106.547%   | 108.106%   | 78.815%   | 112.862%  |
| σ    |          | n/a       | n/a      | 0.000    | n/a        | n/a        | n/a        | 2.853%    | n/a       |
| %RSD |          | 2.616     | 1.734    | 0.000    | 1.201      | 2.242      | 1.361      | 3.619     | 4.239     |
| Run  | Time     | 51V       | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co       | 60Ni      | 63Cu      |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 16:29:13 | 18.900    | 20.260   | 20.640   | 96260.000  | 94860.000  | 19.440     | 18.150    | 19.360    |
| 2    | 16:29:21 | 19.620    | 20.990   | 21.900   | 100300.000 | 96080.000  | 19.650     | 19.680    | 20.810    |
| 3    | 16:29:28 | 19.520    | 21.470   | 22.170   | 103900.000 | 98470.000  | 19.670     | 20.050    | 20.140    |
| X    |          | 96.755%   | 104.514% | 107.854% | 100.167%   | 96.472%    | 97.928%    | 96.452%   | 100.509%  |
| σ    |          | n/a       | n/a      | n/a      | n/a        | n/a        | n/a        | n/a       | n/a       |
| %RSD |          | 2.019     | 2.914    | 3.772    | 3.830      | 1.902      | 0.665      | 5.229     | 3.589     |
| Run  | Time     | 65Cu      | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se       | 83Kr      | 88Sr      |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 16:29:13 | 21.910    | 22.350   | 18.950   | 19.740     | 50.570     | 51.690     | 0.000     | 21.370    |
| 2    | 16:29:21 | 21.200    | 22.930   | 19.710   | 20.530     | 48.630     | 49.480     | 0.000     | 21.710    |
| 3    | 16:29:28 | 21.210    | 23.270   | 20.670   | 20.620     | 53.650     | 56.720     | 0.000     | 20.890    |
| X    |          | 107.203%  | 91.401%  | 79.109%  | 101.485%   | 101.900%   | 105.263%   | 0.000     | 106.612%  |
| σ    |          | n/a       | n/a      | n/a      | n/a        | n/a        | n/a        | 0.000     | n/a       |
| %RSD |          | 1.880     | 2.037    | 4.361    | 2.407      | 4.972      | 7.051      | 0.000     | 1.939     |
| Run  | Time     | 89Y       | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag      | 111Cd     | 114Cd     |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 16:29:13 | 75.391%   | 2289.000 | 2342.000 | 66.096%    | 18.710     | 18.780     | 20.590    | 22.990    |
| 2    | 16:29:21 | 74.394%   | 2303.000 | 2368.000 | 67.390%    | 18.750     | 18.240     | 19.880    | 22.500    |
| 3    | 16:29:28 | 75.774%   | 2311.000 | 2359.000 | 67.718%    | 18.440     | 18.570     | 21.410    | 23.450    |
| X    |          | 75.186%   | 115.037% | 117.812% | 67.068%    | 93.172%    | 92.656%    | 103.139%  | 114.909%  |
| σ    |          | 0.712%    | n/a      | n/a      | 0.857%     | n/a        | n/a        | n/a       | n/a       |
| %RSD |          | 0.948     | 0.489    | 0.561    | 1.278      | 0.898      | 1.468      | 3.725     | 2.067     |
| Run  | Time     | 115In     | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba      | 159Tb     | 165Ho     |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 16:29:13 | 68.291%   | 100.700  | 20.270   | 19.530     | 19.940     | 20.270     | 75.411%   | 75.662%   |
| 2    | 16:29:21 | 69.809%   | 100.000  | 19.790   | 19.530     | 18.920     | 20.220     | 76.716%   | 76.317%   |
| 3    | 16:29:28 | 69.670%   | 101.900  | 19.290   | 18.710     | 19.140     | 21.410     | 76.564%   | 77.007%   |
| X    |          | 69.257%   | 100.877% | 98.895%  | 96.292%    | 96.664%    | 103.172%   | 76.231%   | 76.328%   |
| σ    |          | 0.840%    | n/a      | n/a      | n/a        | n/a        | n/a        | 0.713%    | 0.673%    |
| %RSD |          | 1.212     | 0.960    | 2.475    | 2.466      | 2.779      | 3.262      | 0.936     | 0.881     |
| Run  | Time     | 203Tl     | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi      |           |           |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb        |           |           |
| 1    | 16:29:13 | 21.080    | 21.260   | 21.520   | 20.770     | 21.610     | 57.164%    |           |           |
| 2    | 16:29:21 | 21.210    | 20.800   | 22.000   | 21.980     | 21.880     | 57.638%    |           |           |
| 3    | 16:29:28 | 21.700    | 21.660   | 21.800   | 21.860     | 21.940     | 56.917%    |           |           |
| X    |          | 106.649%  | 106.217% | 108.860% | 107.681%   | 109.051%   | 57.240%    |           |           |
| σ    |          | n/a       | n/a      | n/a      | n/a        | n/a        | 0.366%     |           |           |
| %RSD |          | 1.528     | 2.023    | 1.110    | 3.085      | 0.814      | 0.640      |           |           |

CCV 1533080 5/1/2015 4:39:07 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be      | 10B      | 11B       | 13C       | 23Na      | 25Mg      | 26Mg      |
|------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 16:38:16 | 79.893%  | 102.600  | 95.040   | 95.100    | 0.000     | 47320.000 | 50440.000 | 50180.000 |
| 2    | 16:38:24 | 77.553%  | 106.100  | 100.100  | 97.950    | 0.000     | 51770.000 | 52940.000 | 51620.000 |
| 3    | 16:38:31 | 80.529%  | 101.400  | 96.960   | 92.480    | 0.000     | 51480.000 | 54380.000 | 54160.000 |
| X    |          | 79.325%  | 103.359% | 97.357%  | 95.176%   | 0.000     | 100.378%  | 105.176%  | 103.972%  |
| σ    |          | 1.568%   | n/a      | n/a      | n/a       | 0.000     | n/a       | n/a       | n/a       |
| %RSD |          | 1.976    | 2.330    | 2.604    | 2.874     | 0.000     | 4.966     | 3.797     | 3.870     |
| Run  | Time     | 27Al     | 28Si     | 37Cl     | 39K       | 43Ca      | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 16:38:16 | 476.600  | 4876.000 | 0.000    | 49000.000 | 47620.000 | 49110.000 | 91.367%   | 94.420    |
| 2    | 16:38:24 | 480.100  | 5186.000 | 0.000    | 53660.000 | 51190.000 | 52860.000 | 84.963%   | 104.200   |
| 3    | 16:38:31 | 512.900  | 5056.000 | 0.000    | 50800.000 | 52520.000 | 53350.000 | 84.875%   | 99.650    |
| X    |          | 97.976%  | 100.790% | 0.000    | 102.305%  | 100.883%  | 103.543%  | 87.068%   | 99.421%   |
| σ    |          | n/a      | n/a      | 0.000    | n/a       | n/a       | n/a       | 3.723%    | n/a       |
| %RSD |          | 4.092    | 3.087    | 0.000    | 4.588     | 5.023     | 4.484     | 4.276     | 4.918     |
| Run  | Time     | 51V      | 52Cr     | 55Mn     | 56Fe      | 57Fe      | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 16:38:16 | 86.480   | 90.000   | 498.400  | 23860.000 | 24030.000 | 93.750    | 97.160    | 100.000   |
| 2    | 16:38:24 | 98.420   | 97.860   | 531.000  | 25610.000 | 24850.000 | 97.830    | 101.000   | 102.200   |
| 3    | 16:38:31 | 97.760   | 98.280   | 527.500  | 25300.000 | 25400.000 | 98.260    | 100.300   | 105.700   |
| X    |          | 94.218%  | 95.382%  | 103.793% | 99.700%   | 99.036%   | 96.613%   | 99.484%   | 102.627%  |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | n/a       | n/a       | n/a       |
| %RSD |          | 7.125    | 4.893    | 3.440    | 3.757     | 2.791     | 2.576     | 2.052     | 2.776     |
| Run  | Time     | 65Cu     | 66Zn     | 68Zn     | 75As      | 78Se      | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 16:38:16 | 98.310   | 105.300  | 106.400  | 102.900   | 104.900   | 104.600   | 0.000     | 94.260    |
| 2    | 16:38:24 | 103.300  | 109.700  | 110.900  | 106.000   | 110.300   | 105.200   | 0.000     | 94.860    |
| 3    | 16:38:31 | 107.100  | 110.600  | 110.500  | 107.000   | 109.100   | 113.900   | 0.000     | 96.360    |
| X    |          | 102.907% | 108.537% | 109.256% | 105.296%  | 108.090%  | 107.889%  | 0.000     | 95.160%   |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | n/a       | 0.000     | n/a       |
| %RSD |          | 4.292    | 2.647    | 2.298    | 2.048     | 2.607     | 4.868     | 0.000     | 1.139     |
| Run  | Time     | 89Y      | 95Mo     | 98Mo     | 103Rh     | 107Ag     | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 16:38:16 | 88.204%  | 101.700  | 106.400  | 72.618%   | 103.300   | 103.800   | 103.700   | 107.400   |
| 2    | 16:38:24 | 89.723%  | 106.600  | 107.600  | 72.799%   | 104.100   | 102.100   | 106.000   | 106.000   |
| 3    | 16:38:31 | 89.773%  | 106.100  | 108.800  | 74.984%   | 100.900   | 100.400   | 104.400   | 105.300   |
| X    |          | 89.233%  | 104.771% | 107.591% | 73.467%   | 102.754%  | 102.081%  | 104.707%  | 106.221%  |
| σ    |          | 0.892%   | n/a      | n/a      | 1.317%    | n/a       | n/a       | n/a       | n/a       |
| %RSD |          | 0.999    | 2.586    | 1.088    | 1.792     | 1.640     | 1.695     | 1.129     | 0.973     |
| Run  | Time     | 115In    | 118Sn    | 121Sb    | 123Sb     | 135Ba     | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 16:38:16 | 76.959%  | 97.710   | 102.600  | 99.510    | 97.580    | 98.400    | 84.592%   | 84.550%   |
| 2    | 16:38:24 | 79.081%  | 99.640   | 101.600  | 101.200   | 94.860    | 96.470    | 86.244%   | 86.945%   |
| 3    | 16:38:31 | 81.188%  | 97.900   | 100.000  | 98.320    | 98.570    | 98.800    | 87.927%   | 87.662%   |
| X    |          | 79.076%  | 98.417%  | 101.375% | 99.678%   | 97.005%   | 97.891%   | 86.254%   | 86.386%   |
| σ    |          | 2.114%   | n/a      | n/a      | n/a       | n/a       | n/a       | 1.668%    | 1.630%    |
| %RSD |          | 2.674    | 1.082    | 1.265    | 1.458     | 1.981     | 1.275     | 1.933     | 1.886     |
| Run  | Time     | 203Tl    | 205Tl    | 206Pb    | 207Pb     | 208Pb     | 209Bi     |           |           |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       |           |           |
| 1    | 16:38:16 | 93.780   | 94.750   | 96.350   | 97.310    | 96.760    | 71.148%   |           |           |
| 2    | 16:38:24 | 96.930   | 96.010   | 98.110   | 98.550    | 98.160    | 71.594%   |           |           |
| 3    | 16:38:31 | 94.720   | 94.260   | 97.200   | 97.470    | 96.290    | 72.886%   |           |           |
| X    |          | 95.145%  | 95.006%  | 97.222%  | 97.775%   | 97.068%   | 71.876%   |           |           |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | 0.903%    |           |           |
| %RSD |          | 1.699    | 0.950    | 0.901    | 0.688     | 1.002     | 1.256     |           |           |

CCB1 5/1/2015 4:48:09 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

| Run  | Time     | 6Li     | 9Be     | 10B      | 11B     | 13C      | 23Na    | 25Mg      | 26Mg    |
|------|----------|---------|---------|----------|---------|----------|---------|-----------|---------|
|      |          | ppb     | ppb     | ppb      | ppb     | ppb      | ppb     | ppb       | ppb     |
| 1    | 16:47:15 | 92.017% | -0.019  | 0.348    | 0.344   | 0.000    | 4.833   | 4.015     | 3.517   |
| 2    | 16:47:23 | 89.905% | -0.024  | 0.311    | 0.345   | 0.000    | 6.191   | 4.619     | 4.197   |
| 3    | 16:47:31 | 95.294% | -0.023  | 0.230    | 0.178   | 0.000    | 7.127   | 4.913     | 6.111   |
| X    |          | 92.406% | -0.022  | 0.296    | 0.289   | 0.000    | 6.050   | 4.516     | 4.608   |
| σ    |          | 2.716%  | 0.003   | 0.061    | 0.096   | 0.000    | 1.154   | 0.458     | 1.345   |
| %RSD |          | 2.939   | 12.770  | 20.420   | 33.250  | 0.000    | 19.070  | 10.140    | 29.180  |
| Run  | Time     | 27Al    | 28Si    | 37Cl     | 39K     | 43Ca     | 44Ca    | 45Sc      | 47Ti    |
|      |          | ppb     | ppb     | ppb      | ppb     | ppb      | ppb     | ppb       | ppb     |
| 1    | 16:47:15 | -0.162  | 8.838   | 0.000    | 5.929   | 4.649    | 4.596   | 101.238%  | -0.025  |
| 2    | 16:47:23 | 0.310   | 7.350   | 0.000    | 6.123   | 7.304    | 2.603   | 99.758%   | -0.005  |
| 3    | 16:47:31 | 0.871   | 3.578   | 0.000    | 5.389   | 4.888    | 2.454   | 99.290%   | -0.012  |
| X    |          | 0.340   | 6.589   | 0.000    | 5.813   | 5.614    | 3.218   | 100.095%  | -0.014  |
| σ    |          | 0.517   | 2.711   | 0.000    | 0.380   | 1.468    | 1.196   | 1.017%    | 0.010   |
| %RSD |          | 152.100 | 41.150  | 0.000    | 6.539   | 26.160   | 37.170  | 1.016     | 71.030  |
| Run  | Time     | 51V     | 52Cr    | 55Mn     | 56Fe    | 57Fe     | 59Co    | 60Ni      | 63Cu    |
|      |          | ppb     | ppb     | ppb      | ppb     | ppb      | ppb     | ppb       | ppb     |
| 1    | 16:47:15 | -0.000  | 0.011   | 0.089    | 9.809   | 8.576    | 0.012   | 0.018     | -0.035  |
| 2    | 16:47:23 | 0.004   | 0.003   | 0.083    | 10.470  | 10.860   | 0.014   | 0.009     | -0.044  |
| 3    | 16:47:31 | 0.008   | 0.005   | 0.105    | 10.320  | 8.596    | 0.006   | 0.009     | -0.049  |
| X    |          | 0.004   | 0.006   | 0.092    | 10.200  | 9.343    | 0.011   | 0.012     | -0.043  |
| σ    |          | 0.004   | 0.004   | 0.011    | 0.345   | 1.311    | 0.004   | 0.005     | 0.007   |
| %RSD |          | 115.000 | 64.700  | 12.250   | 3.387   | 14.030   | 40.920  | 44.220    | 16.590  |
| Run  | Time     | 65Cu    | 66Zn    | 68Zn     | 75As    | 78Se     | 82Se    | 83Kr      | 88Sr    |
|      |          | ppb     | ppb     | ppb      | ppb     | ppb      | ppb     | ppb       | ppb     |
| 1    | 16:47:15 | -0.007  | 0.103   | 0.229    | 0.025   | 0.057    | 0.521   | 0.000     | 0.022   |
| 2    | 16:47:23 | -0.069  | 0.011   | -0.111   | 0.017   | 0.201    | 0.218   | 0.000     | 0.001   |
| 3    | 16:47:31 | -0.023  | -0.006  | -0.078   | 0.014   | 0.078    | 0.043   | 0.000     | 0.017   |
| X    |          | -0.033  | 0.036   | 0.013    | 0.019   | 0.112    | 0.261   | 0.000     | 0.013   |
| σ    |          | 0.032   | 0.059   | 0.188    | 0.006   | 0.078    | 0.242   | 0.000     | 0.011   |
| %RSD |          | 98.570  | 163.100 | 1423.000 | 30.580  | 69.510   | 92.810  | 0.000     | 85.980  |
| Run  | Time     | 89Y     | 95Mo    | 98Mo     | 103Rh   | 107Ag    | 109Ag   | 111Cd     | 114Cd   |
|      |          | ppb     | ppb     | ppb      | ppb     | ppb      | ppb     | ppb       | ppb     |
| 1    | 16:47:15 | 92.741% | 0.738   | 0.676    | 89.433% | -0.008   | -0.006  | -0.004    | 0.022   |
| 2    | 16:47:23 | 95.882% | 0.639   | 0.772    | 92.515% | -0.001   | -0.010  | -0.004    | -0.021  |
| 3    | 16:47:31 | 93.993% | 0.771   | 0.599    | 91.593% | 0.012    | -0.004  | 0.008     | -0.015  |
| X    |          | 94.205% | 0.716   | 0.682    | 91.180% | 0.001    | -0.007  | 0.000     | -0.004  |
| σ    |          | 1.581%  | 0.069   | 0.087    | 1.582%  | 0.010    | 0.003   | 0.007     | 0.023   |
| %RSD |          | 1.678   | 9.599   | 12.720   | 1.735   | 1279.000 | 46.990  | 14120.000 | 521.400 |
| Run  | Time     | 115In   | 118Sn   | 121Sb    | 123Sb   | 135Ba    | 137Ba   | 159Tb     | 165Ho   |
|      |          | ppb     | ppb     | ppb      | ppb     | ppb      | ppb     | ppb       | ppb     |
| 1    | 16:47:15 | 90.421% | -0.330  | 0.013    | -0.056  | 0.050    | -0.010  | 92.210%   | 93.973% |
| 2    | 16:47:23 | 92.926% | -0.330  | -0.003   | -0.096  | -0.009   | -0.028  | 95.636%   | 95.074% |
| 3    | 16:47:31 | 92.610% | -0.322  | 0.064    | -0.054  | -0.009   | -0.028  | 96.291%   | 98.315% |
| X    |          | 91.986% | -0.327  | 0.025    | -0.069  | 0.011    | -0.022  | 94.712%   | 95.787% |
| σ    |          | 1.364%  | 0.004   | 0.035    | 0.024   | 0.034    | 0.011   | 2.191%    | 2.257%  |
| %RSD |          | 1.483   | 1.332   | 140.100  | 34.790  | 319.900  | 48.470  | 2.314     | 2.357   |
| Run  | Time     | 203Tl   | 205Tl   | 206Pb    | 207Pb   | 208Pb    | 209Bi   |           |         |
|      |          | ppb     | ppb     | ppb      | ppb     | ppb      | ppb     |           |         |
| 1    | 16:47:15 | 0.021   | 0.020   | -0.025   | 0.003   | -0.005   | 91.806% |           |         |
| 2    | 16:47:23 | 0.025   | 0.029   | -0.035   | -0.006  | -0.009   | 93.883% |           |         |
| 3    | 16:47:31 | 0.038   | 0.039   | -0.026   | -0.006  | -0.013   | 95.564% |           |         |
| X    |          | 0.028   | 0.029   | -0.028   | -0.003  | -0.009   | 93.751% |           |         |
| σ    |          | 0.009   | 0.010   | 0.006    | 0.005   | 0.004    | 1.883%  |           |         |
| %RSD |          | 32.170  | 33.140  | 19.530   | 164.200 | 45.990   | 2.008   |           |         |

MB 180-139790/1-A 5/1/2015 4:53:14 PM

User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be    | 10B    | 11B     | 13C     | 23Na    | 25Mg     | 26Mg    |
|------|----------|----------|--------|--------|---------|---------|---------|----------|---------|
|      |          | ppb      | ppb    | ppb    | ppb     | ppb     | ppb     | ppb      | ppb     |
| 1    | 16:52:21 | 99.559%  | -0.022 | 0.202  | 0.162   | 0.000   | 3.209   | 1.120    | 0.438   |
| 2    | 16:52:29 | 94.002%  | -0.001 | 0.087  | 0.195   | 0.000   | 3.599   | 0.862    | 1.308   |
| 3    | 16:52:37 | 100.554% | -0.019 | 0.072  | 0.109   | 0.000   | 3.588   | 0.768    | 1.118   |
| X    |          | 98.038%  | -0.014 | 0.120  | 0.155   | 0.000   | 3.465   | 0.917    | 0.955   |
| σ    |          | 3.531%   | 0.012  | 0.071  | 0.043   | 0.000   | 0.222   | 0.182    | 0.458   |
| %RSD |          | 3.602    | 84.390 | 58.980 | 27.760  | 0.000   | 6.415   | 19.900   | 47.930  |
| Run  | Time     | 27Al     | 28Si   | 37Cl   | 39K     | 43Ca    | 44Ca    | 45Sc     | 47Ti    |
|      |          | ppb      | ppb    | ppb    | ppb     | ppb     | ppb     | ppb      | ppb     |
| 1    | 16:52:21 | 0.304    | 7.363  | 0.000  | 3.114   | 2.233   | 4.940   | 101.021% | -0.033  |
| 2    | 16:52:29 | 0.322    | 3.785  | 0.000  | 3.519   | 1.727   | 4.520   | 97.662%  | -0.042  |
| 3    | 16:52:37 | 0.090    | 2.584  | 0.000  | 2.927   | 5.047   | 2.858   | 101.311% | -0.009  |
| X    |          | 0.238    | 4.577  | 0.000  | 3.187   | 3.002   | 4.106   | 99.998%  | -0.028  |
| σ    |          | 0.129    | 2.486  | 0.000  | 0.303   | 1.789   | 1.101   | 2.028%   | 0.017   |
| %RSD |          | 54.120   | 54.320 | 0.000  | 9.501   | 59.580  | 26.820  | 2.028    | 60.410  |
| Run  | Time     | 51V      | 52Cr   | 55Mn   | 56Fe    | 57Fe    | 59Co    | 60Ni     | 63Cu    |
|      |          | ppb      | ppb    | ppb    | ppb     | ppb     | ppb     | ppb      | ppb     |
| 1    | 16:52:21 | 0.088    | 0.053  | 0.052  | 8.289   | 8.701   | 0.003   | 0.050    | 0.044   |
| 2    | 16:52:29 | -0.013   | 0.047  | 0.080  | 8.288   | 8.587   | 0.002   | 0.047    | 0.083   |
| 3    | 16:52:37 | 0.070    | 0.048  | 0.050  | 7.564   | 8.388   | 0.003   | 0.106    | 0.030   |
| X    |          | 0.048    | 0.049  | 0.061  | 8.047   | 8.559   | 0.002   | 0.068    | 0.052   |
| σ    |          | 0.054    | 0.003  | 0.017  | 0.418   | 0.158   | 0.001   | 0.033    | 0.028   |
| %RSD |          | 111.900  | 6.951  | 27.640 | 5.196   | 1.850   | 26.470  | 48.790   | 52.960  |
| Run  | Time     | 65Cu     | 66Zn   | 68Zn   | 75As    | 78Se    | 82Se    | 83Kr     | 88Sr    |
|      |          | ppb      | ppb    | ppb    | ppb     | ppb     | ppb     | ppb      | ppb     |
| 1    | 16:52:21 | 0.047    | 0.582  | 0.177  | 0.054   | 0.015   | 0.713   | 0.000    | 0.004   |
| 2    | 16:52:29 | 0.019    | 0.495  | 0.612  | -0.004  | 0.056   | 0.391   | 0.000    | 0.006   |
| 3    | 16:52:37 | 0.096    | 0.437  | 0.382  | 0.015   | -0.007  | 0.091   | 0.000    | 0.004   |
| X    |          | 0.054    | 0.504  | 0.390  | 0.022   | 0.021   | 0.398   | 0.000    | 0.004   |
| σ    |          | 0.039    | 0.073  | 0.218  | 0.030   | 0.032   | 0.311   | 0.000    | 0.001   |
| %RSD |          | 72.520   | 14.430 | 55.780 | 136.300 | 149.200 | 78.030  | 0.000    | 27.940  |
| Run  | Time     | 89Y      | 95Mo   | 98Mo   | 103Rh   | 107Ag   | 109Ag   | 111Cd    | 114Cd   |
|      |          | ppb      | ppb    | ppb    | ppb     | ppb     | ppb     | ppb      | ppb     |
| 1    | 16:52:21 | 92.539%  | 0.464  | 0.538  | 89.904% | -0.000  | 0.030   | -0.004   | 0.018   |
| 2    | 16:52:29 | 95.446%  | 0.422  | 0.461  | 89.563% | 0.007   | 0.009   | -0.004   | 0.033   |
| 3    | 16:52:37 | 92.340%  | 0.362  | 0.571  | 86.596% | -0.002  | 0.003   | 0.021    | 0.043   |
| X    |          | 93.442%  | 0.416  | 0.523  | 88.688% | 0.002   | 0.014   | 0.004    | 0.031   |
| σ    |          | 1.739%   | 0.051  | 0.056  | 1.820%  | 0.005   | 0.014   | 0.015    | 0.013   |
| %RSD |          | 1.861    | 12.320 | 10.790 | 2.052   | 313.100 | 104.400 | 332.400  | 40.620  |
| Run  | Time     | 115In    | 118Sn  | 121Sb  | 123Sb   | 135Ba   | 137Ba   | 159Tb    | 165Ho   |
|      |          | ppb      | ppb    | ppb    | ppb     | ppb     | ppb     | ppb      | ppb     |
| 1    | 16:52:21 | 88.944%  | 0.856  | -0.017 | -0.125  | 0.020   | 0.008   | 95.070%  | 95.855% |
| 2    | 16:52:29 | 91.084%  | 0.747  | -0.050 | -0.128  | -0.009  | -0.010  | 94.631%  | 95.855% |
| 3    | 16:52:37 | 92.270%  | 0.721  | -0.045 | -0.070  | 0.048   | -0.010  | 96.217%  | 96.783% |
| X    |          | 90.766%  | 0.774  | -0.037 | -0.108  | 0.020   | -0.004  | 95.306%  | 96.164% |
| σ    |          | 1.686%   | 0.072  | 0.018  | 0.032   | 0.029   | 0.011   | 0.819%   | 0.535%  |
| %RSD |          | 1.857    | 9.311  | 48.210 | 30.220  | 144.200 | 276.300 | 0.859    | 0.557   |
| Run  | Time     | 203Tl    | 205Tl  | 206Pb  | 207Pb   | 208Pb   | 209Bi   |          |         |
|      |          | ppb      | ppb    | ppb    | ppb     | ppb     | ppb     |          |         |
| 1    | 16:52:21 | 0.009    | 0.039  | -0.014 | -0.028  | -0.001  | 97.243% |          |         |
| 2    | 16:52:29 | 0.024    | 0.023  | -0.029 | -0.017  | -0.007  | 95.867% |          |         |
| 3    | 16:52:37 | 0.000    | 0.016  | -0.017 | -0.021  | -0.009  | 96.525% |          |         |
| X    |          | 0.011    | 0.026  | -0.020 | -0.022  | -0.006  | 96.545% |          |         |
| σ    |          | 0.012    | 0.011  | 0.008  | 0.006   | 0.005   | 0.688%  |          |         |
| %RSD |          | 108.400  | 44.090 | 40.460 | 25.280  | 79.510  | 0.713   |          |         |



## LCS 180-139790/2-A

5/1/2015 4:58:14 PM

User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be      | 10B      | 11B       | 13C       | 23Na      | 25Mg      | 26Mg      |
|------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 16:57:21 | 98.976%  | 40.690   | 814.600  | 793.700   | 0.000     | 43870.000 | 44160.000 | 43890.000 |
| 2    | 16:57:29 | 90.494%  | 44.090   | 858.600  | 840.700   | 0.000     | 45910.000 | 46880.000 | 46600.000 |
| 3    | 16:57:36 | 91.557%  | 42.700   | 837.600  | 855.100   | 0.000     | 46650.000 | 46300.000 | 47160.000 |
| X    |          | 93.676%  | 42.490   | 837.000  | 829.800   | 0.000     | 45480.000 | 45780.000 | 45880.000 |
| σ    |          | 4.621%   | 1.709    | 22.020   | 32.140    | 0.000     | 1439.000  | 1430.000  | 1746.000  |
| %RSD |          | 4.933    | 4.023    | 2.631    | 3.873     | 0.000     | 3.164     | 3.123     | 3.805     |
| Run  | Time     | 27Al     | 28Si     | 37Cl     | 39K       | 43Ca      | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 16:57:21 | 1761.000 | 6785.000 | 0.000    | 49970.000 | 48950.000 | 50640.000 | 84.018%   | 929.400   |
| 2    | 16:57:29 | 1772.000 | 6927.000 | 0.000    | 51780.000 | 51740.000 | 52470.000 | 80.952%   | 970.000   |
| 3    | 16:57:36 | 1849.000 | 7144.000 | 0.000    | 53780.000 | 51910.000 | 53400.000 | 79.326%   | 991.500   |
| X    |          | 1794.000 | 6952.000 | 0.000    | 51840.000 | 50870.000 | 52170.000 | 81.432%   | 963.600   |
| σ    |          | 47.970   | 180.800  | 0.000    | 1902.000  | 1662.000  | 1403.000  | 2.382%    | 31.530    |
| %RSD |          | 2.674    | 2.601    | 0.000    | 3.669     | 3.267     | 2.689     | 2.925     | 3.272     |
| Run  | Time     | 51V      | 52Cr     | 55Mn     | 56Fe      | 57Fe      | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 16:57:21 | 471.000  | 187.300  | 498.900  | 1109.000  | 1452.000  | 511.700   | 494.100   | 253.800   |
| 2    | 16:57:29 | 500.600  | 197.100  | 506.200  | 1124.000  | 1389.000  | 506.500   | 500.200   | 257.400   |
| 3    | 16:57:36 | 493.900  | 196.900  | 513.100  | 1111.000  | 1368.000  | 517.700   | 499.700   | 258.000   |
| X    |          | 488.500  | 193.800  | 506.100  | 1114.000  | 1403.000  | 512.000   | 498.000   | 256.400   |
| σ    |          | 15.500   | 5.592    | 7.086    | 7.908     | 43.950    | 5.624     | 3.407     | 2.295     |
| %RSD |          | 3.172    | 2.886    | 1.400    | 0.710     | 3.133     | 1.098     | 0.684     | 0.895     |
| Run  | Time     | 65Cu     | 66Zn     | 68Zn     | 75As      | 78Se      | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 16:57:21 | 257.300  | 427.200  | 424.400  | 38.180    | 8.391     | 7.915     | 0.000     | 1059.000  |
| 2    | 16:57:29 | 256.600  | 424.300  | 427.900  | 40.460    | 8.381     | 7.408     | 0.000     | 1093.000  |
| 3    | 16:57:36 | 260.700  | 431.000  | 440.600  | 39.760    | 8.184     | 8.049     | 0.000     | 1085.000  |
| X    |          | 258.200  | 427.500  | 431.000  | 39.470    | 8.319     | 7.791     | 0.000     | 1079.000  |
| σ    |          | 2.217    | 3.400    | 8.490    | 1.166     | 0.117     | 0.338     | 0.000     | 17.670    |
| %RSD |          | 0.859    | 0.795    | 1.970    | 2.954     | 1.402     | 4.340     | 0.000     | 1.637     |
| Run  | Time     | 89Y      | 95Mo     | 98Mo     | 103Rh     | 107Ag     | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 16:57:21 | 69.451%  | 1158.000 | 1182.000 | 63.956%   | 49.690    | 49.470    | 45.800    | 83.420    |
| 2    | 16:57:29 | 68.798%  | 1162.000 | 1169.000 | 65.615%   | 49.520    | 48.400    | 43.790    | 84.070    |
| 3    | 16:57:36 | 69.508%  | 1165.000 | 1151.000 | 65.523%   | 49.590    | 49.420    | 47.120    | 85.150    |
| X    |          | 69.252%  | 1162.000 | 1168.000 | 65.032%   | 49.600    | 49.100    | 45.570    | 84.210    |
| σ    |          | 0.394%   | 3.303    | 15.530   | 0.932%    | 0.084     | 0.603     | 1.679     | 0.874     |
| %RSD |          | 0.570    | 0.284    | 1.330    | 1.433     | 0.170     | 1.229     | 3.684     | 1.038     |
| Run  | Time     | 115In    | 118Sn    | 121Sb    | 123Sb     | 135Ba     | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 16:57:21 | 70.201%  | 1954.000 | 421.300  | 418.600   | 1819.000  | 1820.000  | 81.549%   | 81.866%   |
| 2    | 16:57:29 | 69.379%  | 1939.000 | 429.500  | 425.500   | 1866.000  | 1837.000  | 82.751%   | 84.432%   |
| 3    | 16:57:36 | 70.606%  | 1951.000 | 432.300  | 424.200   | 1813.000  | 1842.000  | 82.049%   | 83.569%   |
| X    |          | 70.062%  | 1948.000 | 427.700  | 422.800   | 1833.000  | 1833.000  | 82.116%   | 83.289%   |
| σ    |          | 0.625%   | 7.796    | 5.699    | 3.658     | 29.230    | 11.470    | 0.604%    | 1.306%    |
| %RSD |          | 0.893    | 0.400    | 1.332    | 0.865     | 1.595     | 0.626     | 0.735     | 1.568     |
| Run  | Time     | 203Tl    | 205Tl    | 206Pb    | 207Pb     | 208Pb     | 209Bi     |           |           |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       |           |           |
| 1    | 16:57:21 | 49.630   | 50.430   | 21.000   | 20.400    | 20.950    | 60.912%   |           |           |
| 2    | 16:57:29 | 50.550   | 50.300   | 20.980   | 21.460    | 21.000    | 62.207%   |           |           |
| 3    | 16:57:36 | 49.320   | 49.700   | 20.400   | 19.880    | 20.570    | 63.430%   |           |           |
| X    |          | 49.830   | 50.140   | 20.790   | 20.580    | 20.840    | 62.183%   |           |           |
| σ    |          | 0.643    | 0.389    | 0.342    | 0.805     | 0.234     | 1.259%    |           |           |
| %RSD |          | 1.290    | 0.775    | 1.644    | 3.912     | 1.123     | 2.025     |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li       | 9Be      | 10B      | 11B        | 13C        | 23Na      | 25Mg      | 26Mg      |
|------|----------|-----------|----------|----------|------------|------------|-----------|-----------|-----------|
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:06:20 | 94.908%   | 5.454    | 19.400   | 19.030     | 0.000      | 1877.000  | 16420.000 | 16060.000 |
| 2    | 17:06:28 | 98.815%   | 5.424    | 19.100   | 18.110     | 0.000      | 1987.000  | 16640.000 | 15780.000 |
| 3    | 17:06:36 | 90.192%   | 5.739    | 20.440   | 19.680     | 0.000      | 1941.000  | 16720.000 | 16850.000 |
| X    |          | 94.638%   | 5.539    | 19.640   | 18.940     | 0.000      | 1935.000  | 16600.000 | 16230.000 |
| σ    |          | 4.318%    | 0.174    | 0.706    | 0.791      | 0.000      | 55.200    | 155.300   | 556.500   |
| %RSD |          | 4.563     | 3.145    | 3.593    | 4.177      | 0.000      | 2.853     | 0.936     | 3.429     |
| Run  | Time     | 27Al      | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:06:20 | 49430.000 | 2254.000 | 0.000    | 5502.000   | 21820.000  | 22650.000 | 95.743%   | 1189.000  |
| 2    | 17:06:28 | 50290.000 | 2318.000 | 0.000    | 5899.000   | 23450.000  | 23710.000 | 90.056%   | 1245.000  |
| 3    | 17:06:36 | 51220.000 | 2348.000 | 0.000    | 5634.000   | 22130.000  | 23640.000 | 91.932%   | 1206.000  |
| X    |          | 50310.000 | 2307.000 | 0.000    | 5678.000   | 22460.000  | 23330.000 | 92.577%   | 1213.000  |
| σ    |          | 892.900   | 48.390   | 0.000    | 202.200    | 864.500    | 593.900   | 2.898%    | 28.320    |
| %RSD |          | 1.775     | 2.098    | 0.000    | 3.561      | 3.848      | 2.545     | 3.130     | 2.334     |
| Run  | Time     | 51V       | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:06:20 | 209.800   | 204.000  | 2112.000 | 130800.000 | 125800.000 | 107.700   | 184.900   | 359.200   |
| 2    | 17:06:28 | 229.700   | 218.200  | 2276.000 | 140500.000 | 135400.000 | 115.900   | 198.700   | 378.600   |
| 3    | 17:06:36 | 220.200   | 214.400  | 2172.000 | 133200.000 | 130700.000 | 115.500   | 188.000   | 363.700   |
| X    |          | 219.900   | 212.200  | 2187.000 | 134800.000 | 130600.000 | 113.100   | 190.500   | 367.200   |
| σ    |          | 9.940     | 7.373    | 82.590   | 5058.000   | 4805.000   | 4.606     | 7.261     | 10.180    |
| %RSD |          | 4.521     | 3.475    | 3.777    | 3.751      | 3.679      | 4.074     | 3.810     | 2.773     |
| Run  | Time     | 65Cu      | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:06:20 | 368.700   | 1220.000 | 1241.000 | 34.040     | 6.177      | 4.373     | 0.000     | 115.400   |
| 2    | 17:06:28 | 380.500   | 1278.000 | 1294.000 | 35.040     | 5.332      | 6.839     | 0.000     | 117.100   |
| 3    | 17:06:36 | 371.300   | 1252.000 | 1257.000 | 33.250     | 5.447      | 8.280     | 0.000     | 115.200   |
| X    |          | 373.500   | 1250.000 | 1264.000 | 34.110     | 5.652      | 6.497     | 0.000     | 115.900   |
| σ    |          | 6.200     | 29.170   | 27.010   | 0.897      | 0.458      | 1.976     | 0.000     | 1.041     |
| %RSD |          | 1.660     | 2.334    | 2.137    | 2.629      | 8.105      | 30.410    | 0.000     | 0.898     |
| Run  | Time     | 89Y       | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:06:20 | 0.000     | 10.970   | 10.130   | 68.516%    | 2.251      | 2.026     | 3.736     | 5.260     |
| 2    | 17:06:28 | 0.000     | 10.540   | 9.837    | 68.129%    | 1.972      | 1.989     | 3.966     | 5.274     |
| 3    | 17:06:36 | 0.000     | 9.799    | 10.390   | 68.198%    | 2.044      | 2.165     | 3.868     | 5.474     |
| X    |          | 0.000     | 10.440   | 10.120   | 68.281%    | 2.089      | 2.060     | 3.857     | 5.336     |
| σ    |          | 0.000     | 0.592    | 0.275    | 0.206%     | 0.145      | 0.093     | 0.115     | 0.120     |
| %RSD |          | 0.000     | 5.674    | 2.721    | 0.302      | 6.950      | 4.510     | 2.991     | 2.241     |
| Run  | Time     | 115In     | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:06:20 | 72.703%   | 70.080   | 3.558    | 3.927      | 500.300    | 495.100   | 90.023%   | 91.260%   |
| 2    | 17:06:28 | 74.147%   | 67.660   | 3.750    | 3.942      | 506.900    | 496.700   | 91.180%   | 92.496%   |
| 3    | 17:06:36 | 74.190%   | 68.900   | 3.701    | 3.997      | 488.700    | 500.000   | 93.235%   | 93.895%   |
| X    |          | 73.680%   | 68.880   | 3.670    | 3.955      | 498.600    | 497.300   | 91.479%   | 92.550%   |
| σ    |          | 0.847%    | 1.210    | 0.100    | 0.037      | 9.234      | 2.523     | 1.627%    | 1.318%    |
| %RSD |          | 1.149     | 1.757    | 2.714    | 0.943      | 1.852      | 0.507     | 1.779     | 1.425     |
| Run  | Time     | 203Tl     | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi     |           |           |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       |           |           |
| 1    | 17:06:20 | 1.262     | 1.228    | 488.400  | 449.700    | 474.600    | 66.443%   |           |           |
| 2    | 17:06:28 | 1.152     | 1.219    | 485.600  | 451.700    | 471.700    | 67.987%   |           |           |
| 3    | 17:06:36 | 1.228     | 1.257    | 487.200  | 449.500    | 474.300    | 68.219%   |           |           |
| X    |          | 1.214     | 1.235    | 487.100  | 450.300    | 473.500    | 67.550%   |           |           |
| σ    |          | 0.057     | 0.020    | 1.391    | 1.255      | 1.585      | 0.965%    |           |           |
| %RSD |          | 4.665     | 1.582    | 0.286    | 0.279      | 0.335      | 1.429     |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li       | 9Be     | 10B     | 11B       | 13C       | 23Na     | 25Mg     | 26Mg     |
|------|----------|-----------|---------|---------|-----------|-----------|----------|----------|----------|
|      |          | ppb       | ppb     | ppb     | ppb       | ppb       | ppb      | ppb      | ppb      |
| 1    | 17:11:25 | 105.290%  | 1.141   | 4.627   | 4.471     | 0.000     | 395.100  | 3297.000 | 3308.000 |
| 2    | 17:11:33 | 97.716%   | 1.247   | 5.018   | 4.984     | 0.000     | 435.600  | 3476.000 | 3383.000 |
| 3    | 17:11:40 | 105.656%  | 1.167   | 4.510   | 4.554     | 0.000     | 425.300  | 3455.000 | 3359.000 |
| X    |          | 102.887%  | 1.185   | 4.718   | 4.670     | 0.000     | 418.700  | 3409.000 | 3350.000 |
| σ    |          | 4.482%    | 0.055   | 0.266   | 0.275     | 0.000     | 21.090   | 97.820   | 38.360   |
| %RSD |          | 4.356     | 4.648   | 5.642   | 5.894     | 0.000     | 5.037    | 2.869    | 1.145    |
| Run  | Time     | 27Al      | 28Si    | 37Cl    | 39K       | 43Ca      | 44Ca     | 45Sc     | 47Ti     |
|      |          | ppb       | ppb     | ppb     | ppb       | ppb       | ppb      | ppb      | ppb      |
| 1    | 17:11:25 | 10620.000 | 486.900 | 0.000   | 1121.000  | 4502.000  | 4279.000 | 106.349% | 245.300  |
| 2    | 17:11:33 | 10690.000 | 536.100 | 0.000   | 1211.000  | 4819.000  | 4701.000 | 99.493%  | 261.200  |
| 3    | 17:11:40 | 10830.000 | 511.500 | 0.000   | 1179.000  | 4833.000  | 4721.000 | 101.350% | 267.400  |
| X    |          | 10720.000 | 511.500 | 0.000   | 1170.000  | 4718.000  | 4567.000 | 102.397% | 258.000  |
| σ    |          | 107.200   | 24.600  | 0.000   | 45.520    | 187.300   | 249.900  | 3.546%   | 11.380   |
| %RSD |          | 1.000     | 4.809   | 0.000   | 3.891     | 3.970     | 5.472    | 3.463    | 4.411    |
| Run  | Time     | 51V       | 52Cr    | 55Mn    | 56Fe      | 57Fe      | 59Co     | 60Ni     | 63Cu     |
|      |          | ppb       | ppb     | ppb     | ppb       | ppb       | ppb      | ppb      | ppb      |
| 1    | 17:11:25 | 40.550    | 38.620  | 452.500 | 24600.000 | 24830.000 | 20.970   | 36.900   | 75.370   |
| 2    | 17:11:33 | 41.280    | 40.860  | 479.100 | 26480.000 | 26270.000 | 22.160   | 37.950   | 75.500   |
| 3    | 17:11:40 | 42.120    | 40.780  | 493.500 | 26310.000 | 26130.000 | 21.450   | 37.820   | 76.720   |
| X    |          | 41.320    | 40.090  | 475.000 | 25800.000 | 25740.000 | 21.530   | 37.560   | 75.860   |
| σ    |          | 0.783     | 1.270   | 20.800  | 1037.000  | 793.800   | 0.599    | 0.569    | 0.742    |
| %RSD |          | 1.896     | 3.169   | 4.380   | 4.022     | 3.084     | 2.782    | 1.514    | 0.977    |
| Run  | Time     | 65Cu      | 66Zn    | 68Zn    | 75As      | 78Se      | 82Se     | 83Kr     | 88Sr     |
|      |          | ppb       | ppb     | ppb     | ppb       | ppb       | ppb      | ppb      | ppb      |
| 1    | 17:11:25 | 77.290    | 271.100 | 273.200 | 6.609     | 1.281     | 1.315    | 0.000    | 17.910   |
| 2    | 17:11:33 | 76.050    | 276.700 | 278.400 | 6.561     | 1.395     | 2.261    | 0.000    | 17.360   |
| 3    | 17:11:40 | 76.340    | 274.300 | 272.300 | 6.566     | 1.232     | 2.022    | 0.000    | 17.540   |
| X    |          | 76.560    | 274.000 | 274.600 | 6.579     | 1.303     | 1.866    | 0.000    | 17.600   |
| σ    |          | 0.648     | 2.777   | 3.326   | 0.026     | 0.084     | 0.492    | 0.000    | 0.284    |
| %RSD |          | 0.846     | 1.014   | 1.211   | 0.400     | 6.428     | 26.340   | 0.000    | 1.612    |
| Run  | Time     | 89Y       | 95Mo    | 98Mo    | 103Rh     | 107Ag     | 109Ag    | 111Cd    | 114Cd    |
|      |          | ppb       | ppb     | ppb     | ppb       | ppb       | ppb      | ppb      | ppb      |
| 1    | 17:11:25 | 104.129%  | 1.933   | 1.533   | 87.785%   | 0.411     | 0.426    | 0.650    | 1.110    |
| 2    | 17:11:33 | 106.692%  | 1.500   | 1.785   | 87.543%   | 0.451     | 0.386    | 0.906    | 1.154    |
| 3    | 17:11:40 | 104.906%  | 1.662   | 1.800   | 89.786%   | 0.447     | 0.380    | 0.858    | 1.071    |
| X    |          | 105.242%  | 1.698   | 1.706   | 88.371%   | 0.436     | 0.397    | 0.805    | 1.112    |
| σ    |          | 1.314%    | 0.219   | 0.150   | 1.231%    | 0.022     | 0.025    | 0.136    | 0.041    |
| %RSD |          | 1.248     | 12.880  | 8.792   | 1.393     | 4.963     | 6.259    | 16.960   | 3.731    |
| Run  | Time     | 115In     | 118Sn   | 121Sb   | 123Sb     | 135Ba     | 137Ba    | 159Tb    | 165Ho    |
|      |          | ppb       | ppb     | ppb     | ppb       | ppb       | ppb      | ppb      | ppb      |
| 1    | 17:11:25 | 84.760%   | 13.110  | 0.613   | 0.577     | 103.900   | 104.400  | 89.061%  | 90.750%  |
| 2    | 17:11:33 | 84.440%   | 12.620  | 0.997   | 0.786     | 100.800   | 105.200  | 92.590%  | 90.947%  |
| 3    | 17:11:40 | 84.514%   | 13.500  | 0.805   | 0.833     | 104.100   | 102.400  | 91.702%  | 92.332%  |
| X    |          | 84.571%   | 13.070  | 0.805   | 0.732     | 103.000   | 104.000  | 91.118%  | 91.343%  |
| σ    |          | 0.167%    | 0.443   | 0.192   | 0.136     | 1.848     | 1.466    | 1.835%   | 0.862%   |
| %RSD |          | 0.198     | 3.385   | 23.810  | 18.630    | 1.795     | 1.410    | 2.014    | 0.944    |
| Run  | Time     | 203Tl     | 205Tl   | 206Pb   | 207Pb     | 208Pb     | 209Bi    |          |          |
|      |          | ppb       | ppb     | ppb     | ppb       | ppb       | ppb      |          |          |
| 1    | 17:11:25 | 0.242     | 0.264   | 94.150  | 87.000    | 90.500    | 74.020%  |          |          |
| 2    | 17:11:33 | 0.229     | 0.221   | 95.870  | 87.940    | 91.390    | 75.651%  |          |          |
| 3    | 17:11:40 | 0.210     | 0.241   | 93.790  | 87.390    | 91.720    | 77.147%  |          |          |
| X    |          | 0.227     | 0.242   | 94.610  | 87.440    | 91.200    | 75.606%  |          |          |
| σ    |          | 0.016     | 0.021   | 1.113   | 0.476     | 0.632     | 1.564%   |          |          |
| %RSD |          | 7.250     | 8.885   | 1.177   | 0.544     | 0.693     | 2.069    |          |          |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li        | 9Be      | 10B      | 11B        | 13C        | 23Na      | 25Mg      | 26Mg      |
|------|----------|------------|----------|----------|------------|------------|-----------|-----------|-----------|
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:16:26 | 82.293%    | 46.250   | 769.700  | 788.800    | 0.000      | 41700.000 | 61350.000 | 62680.000 |
| 2    | 17:16:34 | 86.018%    | 44.570   | 708.500  | 710.200    | 0.000      | 42310.000 | 59340.000 | 61680.000 |
| 3    | 17:16:42 | 83.361%    | 45.760   | 736.900  | 739.900    | 0.000      | 42550.000 | 61130.000 | 61330.000 |
| X    |          | 83.891%    | 45.520   | 738.300  | 746.300    | 0.000      | 42180.000 | 60610.000 | 61890.000 |
| σ    |          | 1.919%     | 0.864    | 30.640   | 39.690     | 0.000      | 438.300   | 1102.000  | 699.400   |
| %RSD |          | 2.287      | 1.897    | 4.150    | 5.318      | 0.000      | 1.039     | 1.818     | 1.130     |
| Run  | Time     | 27Al       | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:16:26 | 122700.000 | 4971.000 | 0.000    | 59850.000  | 74570.000  | 77000.000 | 78.053%   | 2951.000  |
| 2    | 17:16:34 | 121900.000 | 4835.000 | 0.000    | 59310.000  | 75350.000  | 77590.000 | 78.231%   | 3028.000  |
| 3    | 17:16:42 | 124700.000 | 4909.000 | 0.000    | 59270.000  | 77110.000  | 77790.000 | 78.546%   | 2982.000  |
| X    |          | 123100.000 | 4905.000 | 0.000    | 59480.000  | 75680.000  | 77460.000 | 78.277%   | 2987.000  |
| σ    |          | 1451.000   | 67.880   | 0.000    | 323.400    | 1300.000   | 408.900   | 0.250%    | 38.900    |
| %RSD |          | 1.179      | 1.384    | 0.000    | 0.544      | 1.718      | 0.528     | 0.319     | 1.302     |
| Run  | Time     | 51V        | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:16:26 | 790.200    | 482.600  | 3248.000 | 166900.000 | 160700.000 | 605.500   | 688.600   | 597.800   |
| 2    | 17:16:34 | 776.500    | 474.400  | 3309.000 | 165400.000 | 161700.000 | 610.500   | 697.400   | 606.000   |
| 3    | 17:16:42 | 769.300    | 481.100  | 3341.000 | 166700.000 | 163900.000 | 603.800   | 680.600   | 599.100   |
| X    |          | 778.700    | 479.300  | 3299.000 | 166300.000 | 162100.000 | 606.600   | 688.900   | 601.000   |
| σ    |          | 10.630     | 4.369    | 47.260   | 809.300    | 1626.000   | 3.486     | 8.399     | 4.427     |
| %RSD |          | 1.365      | 0.911    | 1.432    | 0.487      | 1.003      | 0.575     | 1.219     | 0.737     |
| Run  | Time     | 65Cu       | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:16:26 | 604.800    | 1744.000 | 1765.000 | 73.980     | 14.970     | 18.930    | 0.000     | 1277.000  |
| 2    | 17:16:34 | 599.300    | 1718.000 | 1751.000 | 73.620     | 14.220     | 21.700    | 0.000     | 1264.000  |
| 3    | 17:16:42 | 597.800    | 1727.000 | 1769.000 | 73.600     | 14.710     | 18.010    | 0.000     | 1268.000  |
| X    |          | 600.600    | 1730.000 | 1762.000 | 73.740     | 14.630     | 19.550    | 0.000     | 1270.000  |
| σ    |          | 3.657      | 13.080   | 9.281    | 0.214      | 0.377      | 1.924     | 0.000     | 6.331     |
| %RSD |          | 0.609      | 0.756    | 0.527    | 0.289      | 2.579      | 9.842     | 0.000     | 0.499     |
| Run  | Time     | 89Y        | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:16:26 | 0.000      | 1152.000 | 1167.000 | 55.540%    | 48.680     | 48.530    | 44.830    | 83.560    |
| 2    | 17:16:34 | 0.000      | 1150.000 | 1168.000 | 55.357%    | 48.960     | 49.220    | 47.720    | 84.620    |
| 3    | 17:16:42 | 0.000      | 1169.000 | 1178.000 | 56.075%    | 48.990     | 48.460    | 48.170    | 85.880    |
| X    |          | 0.000      | 1157.000 | 1171.000 | 55.657%    | 48.880     | 48.740    | 46.910    | 84.690    |
| σ    |          | 0.000      | 10.140   | 6.010    | 0.373%     | 0.169      | 0.421     | 1.813     | 1.160     |
| %RSD |          | 0.000      | 0.877    | 0.513    | 0.671      | 0.346      | 0.864     | 3.866     | 1.369     |
| Run  | Time     | 115In      | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:16:26 | 62.565%    | 1808.000 | 261.100  | 257.100    | 2352.000   | 2375.000  | 79.793%   | 79.870%   |
| 2    | 17:16:34 | 63.528%    | 1791.000 | 260.000  | 252.100    | 2367.000   | 2370.000  | 79.466%   | 80.720%   |
| 3    | 17:16:42 | 62.299%    | 1818.000 | 264.200  | 257.300    | 2422.000   | 2408.000  | 79.973%   | 81.037%   |
| X    |          | 62.797%    | 1806.000 | 261.800  | 255.500    | 2380.000   | 2384.000  | 79.744%   | 80.543%   |
| σ    |          | 0.647%     | 13.880   | 2.187    | 2.961      | 36.740     | 20.670    | 0.257%    | 0.604%    |
| %RSD |          | 1.030      | 0.768    | 0.835    | 1.159      | 1.544      | 0.867     | 0.322     | 0.749     |
| Run  | Time     | 203Tl      | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi     |           |           |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       |           |           |
| 1    | 17:16:26 | 51.200     | 51.220   | 533.900  | 489.500    | 518.100    | 53.602%   |           |           |
| 2    | 17:16:34 | 50.570     | 50.830   | 530.800  | 491.300    | 515.500    | 54.776%   |           |           |
| 3    | 17:16:42 | 51.800     | 52.220   | 545.900  | 500.200    | 528.600    | 54.037%   |           |           |
| X    |          | 51.190     | 51.420   | 536.800  | 493.600    | 520.700    | 54.138%   |           |           |
| σ    |          | 0.613      | 0.718    | 7.953    | 5.716      | 6.936      | 0.593%    |           |           |
| %RSD |          | 1.198      | 1.396    | 1.481    | 1.158      | 1.332      | 1.096     |           |           |

180-43368-B-1-C MSD

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User Pre-dilution: 1.000

| Run  | Time     | 6Li        | 9Be      | 10B      | 11B        | 13C        | 23Na      | 25Mg      | 26Mg      |
|------|----------|------------|----------|----------|------------|------------|-----------|-----------|-----------|
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:21:31 | 87.459%    | 44.340   | 737.500  | 747.600    | 0.000      | 41610.000 | 61040.000 | 60640.000 |
| 2    | 17:21:39 | 82.716%    | 47.670   | 773.700  | 796.300    | 0.000      | 44490.000 | 64900.000 | 66630.000 |
| 3    | 17:21:46 | 83.665%    | 47.850   | 787.600  | 815.700    | 0.000      | 43560.000 | 62900.000 | 64150.000 |
| X    |          | 84.613%    | 46.620   | 766.200  | 786.500    | 0.000      | 43220.000 | 62940.000 | 63800.000 |
| σ    |          | 2.510%     | 1.974    | 25.880   | 35.090     | 0.000      | 1473.000  | 1932.000  | 3010.000  |
| %RSD |          | 2.966      | 4.234    | 3.378    | 4.462      | 0.000      | 3.408     | 3.070     | 4.717     |
| Run  | Time     | 27Al       | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:21:31 | 122400.000 | 4531.000 | 0.000    | 56880.000  | 70660.000  | 71970.000 | 81.327%   | 2957.000  |
| 2    | 17:21:39 | 140300.000 | 4840.000 | 0.000    | 61770.000  | 73070.000  | 75260.000 | 75.792%   | 3092.000  |
| 3    | 17:21:46 | 127700.000 | 4707.000 | 0.000    | 59820.000  | 73750.000  | 75940.000 | 78.918%   | 3068.000  |
| X    |          | 130100.000 | 4693.000 | 0.000    | 59490.000  | 72490.000  | 74390.000 | 78.679%   | 3039.000  |
| σ    |          | 9193.000   | 154.900  | 0.000    | 2464.000   | 1620.000   | 2125.000  | 2.776%    | 72.190    |
| %RSD |          | 7.065      | 3.301    | 0.000    | 4.142      | 2.234      | 2.857     | 3.528     | 2.376     |
| Run  | Time     | 51V        | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:21:31 | 744.500    | 452.000  | 3325.000 | 164600.000 | 161500.000 | 615.100   | 694.900   | 590.800   |
| 2    | 17:21:39 | 799.700    | 490.100  | 3523.000 | 173300.000 | 170600.000 | 630.100   | 717.500   | 617.700   |
| 3    | 17:21:46 | 761.400    | 471.600  | 3363.000 | 166300.000 | 163600.000 | 608.100   | 690.200   | 593.600   |
| X    |          | 768.500    | 471.300  | 3404.000 | 168100.000 | 165200.000 | 617.700   | 700.900   | 600.700   |
| σ    |          | 28.280     | 19.040   | 104.900  | 4590.000   | 4767.000   | 11.240    | 14.610    | 14.790    |
| %RSD |          | 3.680      | 4.040    | 3.082    | 2.731      | 2.885      | 1.819     | 2.084     | 2.462     |
| Run  | Time     | 65Cu       | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:21:31 | 593.200    | 1691.000 | 1718.000 | 72.380     | 14.560     | 20.690    | 0.000     | 1276.000  |
| 2    | 17:21:39 | 627.600    | 1751.000 | 1774.000 | 75.410     | 14.160     | 16.190    | 0.000     | 1284.000  |
| 3    | 17:21:46 | 589.500    | 1711.000 | 1746.000 | 72.110     | 13.380     | 14.730    | 0.000     | 1271.000  |
| X    |          | 603.400    | 1718.000 | 1746.000 | 73.300     | 14.030     | 17.200    | 0.000     | 1277.000  |
| σ    |          | 21.010     | 30.810   | 28.310   | 1.830      | 0.599      | 3.104     | 0.000     | 6.392     |
| %RSD |          | 3.482      | 1.793    | 1.622    | 2.497      | 4.272      | 18.040    | 0.000     | 0.500     |
| Run  | Time     | 89Y        | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:21:31 | 0.000      | 1166.000 | 1169.000 | 53.814%    | 49.070     | 48.610    | 48.060    | 86.530    |
| 2    | 17:21:39 | 0.000      | 1168.000 | 1174.000 | 53.447%    | 48.990     | 48.580    | 47.000    | 81.970    |
| 3    | 17:21:46 | 0.000      | 1159.000 | 1159.000 | 53.644%    | 49.460     | 48.170    | 46.080    | 82.810    |
| X    |          | 0.000      | 1164.000 | 1167.000 | 53.635%    | 49.170     | 48.450    | 47.040    | 83.770    |
| σ    |          | 0.000      | 4.373    | 7.716    | 0.184%     | 0.248      | 0.242     | 0.989     | 2.424     |
| %RSD |          | 0.000      | 0.376    | 0.661    | 0.343      | 0.505      | 0.500     | 2.102     | 2.894     |
| Run  | Time     | 115In      | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:21:31 | 59.121%    | 1827.000 | 259.600  | 258.700    | 2446.000   | 2449.000  | 77.185%   | 76.435%   |
| 2    | 17:21:39 | 60.729%    | 1786.000 | 261.800  | 255.200    | 2406.000   | 2417.000  | 76.181%   | 77.356%   |
| 3    | 17:21:46 | 60.786%    | 1800.000 | 259.300  | 254.100    | 2404.000   | 2427.000  | 76.644%   | 77.299%   |
| X    |          | 60.212%    | 1804.000 | 260.200  | 256.000    | 2419.000   | 2431.000  | 76.670%   | 77.030%   |
| σ    |          | 0.945%     | 20.950   | 1.370    | 2.387      | 23.440     | 16.560    | 0.502%    | 0.516%    |
| %RSD |          | 1.570      | 1.161    | 0.527    | 0.933      | 0.969      | 0.681     | 0.655     | 0.670     |
| Run  | Time     | 203Tl      | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi     |           |           |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       |           |           |
| 1    | 17:21:31 | 51.630     | 52.320   | 548.600  | 507.900    | 532.800    | 48.943%   |           |           |
| 2    | 17:21:39 | 52.060     | 50.300   | 548.200  | 501.200    | 531.500    | 49.642%   |           |           |
| 3    | 17:21:46 | 50.700     | 51.020   | 547.400  | 497.100    | 528.700    | 50.339%   |           |           |
| X    |          | 51.460     | 51.210   | 548.100  | 502.100    | 531.000    | 49.641%   |           |           |
| σ    |          | 0.697      | 1.024    | 0.617    | 5.453      | 2.106      | 0.698%    |           |           |
| %RSD |          | 1.354      | 1.999    | 0.113    | 1.086      | 0.397      | 1.406     |           |           |

180-43368-B-1-A PDS

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User Pre-dilution: 1.000

| Run  | Time     | 6Li       | 9Be       | 10B      | 11B        | 13C        | 23Na      | 25Mg      | 26Mg      |
|------|----------|-----------|-----------|----------|------------|------------|-----------|-----------|-----------|
|      |          | ppb       | ppb       | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:26:35 | 85.177%   | 46.920    | 831.000  | 887.200    | 0.000      | 49980.000 | 64430.000 | 64980.000 |
| 2    | 17:26:43 | 86.588%   | 47.630    | 856.800  | 864.900    | 0.000      | 50430.000 | 62650.000 | 63400.000 |
| 3    | 17:26:51 | 82.146%   | 49.670    | 854.400  | 899.700    | 0.000      | 55410.000 | 69210.000 | 69210.000 |
| X    |          | 84.637%   | 48.070    | 847.400  | 883.900    | 0.000      | 51940.000 | 65430.000 | 65860.000 |
| σ    |          | 2.270%    | 1.430     | 14.230   | 17.660     | 0.000      | 3016.000  | 3396.000  | 3004.000  |
| %RSD |          | 2.682     | 2.974     | 1.680    | 1.998      | 0.000      | 5.806     | 5.190     | 4.561     |
| Run  | Time     | 27Al      | 28Si      | 37Cl     | 39K        | 43Ca       | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb       | ppb       | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:26:35 | 51170.000 | 13020.000 | 0.000    | 62160.000  | 76890.000  | 78300.000 | 76.997%   | 2395.000  |
| 2    | 17:26:43 | 49580.000 | 13100.000 | 0.000    | 63030.000  | 79170.000  | 81220.000 | 76.199%   | 2437.000  |
| 3    | 17:26:51 | 54110.000 | 13780.000 | 0.000    | 66480.000  | 82030.000  | 84420.000 | 71.246%   | 2550.000  |
| X    |          | 51620.000 | 13300.000 | 0.000    | 63890.000  | 79360.000  | 81310.000 | 74.814%   | 2460.000  |
| σ    |          | 2300.000  | 416.800   | 0.000    | 2284.000   | 2574.000   | 3057.000  | 3.116%    | 80.210    |
| %RSD |          | 4.456     | 3.134     | 0.000    | 3.575      | 3.243      | 3.759     | 4.165     | 3.260     |
| Run  | Time     | 51V       | 52Cr      | 55Mn     | 56Fe       | 57Fe       | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb       | ppb       | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:26:35 | 724.500   | 416.300   | 2744.000 | 133200.000 | 132400.000 | 626.800   | 685.800   | 601.800   |
| 2    | 17:26:43 | 727.800   | 413.700   | 2783.000 | 135600.000 | 126700.000 | 633.500   | 691.300   | 606.200   |
| 3    | 17:26:51 | 786.300   | 435.000   | 2934.000 | 142400.000 | 139100.000 | 678.400   | 726.200   | 638.300   |
| X    |          | 746.200   | 421.700   | 2820.000 | 137100.000 | 132700.000 | 646.200   | 701.100   | 615.400   |
| σ    |          | 34.770    | 11.620    | 100.200  | 4806.000   | 6211.000   | 28.060    | 21.940    | 19.900    |
| %RSD |          | 4.659     | 2.756     | 3.554    | 3.506      | 4.679      | 4.342     | 3.129     | 3.233     |
| Run  | Time     | 65Cu      | 66Zn      | 68Zn     | 75As       | 78Se       | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb       | ppb       | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:26:35 | 619.300   | 1658.000  | 1697.000 | 73.080     | 15.970     | 17.300    | 0.000     | 1299.000  |
| 2    | 17:26:43 | 608.900   | 1627.000  | 1652.000 | 74.190     | 14.380     | 19.090    | 0.000     | 1294.000  |
| 3    | 17:26:51 | 656.500   | 1722.000  | 1753.000 | 76.160     | 14.530     | 18.200    | 0.000     | 1329.000  |
| X    |          | 628.200   | 1669.000  | 1700.000 | 74.480     | 14.960     | 18.200    | 0.000     | 1307.000  |
| σ    |          | 25.020    | 48.510    | 50.690   | 1.559      | 0.876      | 0.895     | 0.000     | 19.270    |
| %RSD |          | 3.982     | 2.906     | 2.981    | 2.093      | 5.854      | 4.917     | 0.000     | 1.474     |
| Run  | Time     | 89Y       | 95Mo      | 98Mo     | 103Rh      | 107Ag      | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb       | ppb       | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:26:35 | 0.000     | 1441.000  | 1457.000 | 54.319%    | 49.390     | 49.310    | 50.670    | 100.300   |
| 2    | 17:26:43 | 0.000     | 1434.000  | 1445.000 | 55.987%    | 47.930     | 48.240    | 51.380    | 99.240    |
| 3    | 17:26:51 | 0.000     | 1441.000  | 1466.000 | 55.430%    | 48.410     | 48.550    | 51.270    | 98.600    |
| X    |          | 0.000     | 1439.000  | 1456.000 | 55.246%    | 48.580     | 48.700    | 51.110    | 99.400    |
| σ    |          | 0.000     | 4.004     | 10.710   | 0.849%     | 0.745      | 0.548     | 0.381     | 0.886     |
| %RSD |          | 0.000     | 0.278     | 0.736    | 1.537      | 1.533      | 1.126     | 0.746     | 0.891     |
| Run  | Time     | 115In     | 118Sn     | 121Sb    | 123Sb      | 135Ba      | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb       | ppb       | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:26:35 | 58.834%   | 2388.000  | 525.800  | 521.100    | 2431.000   | 2390.000  | 76.281%   | 78.759%   |
| 2    | 17:26:43 | 60.775%   | 2340.000  | 514.800  | 503.800    | 2353.000   | 2355.000  | 78.022%   | 79.293%   |
| 3    | 17:26:51 | 61.806%   | 2333.000  | 506.600  | 502.200    | 2320.000   | 2347.000  | 78.764%   | 80.288%   |
| X    |          | 60.471%   | 2354.000  | 515.700  | 509.000    | 2368.000   | 2364.000  | 77.689%   | 79.447%   |
| σ    |          | 1.509%    | 30.260    | 9.631    | 10.500     | 57.190     | 22.930    | 1.275%    | 0.776%    |
| %RSD |          | 2.496     | 1.286     | 1.868    | 2.063      | 2.415      | 0.970     | 1.641     | 0.977     |
| Run  | Time     | 203Tl     | 205Tl     | 206Pb    | 207Pb      | 208Pb      | 209Bi     |           |           |
|      |          | ppb       | ppb       | ppb      | ppb        | ppb        | ppb       |           |           |
| 1    | 17:26:35 | 54.760    | 54.310    | 510.000  | 471.800    | 495.100    | 52.867%   |           |           |
| 2    | 17:26:43 | 54.510    | 53.850    | 505.500  | 472.400    | 497.500    | 54.008%   |           |           |
| 3    | 17:26:51 | 54.490    | 54.410    | 510.800  | 476.000    | 499.100    | 54.335%   |           |           |
| X    |          | 54.590    | 54.190    | 508.800  | 473.400    | 497.300    | 53.737%   |           |           |
| σ    |          | 0.147     | 0.301     | 2.878    | 2.219      | 2.010      | 0.770%    |           |           |
| %RSD |          | 0.269     | 0.556     | 0.566    | 0.469      | 0.404      | 1.434     |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li       | 9Be      | 10B      | 11B        | 13C        | 23Na      | 25Mg      | 26Mg      |
|------|----------|-----------|----------|----------|------------|------------|-----------|-----------|-----------|
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:31:40 | 98.557%   | 5.570    | 24.950   | 24.720     | 0.000      | 1596.000  | 22790.000 | 23120.000 |
| 2    | 17:31:48 | 97.165%   | 5.699    | 24.950   | 23.920     | 0.000      | 1614.000  | 23500.000 | 23120.000 |
| 3    | 17:31:56 | 98.441%   | 5.588    | 23.330   | 22.600     | 0.000      | 1580.000  | 23010.000 | 22940.000 |
| X    |          | 98.054%   | 5.619    | 24.410   | 23.750     | 0.000      | 1597.000  | 23100.000 | 23060.000 |
| σ    |          | 0.773%    | 0.070    | 0.936    | 1.069      | 0.000      | 17.000    | 361.600   | 104.900   |
| %RSD |          | 0.788     | 1.246    | 3.834    | 4.500      | 0.000      | 1.064     | 1.565     | 0.455     |
| Run  | Time     | 27Al      | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:31:40 | 60810.000 | 2679.000 | 0.000    | 7081.000   | 31790.000  | 31980.000 | 90.233%   | 1637.000  |
| 2    | 17:31:48 | 61590.000 | 2717.000 | 0.000    | 7210.000   | 31760.000  | 32020.000 | 88.769%   | 1689.000  |
| 3    | 17:31:56 | 61030.000 | 2634.000 | 0.000    | 7127.000   | 32080.000  | 31360.000 | 87.984%   | 1707.000  |
| X    |          | 61140.000 | 2677.000 | 0.000    | 7139.000   | 31880.000  | 31790.000 | 88.996%   | 1678.000  |
| σ    |          | 405.400   | 41.280   | 0.000    | 65.240     | 177.000    | 369.400   | 1.141%    | 36.450    |
| %RSD |          | 0.663     | 1.542    | 0.000    | 0.914      | 0.555      | 1.162     | 1.283     | 2.173     |
| Run  | Time     | 51V       | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:31:40 | 247.300   | 235.900  | 4921.000 | 184000.000 | 176400.000 | 135.000   | 194.800   | 496.100   |
| 2    | 17:31:48 | 251.900   | 231.900  | 5042.000 | 185200.000 | 180300.000 | 137.400   | 202.800   | 516.800   |
| 3    | 17:31:56 | 252.300   | 234.200  | 5148.000 | 184400.000 | 176000.000 | 139.600   | 196.200   | 506.700   |
| X    |          | 250.500   | 234.000  | 5037.000 | 184600.000 | 177600.000 | 137.300   | 197.900   | 506.600   |
| σ    |          | 2.772     | 2.022    | 113.700  | 594.200    | 2380.000   | 2.277     | 4.299     | 10.350    |
| %RSD |          | 1.107     | 0.864    | 2.256    | 0.322      | 1.340      | 1.658     | 2.172     | 2.044     |
| Run  | Time     | 65Cu      | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:31:40 | 502.200   | 1940.000 | 1975.000 | 47.150     | 7.020      | 13.500    | 0.000     | 175.500   |
| 2    | 17:31:48 | 514.700   | 1992.000 | 1981.000 | 48.140     | 7.553      | 3.974     | 0.000     | 174.100   |
| 3    | 17:31:56 | 519.100   | 1956.000 | 1997.000 | 46.910     | 6.521      | 8.590     | 0.000     | 173.600   |
| X    |          | 512.000   | 1963.000 | 1984.000 | 47.400     | 7.031      | 8.687     | 0.000     | 174.400   |
| σ    |          | 8.782     | 26.510   | 11.520   | 0.652      | 0.516      | 4.763     | 0.000     | 0.967     |
| %RSD |          | 1.715     | 1.351    | 0.580    | 1.376      | 7.334      | 54.830    | 0.000     | 0.554     |
| Run  | Time     | 89Y       | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:31:40 | 0.000     | 13.290   | 13.210   | 60.388%    | 3.599      | 3.843     | 5.218     | 7.650     |
| 2    | 17:31:48 | 0.000     | 12.400   | 13.150   | 60.679%    | 3.524      | 3.441     | 5.434     | 8.279     |
| 3    | 17:31:56 | 0.000     | 12.480   | 12.600   | 61.786%    | 3.649      | 3.552     | 5.079     | 7.764     |
| X    |          | 0.000     | 12.720   | 12.990   | 60.951%    | 3.591      | 3.612     | 5.244     | 7.898     |
| σ    |          | 0.000     | 0.494    | 0.341    | 0.738%     | 0.063      | 0.207     | 0.179     | 0.335     |
| %RSD |          | 0.000     | 3.884    | 2.623    | 1.210      | 1.756      | 5.744     | 3.407     | 4.245     |
| Run  | Time     | 115In     | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:31:40 | 65.912%   | 130.900  | 6.112    | 6.566      | 880.100    | 879.400   | 84.980%   | 84.629%   |
| 2    | 17:31:48 | 67.737%   | 130.100  | 6.507    | 6.284      | 884.500    | 886.100   | 85.003%   | 86.258%   |
| 3    | 17:31:56 | 67.861%   | 128.600  | 6.553    | 5.904      | 889.200    | 885.200   | 84.994%   | 86.787%   |
| X    |          | 67.170%   | 129.900  | 6.391    | 6.251      | 884.600    | 883.600   | 84.992%   | 85.891%   |
| σ    |          | 1.091%    | 1.148    | 0.242    | 0.332      | 4.553      | 3.671     | 0.011%    | 1.125%    |
| %RSD |          | 1.625     | 0.884    | 3.795    | 5.315      | 0.515      | 0.415     | 0.013     | 1.309     |
| Run  | Time     | 203Tl     | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi     |           |           |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       |           |           |
| 1    | 17:31:40 | 1.596     | 1.532    | 987.500  | 914.600    | 970.400    | 58.868%   |           |           |
| 2    | 17:31:48 | 1.492     | 1.632    | 1004.000 | 918.600    | 973.100    | 58.643%   |           |           |
| 3    | 17:31:56 | 1.413     | 1.481    | 976.500  | 904.700    | 957.000    | 60.574%   |           |           |
| X    |          | 1.500     | 1.548    | 989.400  | 912.600    | 966.800    | 59.362%   |           |           |
| σ    |          | 0.092     | 0.077    | 13.970   | 7.203      | 8.674      | 1.056%    |           |           |
| %RSD |          | 6.126     | 4.967    | 1.412    | 0.789      | 0.897      | 1.779     |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li       | 9Be      | 10B      | 11B        | 13C        | 23Na      | 25Mg      | 26Mg      |
|------|----------|-----------|----------|----------|------------|------------|-----------|-----------|-----------|
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:36:46 | 93.085%   | 7.532    | 25.130   | 25.260     | 0.000      | 1679.000  | 22390.000 | 22320.000 |
| 2    | 17:36:54 | 94.692%   | 7.364    | 24.420   | 23.310     | 0.000      | 1627.000  | 22450.000 | 22850.000 |
| 3    | 17:37:02 | 92.825%   | 7.497    | 23.880   | 23.160     | 0.000      | 1681.000  | 23180.000 | 22650.000 |
| X    |          | 93.534%   | 7.464    | 24.470   | 23.910     | 0.000      | 1662.000  | 22680.000 | 22610.000 |
| σ    |          | 1.012%    | 0.089    | 0.627    | 1.169      | 0.000      | 30.770    | 441.000   | 267.500   |
| %RSD |          | 1.082     | 1.189    | 2.562    | 4.889      | 0.000      | 1.851     | 1.945     | 1.183     |
| Run  | Time     | 27Al      | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:36:46 | 76820.000 | 2290.000 | 0.000    | 8304.000   | 28030.000  | 27930.000 | 92.907%   | 1692.000  |
| 2    | 17:36:54 | 83900.000 | 2270.000 | 0.000    | 8575.000   | 27850.000  | 28840.000 | 88.553%   | 1762.000  |
| 3    | 17:37:02 | 82480.000 | 2282.000 | 0.000    | 8515.000   | 28430.000  | 29860.000 | 88.872%   | 1766.000  |
| X    |          | 81070.000 | 2281.000 | 0.000    | 8465.000   | 28100.000  | 28880.000 | 90.111%   | 1740.000  |
| σ    |          | 3745.000  | 9.638    | 0.000    | 142.100    | 294.700    | 963.200   | 2.427%    | 41.560    |
| %RSD |          | 4.620     | 0.423    | 0.000    | 1.679      | 1.049      | 3.336     | 2.694     | 2.389     |
| Run  | Time     | 51V       | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:36:46 | 303.000   | 283.500  | 4638.000 | 199700.000 | 196800.000 | 171.000   | 232.900   | 469.600   |
| 2    | 17:36:54 | 315.100   | 290.400  | 4843.000 | 206600.000 | 203300.000 | 182.100   | 244.600   | 465.500   |
| 3    | 17:37:02 | 309.400   | 289.700  | 4800.000 | 207000.000 | 204000.000 | 176.800   | 242.900   | 474.800   |
| X    |          | 309.200   | 287.900  | 4760.000 | 204500.000 | 201400.000 | 176.600   | 240.100   | 470.000   |
| σ    |          | 6.025     | 3.807    | 107.700  | 4086.000   | 3957.000   | 5.562     | 6.310     | 4.670     |
| %RSD |          | 1.949     | 1.323    | 2.263    | 1.999      | 1.965      | 3.149     | 2.628     | 0.994     |
| Run  | Time     | 65Cu      | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:36:46 | 469.600   | 1663.000 | 1692.000 | 47.090     | 8.485      | 18.290    | 0.000     | 162.700   |
| 2    | 17:36:54 | 482.400   | 1665.000 | 1741.000 | 47.760     | 8.077      | 9.867     | 0.000     | 159.900   |
| 3    | 17:37:02 | 476.400   | 1695.000 | 1723.000 | 48.800     | 7.598      | 13.930    | 0.000     | 164.000   |
| X    |          | 476.100   | 1674.000 | 1719.000 | 47.880     | 8.053      | 14.030    | 0.000     | 162.200   |
| σ    |          | 6.410     | 17.730   | 24.430   | 0.862      | 0.444      | 4.212     | 0.000     | 2.125     |
| %RSD |          | 1.346     | 1.059    | 1.421    | 1.800      | 5.514      | 30.030    | 0.000     | 1.310     |
| Run  | Time     | 89Y       | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:36:46 | 0.000     | 12.250   | 12.190   | 59.736%    | 5.277      | 5.145     | 4.724     | 6.616     |
| 2    | 17:36:54 | 0.000     | 11.720   | 11.880   | 60.327%    | 5.401      | 5.200     | 5.663     | 6.750     |
| 3    | 17:37:02 | 0.000     | 11.540   | 12.400   | 59.409%    | 5.418      | 5.369     | 5.982     | 6.622     |
| X    |          | 0.000     | 11.840   | 12.150   | 59.824%    | 5.365      | 5.238     | 5.456     | 6.663     |
| σ    |          | 0.000     | 0.369    | 0.262    | 0.466%     | 0.077      | 0.117     | 0.654     | 0.076     |
| %RSD |          | 0.000     | 3.115    | 2.153    | 0.778      | 1.435      | 2.228     | 11.980    | 1.134     |
| Run  | Time     | 115In     | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:36:46 | 66.152%   | 65.570   | 4.251    | 3.701      | 810.900    | 803.200   | 84.433%   | 85.477%   |
| 2    | 17:36:54 | 66.312%   | 66.960   | 4.188    | 4.078      | 813.000    | 811.700   | 86.574%   | 87.319%   |
| 3    | 17:37:02 | 66.608%   | 66.090   | 4.349    | 4.240      | 822.600    | 823.400   | 87.120%   | 89.362%   |
| X    |          | 66.357%   | 66.210   | 4.262    | 4.006      | 815.500    | 812.800   | 86.042%   | 87.386%   |
| σ    |          | 0.231%    | 0.703    | 0.081    | 0.276      | 6.220      | 10.140    | 1.420%    | 1.944%    |
| %RSD |          | 0.349     | 1.062    | 1.905    | 6.899      | 0.763      | 1.247     | 1.651     | 2.224     |
| Run  | Time     | 203Tl     | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi     |           |           |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       |           |           |
| 1    | 17:36:46 | 1.762     | 1.998    | 644.900  | 599.300    | 627.200    | 57.137%   |           |           |
| 2    | 17:36:54 | 1.785     | 1.883    | 638.800  | 590.400    | 622.600    | 58.685%   |           |           |
| 3    | 17:37:02 | 2.063     | 1.891    | 645.800  | 590.300    | 627.900    | 60.086%   |           |           |
| X    |          | 1.870     | 1.924    | 643.100  | 593.400    | 625.900    | 58.636%   |           |           |
| σ    |          | 0.168     | 0.065    | 3.794    | 5.170      | 2.890      | 1.475%    |           |           |
| %RSD |          | 8.973     | 3.355    | 0.590    | 0.871      | 0.462      | 2.516     |           |           |



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User Pre-dilution: 1.000

| Run  | Time     | 6Li        | 9Be      | 10B      | 11B        | 13C        | 23Na      | 25Mg      | 26Mg      |
|------|----------|------------|----------|----------|------------|------------|-----------|-----------|-----------|
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:41:51 | 91.730%    | 8.684    | 27.210   | 25.950     | 0.000      | 2127.000  | 27000.000 | 26240.000 |
| 2    | 17:41:58 | 88.124%    | 8.896    | 27.730   | 25.490     | 0.000      | 2264.000  | 29280.000 | 28750.000 |
| 3    | 17:42:06 | 95.645%    | 8.507    | 24.610   | 24.460     | 0.000      | 2067.000  | 26830.000 | 26930.000 |
| X    |          | 91.833%    | 8.696    | 26.520   | 25.300     | 0.000      | 2153.000  | 27700.000 | 27300.000 |
| σ    |          | 3.762%     | 0.195    | 1.673    | 0.762      | 0.000      | 100.800   | 1366.000  | 1300.000  |
| %RSD |          | 4.096      | 2.238    | 6.308    | 3.013      | 0.000      | 4.683     | 4.931     | 4.763     |
| Run  | Time     | 27Al       | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:41:51 | 94780.000  | 2616.000 | 0.000    | 10860.000  | 28520.000  | 29150.000 | 84.447%   | 2073.000  |
| 2    | 17:41:58 | 101500.000 | 2550.000 | 0.000    | 10880.000  | 28600.000  | 30180.000 | 80.727%   | 2178.000  |
| 3    | 17:42:06 | 94940.000  | 2464.000 | 0.000    | 10850.000  | 28440.000  | 28950.000 | 87.436%   | 2036.000  |
| X    |          | 97070.000  | 2543.000 | 0.000    | 10860.000  | 28520.000  | 29430.000 | 84.203%   | 2096.000  |
| σ    |          | 3839.000   | 76.340   | 0.000    | 15.570     | 79.140     | 658.700   | 3.361%    | 73.750    |
| %RSD |          | 3.954      | 3.001    | 0.000    | 0.143      | 0.278      | 2.238     | 3.991     | 3.519     |
| Run  | Time     | 51V        | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:41:51 | 362.900    | 374.600  | 3442.000 | 235500.000 | 231500.000 | 158.000   | 295.800   | 531.200   |
| 2    | 17:41:58 | 371.100    | 386.400  | 3576.000 | 248800.000 | 239400.000 | 161.900   | 301.800   | 542.800   |
| 3    | 17:42:06 | 359.900    | 367.200  | 3448.000 | 226800.000 | 221300.000 | 151.600   | 286.700   | 529.100   |
| X    |          | 364.600    | 376.100  | 3489.000 | 237000.000 | 230700.000 | 157.200   | 294.800   | 534.300   |
| σ    |          | 5.812      | 9.670    | 75.590   | 11090.000  | 9068.000   | 5.227     | 7.595     | 7.379     |
| %RSD |          | 1.594      | 2.571    | 2.166    | 4.679      | 3.930      | 3.326     | 2.577     | 1.381     |
| Run  | Time     | 65Cu       | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:41:51 | 526.400    | 1844.000 | 1891.000 | 46.370     | 8.719      | 18.130    | 0.000     | 171.900   |
| 2    | 17:41:58 | 558.800    | 1916.000 | 1951.000 | 47.610     | 10.850     | 12.580    | 0.000     | 170.100   |
| 3    | 17:42:06 | 524.500    | 1822.000 | 1872.000 | 46.380     | 9.672      | 14.540    | 0.000     | 170.800   |
| X    |          | 536.500    | 1861.000 | 1904.000 | 46.780     | 9.747      | 15.080    | 0.000     | 170.900   |
| σ    |          | 19.300     | 49.180   | 41.250   | 0.714      | 1.068      | 2.814     | 0.000     | 0.907     |
| %RSD |          | 3.597      | 2.643    | 2.166    | 1.526      | 10.950     | 18.660    | 0.000     | 0.531     |
| Run  | Time     | 89Y        | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:41:51 | 0.000      | 13.910   | 13.890   | 58.972%    | 3.165      | 3.057     | 5.436     | 6.986     |
| 2    | 17:41:58 | 0.000      | 13.550   | 14.240   | 58.702%    | 3.248      | 3.173     | 5.328     | 7.227     |
| 3    | 17:42:06 | 0.000      | 13.130   | 13.850   | 58.970%    | 3.237      | 3.116     | 5.449     | 7.116     |
| X    |          | 0.000      | 13.530   | 13.990   | 58.882%    | 3.217      | 3.115     | 5.405     | 7.110     |
| σ    |          | 0.000      | 0.394    | 0.214    | 0.155%     | 0.045      | 0.058     | 0.066     | 0.121     |
| %RSD |          | 0.000      | 2.911    | 1.530    | 0.264      | 1.395      | 1.860     | 1.229     | 1.694     |
| Run  | Time     | 115In      | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 17:41:51 | 64.690%    | 60.960   | 4.586    | 4.459      | 801.300    | 805.100   | 87.163%   | 87.551%   |
| 2    | 17:41:58 | 65.164%    | 59.600   | 4.485    | 4.750      | 807.000    | 810.800   | 87.650%   | 88.832%   |
| 3    | 17:42:06 | 63.772%    | 61.080   | 4.572    | 4.958      | 814.900    | 825.100   | 86.716%   | 89.065%   |
| X    |          | 64.542%    | 60.550   | 4.547    | 4.722      | 807.700    | 813.600   | 87.177%   | 88.483%   |
| σ    |          | 0.708%     | 0.826    | 0.055    | 0.251      | 6.844      | 10.330    | 0.467%    | 0.815%    |
| %RSD |          | 1.097      | 1.364    | 1.200    | 5.308      | 0.847      | 1.270     | 0.536     | 0.922     |
| Run  | Time     | 203Tl      | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi     |           |           |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       |           |           |
| 1    | 17:41:51 | 2.039      | 1.957    | 619.200  | 564.900    | 597.300    | 57.208%   |           |           |
| 2    | 17:41:58 | 2.111      | 1.974    | 612.200  | 563.600    | 593.900    | 57.444%   |           |           |
| 3    | 17:42:06 | 1.878      | 2.022    | 608.200  | 560.800    | 592.400    | 58.251%   |           |           |
| X    |          | 2.009      | 1.985    | 613.200  | 563.100    | 594.500    | 57.634%   |           |           |
| σ    |          | 0.119      | 0.034    | 5.571    | 2.114      | 2.528      | 0.547%    |           |           |
| %RSD |          | 5.929      | 1.700    | 0.908    | 0.375      | 0.425      | 0.949     |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be      | 10B      | 11B       | 13C       | 23Na      | 25Mg      | 26Mg      |
|------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 17:50:54 | 87.194%  | 94.180   | 88.730   | 89.680    | 0.000     | 52230.000 | 51720.000 | 51680.000 |
| 2    | 17:51:02 | 88.115%  | 93.770   | 89.470   | 92.010    | 0.000     | 53700.000 | 53460.000 | 53030.000 |
| 3    | 17:51:10 | 88.096%  | 94.320   | 85.980   | 86.240    | 0.000     | 51130.000 | 52590.000 | 52960.000 |
| X    |          | 87.802%  | 94.091%  | 88.058%  | 89.310%   | 0.000     | 104.706%  | 105.183%  | 105.114%  |
| σ    |          | 0.526%   | n/a      | n/a      | n/a       | 0.000     | n/a       | n/a       | n/a       |
| %RSD |          | 0.599    | 0.304    | 2.090    | 3.250     | 0.000     | 2.465     | 1.649     | 1.445     |
| Run  | Time     | 27Al     | 28Si     | 37Cl     | 39K       | 43Ca      | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 17:50:54 | 515.600  | 5075.000 | 0.000    | 50170.000 | 46640.000 | 49590.000 | 94.848%   | 96.820    |
| 2    | 17:51:02 | 566.200  | 5329.000 | 0.000    | 51810.000 | 49520.000 | 50760.000 | 93.429%   | 99.360    |
| 3    | 17:51:10 | 550.000  | 5114.000 | 0.000    | 50760.000 | 49820.000 | 53080.000 | 90.986%   | 101.200   |
| X    |          | 108.789% | 103.453% | 0.000    | 101.819%  | 97.320%   | 102.288%  | 93.088%   | 99.111%   |
| σ    |          | n/a      | n/a      | 0.000    | n/a       | n/a       | n/a       | 1.953%    | n/a       |
| %RSD |          | 4.758    | 2.640    | 0.000    | 1.632     | 3.609     | 3.481     | 2.099     | 2.196     |
| Run  | Time     | 51V      | 52Cr     | 55Mn     | 56Fe      | 57Fe      | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 17:50:54 | 87.730   | 89.470   | 488.300  | 23920.000 | 24580.000 | 95.230    | 97.120    | 99.280    |
| 2    | 17:51:02 | 91.690   | 95.560   | 514.400  | 25060.000 | 25230.000 | 95.690    | 98.520    | 102.600   |
| 3    | 17:51:10 | 91.250   | 93.000   | 538.200  | 24700.000 | 23900.000 | 95.830    | 97.250    | 102.700   |
| X    |          | 90.222%  | 92.677%  | 102.724% | 98.243%   | 98.286%   | 95.583%   | 97.632%   | 101.530%  |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | n/a       | n/a       | n/a       |
| %RSD |          | 2.408    | 3.302    | 4.858    | 2.377     | 2.724     | 0.331     | 0.792     | 1.915     |
| Run  | Time     | 65Cu     | 66Zn     | 68Zn     | 75As      | 78Se      | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 17:50:54 | 100.700  | 106.600  | 106.100  | 104.400   | 104.400   | 107.500   | 0.000     | 95.210    |
| 2    | 17:51:02 | 101.700  | 107.900  | 109.900  | 104.900   | 107.900   | 106.400   | 0.000     | 94.520    |
| 3    | 17:51:10 | 100.400  | 110.200  | 110.800  | 104.100   | 110.800   | 110.000   | 0.000     | 93.110    |
| X    |          | 100.932% | 108.239% | 108.947% | 104.460%  | 107.706%  | 107.979%  | 0.000     | 94.277%   |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | n/a       | 0.000     | n/a       |
| %RSD |          | 0.702    | 1.676    | 2.312    | 0.371     | 2.958     | 1.710     | 0.000     | 1.136     |
| Run  | Time     | 89Y      | 95Mo     | 98Mo     | 103Rh     | 107Ag     | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 17:50:54 | 84.960%  | 103.000  | 104.300  | 71.299%   | 102.400   | 101.800   | 101.400   | 104.800   |
| 2    | 17:51:02 | 85.119%  | 104.000  | 109.700  | 70.147%   | 102.900   | 99.960    | 101.500   | 104.400   |
| 3    | 17:51:10 | 86.594%  | 103.700  | 105.900  | 71.509%   | 100.100   | 101.700   | 101.200   | 106.800   |
| X    |          | 85.558%  | 103.561% | 106.618% | 70.985%   | 101.815%  | 101.156%  | 101.393%  | 105.341%  |
| σ    |          | 0.901%   | n/a      | n/a      | 0.733%    | n/a       | n/a       | n/a       | n/a       |
| %RSD |          | 1.053    | 0.464    | 2.617    | 1.033     | 1.449     | 1.020     | 0.158     | 1.227     |
| Run  | Time     | 115In    | 118Sn    | 121Sb    | 123Sb     | 135Ba     | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 17:50:54 | 74.459%  | 94.950   | 99.600   | 100.300   | 98.010    | 101.000   | 79.931%   | 80.141%   |
| 2    | 17:51:02 | 76.254%  | 97.360   | 96.470   | 96.070    | 97.240    | 98.980    | 81.343%   | 81.909%   |
| 3    | 17:51:10 | 76.194%  | 95.700   | 98.960   | 99.340    | 96.610    | 98.620    | 82.102%   | 82.738%   |
| X    |          | 75.636%  | 96.007%  | 98.345%  | 98.558%   | 97.285%   | 99.539%   | 81.125%   | 81.596%   |
| σ    |          | 1.019%   | n/a      | n/a      | n/a       | n/a       | n/a       | 1.102%    | 1.326%    |
| %RSD |          | 1.348    | 1.282    | 1.680    | 2.232     | 0.719     | 1.297     | 1.358     | 1.626     |
| Run  | Time     | 203Tl    | 205Tl    | 206Pb    | 207Pb     | 208Pb     | 209Bi     |           |           |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       |           |           |
| 1    | 17:50:54 | 96.250   | 95.340   | 97.520   | 98.750    | 98.160    | 64.768%   |           |           |
| 2    | 17:51:02 | 96.160   | 94.620   | 95.740   | 96.530    | 96.170    | 66.590%   |           |           |
| 3    | 17:51:10 | 96.140   | 94.870   | 97.040   | 97.700    | 97.410    | 66.677%   |           |           |
| X    |          | 96.181%  | 94.941%  | 96.769%  | 97.658%   | 97.247%   | 66.012%   |           |           |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | 1.078%    |           |           |
| %RSD |          | 0.062    | 0.383    | 0.954    | 1.136     | 1.036     | 1.634     |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li     | 9Be    | 10B      | 11B      | 13C     | 23Na    | 25Mg     | 26Mg    |
|------|----------|---------|--------|----------|----------|---------|---------|----------|---------|
|      |          | ppb     | ppb    | ppb      | ppb      | ppb     | ppb     | ppb      | ppb     |
| 1    | 17:59:58 | 97.884% | -0.008 | 0.849    | 0.930    | 0.000   | 6.542   | 7.674    | 6.532   |
| 2    | 18:00:06 | 95.128% | -0.009 | 0.827    | 0.864    | 0.000   | 8.276   | 8.306    | 7.979   |
| 3    | 18:00:14 | 89.233% | 0.001  | 0.882    | 0.879    | 0.000   | 13.610  | 12.630   | 11.610  |
| X    |          | 94.081% | -0.006 | 0.853    | 0.891    | 0.000   | 9.476   | 9.538    | 8.706   |
| σ    |          | 4.419%  | 0.005  | 0.028    | 0.034    | 0.000   | 3.684   | 2.699    | 2.616   |
| %RSD |          | 4.697   | 95.620 | 3.310    | 3.858    | 0.000   | 38.870  | 28.300   | 30.040  |
| Run  | Time     | 27Al    | 28Si   | 37Cl     | 39K      | 43Ca    | 44Ca    | 45Sc     | 47Ti    |
|      |          | ppb     | ppb    | ppb      | ppb      | ppb     | ppb     | ppb      | ppb     |
| 1    | 17:59:58 | 1.521   | 12.790 | 0.000    | 10.900   | 10.420  | 9.496   | 107.652% | 0.061   |
| 2    | 18:00:06 | 2.161   | 9.077  | 0.000    | 9.764    | 10.700  | 7.819   | 103.730% | -0.031  |
| 3    | 18:00:14 | 4.247   | 8.014  | 0.000    | 8.352    | 5.137   | 8.350   | 103.834% | 0.017   |
| X    |          | 2.643   | 9.961  | 0.000    | 9.673    | 8.752   | 8.555   | 105.072% | 0.015   |
| σ    |          | 1.425   | 2.508  | 0.000    | 1.278    | 3.134   | 0.857   | 2.235%   | 0.046   |
| %RSD |          | 53.920  | 25.180 | 0.000    | 13.210   | 35.810  | 10.020  | 2.127    | 299.400 |
| Run  | Time     | 51V     | 52Cr   | 55Mn     | 56Fe     | 57Fe    | 59Co    | 60Ni     | 63Cu    |
|      |          | ppb     | ppb    | ppb      | ppb      | ppb     | ppb     | ppb      | ppb     |
| 1    | 17:59:58 | 0.010   | 0.031  | 0.332    | 15.720   | 14.610  | 0.029   | 0.002    | -0.035  |
| 2    | 18:00:06 | 0.006   | 0.032  | 0.311    | 17.380   | 19.850  | 0.019   | 0.008    | -0.032  |
| 3    | 18:00:14 | 0.037   | 0.028  | 0.283    | 19.480   | 20.360  | 0.041   | 0.044    | -0.033  |
| X    |          | 0.018   | 0.030  | 0.309    | 17.530   | 18.270  | 0.029   | 0.018    | -0.033  |
| σ    |          | 0.017   | 0.002  | 0.025    | 1.883    | 3.183   | 0.011   | 0.023    | 0.001   |
| %RSD |          | 93.820  | 7.359  | 7.959    | 10.740   | 17.420  | 36.830  | 126.300  | 4.047   |
| Run  | Time     | 65Cu    | 66Zn   | 68Zn     | 75As     | 78Se    | 82Se    | 83Kr     | 88Sr    |
|      |          | ppb     | ppb    | ppb      | ppb      | ppb     | ppb     | ppb      | ppb     |
| 1    | 17:59:58 | -0.007  | 0.091  | 0.056    | 0.031    | 0.035   | -0.498  | 0.000    | 0.028   |
| 2    | 18:00:06 | 0.004   | 0.188  | 0.157    | 0.029    | 0.206   | -0.136  | 0.000    | 0.020   |
| 3    | 18:00:14 | 0.012   | 0.130  | 0.091    | 0.039    | 0.078   | -0.210  | 0.000    | 0.014   |
| X    |          | 0.003   | 0.136  | 0.102    | 0.033    | 0.106   | -0.281  | 0.000    | 0.021   |
| σ    |          | 0.009   | 0.049  | 0.051    | 0.005    | 0.089   | 0.191   | 0.000    | 0.007   |
| %RSD |          | 305.400 | 35.660 | 50.240   | 16.050   | 83.420  | 68.060  | 0.000    | 32.940  |
| Run  | Time     | 89Y     | 95Mo   | 98Mo     | 103Rh    | 107Ag   | 109Ag   | 111Cd    | 114Cd   |
|      |          | ppb     | ppb    | ppb      | ppb      | ppb     | ppb     | ppb      | ppb     |
| 1    | 17:59:58 | 92.282% | 0.495  | 0.441    | 86.292%  | -0.003  | 0.003   | -0.004   | -0.009  |
| 2    | 18:00:06 | 92.045% | 0.344  | 0.312    | 85.314%  | -0.001  | 0.010   | 0.022    | 0.019   |
| 3    | 18:00:14 | 92.809% | 0.334  | 0.256    | 86.089%  | 0.011   | 0.014   | 0.049    | 0.019   |
| X    |          | 92.379% | 0.391  | 0.336    | 85.899%  | 0.002   | 0.009   | 0.022    | 0.009   |
| σ    |          | 0.391%  | 0.090  | 0.095    | 0.516%   | 0.008   | 0.006   | 0.026    | 0.016   |
| %RSD |          | 0.423   | 23.050 | 28.120   | 0.601    | 375.300 | 59.240  | 118.300  | 169.600 |
| Run  | Time     | 115In   | 118Sn  | 121Sb    | 123Sb    | 135Ba   | 137Ba   | 159Tb    | 165Ho   |
|      |          | ppb     | ppb    | ppb      | ppb      | ppb     | ppb     | ppb      | ppb     |
| 1    | 17:59:58 | 86.961% | -0.333 | 0.006    | -0.138   | 0.052   | -0.009  | 88.780%  | 87.529% |
| 2    | 18:00:06 | 87.276% | -0.386 | -0.027   | -0.120   | 0.022   | 0.068   | 87.895%  | 88.021% |
| 3    | 18:00:14 | 86.718% | -0.424 | 0.097    | -0.120   | 0.082   | 0.105   | 90.266%  | 90.111% |
| X    |          | 86.985% | -0.381 | 0.026    | -0.126   | 0.052   | 0.055   | 88.980%  | 88.554% |
| σ    |          | 0.279%  | 0.046  | 0.064    | 0.010    | 0.030   | 0.058   | 1.198%   | 1.371%  |
| %RSD |          | 0.321   | 12.030 | 250.600  | 8.222    | 58.200  | 106.300 | 1.346    | 1.548   |
| Run  | Time     | 203Tl   | 205Tl  | 206Pb    | 207Pb    | 208Pb   | 209Bi   |          |         |
|      |          | ppb     | ppb    | ppb      | ppb      | ppb     | ppb     |          |         |
| 1    | 17:59:58 | 0.030   | 0.048  | -0.012   | -0.005   | 0.006   | 84.649% |          |         |
| 2    | 18:00:06 | 0.056   | 0.063  | -0.010   | -0.010   | 0.009   | 87.321% |          |         |
| 3    | 18:00:14 | 0.071   | 0.040  | 0.027    | 0.013    | 0.035   | 88.050% |          |         |
| X    |          | 0.052   | 0.050  | 0.002    | -0.001   | 0.016   | 86.673% |          |         |
| σ    |          | 0.021   | 0.012  | 0.022    | 0.012    | 0.016   | 1.791%  |          |         |
| %RSD |          | 40.010  | 23.850 | 1199.000 | 1145.000 | 98.310  | 2.066   |          |         |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li       | 9Be      | 10B      | 11B        | 13C        | 23Na      | 25Mg      | 26Mg      |
|------|----------|-----------|----------|----------|------------|------------|-----------|-----------|-----------|
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:05:04 | 93.899%   | 7.406    | 25.190   | 25.720     | 0.000      | 1803.000  | 23110.000 | 22930.000 |
| 2    | 18:05:12 | 93.384%   | 7.619    | 26.050   | 24.310     | 0.000      | 1872.000  | 22860.000 | 23470.000 |
| 3    | 18:05:20 | 99.772%   | 7.060    | 23.590   | 22.750     | 0.000      | 1819.000  | 23060.000 | 23440.000 |
| X    |          | 95.685%   | 7.362    | 24.940   | 24.260     | 0.000      | 1832.000  | 23010.000 | 23280.000 |
| σ    |          | 3.549%    | 0.282    | 1.249    | 1.484      | 0.000      | 36.200    | 132.100   | 300.900   |
| %RSD |          | 3.709     | 3.832    | 5.009    | 6.119      | 0.000      | 1.977     | 0.574     | 1.292     |
| Run  | Time     | 27Al      | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:05:04 | 78160.000 | 2536.000 | 0.000    | 8367.000   | 23850.000  | 24490.000 | 98.267%   | 1697.000  |
| 2    | 18:05:12 | 77770.000 | 2532.000 | 0.000    | 8225.000   | 23860.000  | 24960.000 | 97.156%   | 1767.000  |
| 3    | 18:05:20 | 76350.000 | 2479.000 | 0.000    | 8723.000   | 24770.000  | 25200.000 | 96.742%   | 1811.000  |
| X    |          | 77430.000 | 2516.000 | 0.000    | 8438.000   | 24160.000  | 24880.000 | 97.389%   | 1758.000  |
| σ    |          | 955.400   | 31.880   | 0.000    | 256.600    | 526.100    | 363.500   | 0.789%    | 57.110    |
| %RSD |          | 1.234     | 1.267    | 0.000    | 3.040      | 2.178      | 1.461     | 0.810     | 3.248     |
| Run  | Time     | 51V       | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:05:04 | 275.500   | 270.900  | 2179.000 | 159200.000 | 155900.000 | 117.100   | 223.400   | 438.900   |
| 2    | 18:05:12 | 275.000   | 275.100  | 2201.000 | 163800.000 | 161100.000 | 124.600   | 232.900   | 453.400   |
| 3    | 18:05:20 | 274.600   | 269.800  | 2214.000 | 164300.000 | 161900.000 | 119.800   | 226.600   | 450.800   |
| X    |          | 275.000   | 271.900  | 2198.000 | 162400.000 | 159600.000 | 120.500   | 227.600   | 447.700   |
| σ    |          | 0.487     | 2.793    | 17.760   | 2815.000   | 3232.000   | 3.777     | 4.843     | 7.717     |
| %RSD |          | 0.177     | 1.027    | 0.808    | 1.734      | 2.025      | 3.135     | 2.128     | 1.724     |
| Run  | Time     | 65Cu      | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:05:04 | 445.300   | 1372.000 | 1411.000 | 35.350     | 7.655      | 11.970    | 0.000     | 143.300   |
| 2    | 18:05:12 | 466.200   | 1384.000 | 1412.000 | 35.130     | 7.522      | 11.560    | 0.000     | 137.900   |
| 3    | 18:05:20 | 463.100   | 1387.000 | 1424.000 | 35.720     | 7.742      | 12.500    | 0.000     | 139.100   |
| X    |          | 458.200   | 1381.000 | 1416.000 | 35.400     | 7.640      | 12.010    | 0.000     | 140.100   |
| σ    |          | 11.260    | 8.324    | 7.515    | 0.299      | 0.111      | 0.471     | 0.000     | 2.823     |
| %RSD |          | 2.458     | 0.603    | 0.531    | 0.845      | 1.453      | 3.926     | 0.000     | 2.016     |
| Run  | Time     | 89Y       | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:05:04 | 0.000     | 11.480   | 12.210   | 65.060%    | 2.159      | 2.064     | 4.437     | 5.460     |
| 2    | 18:05:12 | 0.000     | 11.520   | 11.560   | 66.143%    | 2.174      | 2.008     | 4.460     | 5.592     |
| 3    | 18:05:20 | 0.000     | 11.580   | 11.820   | 66.494%    | 2.035      | 1.942     | 4.384     | 5.811     |
| X    |          | 0.000     | 11.530   | 11.860   | 65.899%    | 2.123      | 2.005     | 4.427     | 5.621     |
| σ    |          | 0.000     | 0.054    | 0.327    | 0.748%     | 0.076      | 0.061     | 0.039     | 0.177     |
| %RSD |          | 0.000     | 0.470    | 2.754    | 1.135      | 3.590      | 3.060     | 0.874     | 3.155     |
| Run  | Time     | 115In     | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:05:04 | 71.612%   | 54.770   | 4.060    | 4.519      | 650.900    | 635.300   | 91.892%   | 93.363%   |
| 2    | 18:05:12 | 72.032%   | 54.610   | 4.396    | 3.787      | 644.900    | 648.500   | 92.053%   | 95.510%   |
| 3    | 18:05:20 | 73.324%   | 53.930   | 4.195    | 3.942      | 639.600    | 634.800   | 93.961%   | 96.493%   |
| X    |          | 72.323%   | 54.440   | 4.217    | 4.083      | 645.100    | 639.500   | 92.635%   | 95.122%   |
| σ    |          | 0.892%    | 0.445    | 0.169    | 0.386      | 5.664      | 7.746     | 1.151%    | 1.601%    |
| %RSD |          | 1.234     | 0.817    | 4.012    | 9.448      | 0.878      | 1.211     | 1.242     | 1.683     |
| Run  | Time     | 203Tl     | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi     |           |           |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       |           |           |
| 1    | 18:05:04 | 1.682     | 1.713    | 444.300  | 406.000    | 429.200    | 64.554%   |           |           |
| 2    | 18:05:12 | 1.694     | 1.645    | 442.000  | 405.500    | 427.000    | 65.685%   |           |           |
| 3    | 18:05:20 | 1.539     | 1.629    | 444.800  | 411.400    | 431.600    | 66.140%   |           |           |
| X    |          | 1.638     | 1.662    | 443.700  | 407.700    | 429.300    | 65.460%   |           |           |
| σ    |          | 0.086     | 0.045    | 1.476    | 3.297      | 2.279      | 0.817%    |           |           |
| %RSD |          | 5.260     | 2.702    | 0.333    | 0.809      | 0.531      | 1.248     |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li       | 9Be      | 10B      | 11B        | 13C        | 23Na      | 25Mg      | 26Mg      |
|------|----------|-----------|----------|----------|------------|------------|-----------|-----------|-----------|
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:10:07 | 102.869%  | 3.844    | 42.700   | 41.750     | 0.000      | 1668.000  | 36490.000 | 37330.000 |
| 2    | 18:10:15 | 104.302%  | 3.816    | 40.790   | 39.820     | 0.000      | 1618.000  | 36350.000 | 36020.000 |
| 3    | 18:10:23 | 103.733%  | 3.808    | 41.840   | 38.750     | 0.000      | 1627.000  | 35870.000 | 35730.000 |
| X    |          | 103.635%  | 3.823    | 41.780   | 40.110     | 0.000      | 1637.000  | 36240.000 | 36360.000 |
| σ    |          | 0.722%    | 0.019    | 0.959    | 1.519      | 0.000      | 26.690    | 325.600   | 855.600   |
| %RSD |          | 0.696     | 0.497    | 2.295    | 3.787      | 0.000      | 1.630     | 0.898     | 2.353     |
| Run  | Time     | 27Al      | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:10:07 | 34190.000 | 3394.000 | 0.000    | 4567.000   | 50370.000  | 51300.000 | 95.220%   | 1479.000  |
| 2    | 18:10:15 | 34110.000 | 3208.000 | 0.000    | 4459.000   | 48160.000  | 52020.000 | 98.387%   | 1526.000  |
| 3    | 18:10:23 | 32530.000 | 3341.000 | 0.000    | 4462.000   | 48910.000  | 51360.000 | 99.025%   | 1517.000  |
| X    |          | 33610.000 | 3314.000 | 0.000    | 4496.000   | 49150.000  | 51560.000 | 97.544%   | 1507.000  |
| σ    |          | 935.000   | 95.760   | 0.000    | 61.180     | 1126.000   | 398.100   | 2.038%    | 24.890    |
| %RSD |          | 2.782     | 2.889    | 0.000    | 1.361      | 2.292      | 0.772     | 2.089     | 1.652     |
| Run  | Time     | 51V       | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:10:07 | 188.000   | 325.400  | 1860.000 | 114700.000 | 110900.000 | 151.900   | 387.700   | 1741.000  |
| 2    | 18:10:15 | 181.500   | 317.100  | 1962.000 | 113700.000 | 107900.000 | 144.800   | 383.800   | 1716.000  |
| 3    | 18:10:23 | 177.000   | 312.400  | 1924.000 | 116000.000 | 107800.000 | 141.800   | 370.900   | 1661.000  |
| X    |          | 182.200   | 318.300  | 1916.000 | 114800.000 | 108900.000 | 146.100   | 380.800   | 1706.000  |
| σ    |          | 5.547     | 6.550    | 51.520   | 1120.000   | 1779.000   | 5.205     | 8.753     | 41.020    |
| %RSD |          | 3.045     | 2.058    | 2.690    | 0.976      | 1.634      | 3.561     | 2.299     | 2.405     |
| Run  | Time     | 65Cu      | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:10:07 | 1687.000  | 3466.000 | 3498.000 | 38.870     | 6.072      | 7.265     | 0.000     | 260.600   |
| 2    | 18:10:15 | 1679.000  | 3409.000 | 3443.000 | 37.890     | 5.656      | 4.572     | 0.000     | 260.500   |
| 3    | 18:10:23 | 1625.000  | 3393.000 | 3364.000 | 38.410     | 6.343      | 8.436     | 0.000     | 256.500   |
| X    |          | 1664.000  | 3423.000 | 3435.000 | 38.390     | 6.024      | 6.758     | 0.000     | 259.200   |
| σ    |          | 34.040    | 38.420   | 67.310   | 0.488      | 0.346      | 1.981     | 0.000     | 2.312     |
| %RSD |          | 2.046     | 1.122    | 1.960    | 1.271      | 5.743      | 29.320    | 0.000     | 0.892     |
| Run  | Time     | 89Y       | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:10:07 | 0.000     | 13.720   | 13.340   | 66.521%    | 146.000    | 142.400   | 10.000    | 14.650    |
| 2    | 18:10:15 | 0.000     | 13.600   | 12.840   | 65.777%    | 149.000    | 146.700   | 9.677     | 14.220    |
| 3    | 18:10:23 | 0.000     | 13.400   | 13.580   | 66.299%    | 144.900    | 144.400   | 10.040    | 13.790    |
| X    |          | 0.000     | 13.570   | 13.250   | 66.199%    | 146.600    | 144.500   | 9.905     | 14.220    |
| σ    |          | 0.000     | 0.165    | 0.379    | 0.382%     | 2.129      | 2.164     | 0.199     | 0.428     |
| %RSD |          | 0.000     | 1.217    | 2.861    | 0.577      | 1.452      | 1.497     | 2.004     | 3.008     |
| Run  | Time     | 115In     | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:10:07 | 72.014%   | 208.000  | 16.480   | 15.980     | 1646.000   | 1608.000  | 85.293%   | 87.086%   |
| 2    | 18:10:15 | 72.617%   | 202.600  | 16.310   | 16.120     | 1625.000   | 1620.000  | 85.628%   | 88.456%   |
| 3    | 18:10:23 | 72.644%   | 209.000  | 17.410   | 15.880     | 1610.000   | 1654.000  | 86.441%   | 88.250%   |
| X    |          | 72.425%   | 206.500  | 16.730   | 15.990     | 1627.000   | 1627.000  | 85.787%   | 87.930%   |
| σ    |          | 0.356%    | 3.454    | 0.592    | 0.121      | 17.840     | 23.540    | 0.590%    | 0.739%    |
| %RSD |          | 0.492     | 1.672    | 3.538    | 0.758      | 1.097      | 1.446     | 0.688     | 0.840     |
| Run  | Time     | 203Tl     | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi     |           |           |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       |           |           |
| 1    | 18:10:07 | 1.682     | 1.825    | 4234.000 | 3931.000   | 4076.000   | 70.915%   |           |           |
| 2    | 18:10:15 | 1.745     | 1.754    | 4225.000 | 4594.000   | 4238.000   | 71.964%   |           |           |
| 3    | 18:10:23 | 1.929     | 1.749    | 4258.000 | 4571.000   | 4211.000   | 72.647%   |           |           |
| X    |          | 1.786     | 1.776    | 4239.000 | 4366.000   | 4175.000   | 71.842%   |           |           |
| σ    |          | 0.129     | 0.043    | 17.240   | 376.600    | 86.550     | 0.872%    |           |           |
| %RSD |          | 7.197     | 2.400    | 0.407    | 8.626      | 2.073      | 1.214     |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li       | 9Be      | 10B      | 11B        | 13C        | 23Na       | 25Mg     | 26Mg     |
|------|----------|-----------|----------|----------|------------|------------|------------|----------|----------|
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb        | ppb      | ppb      |
| 1    | 18:15:09 | 75.657%   | 1.503    | 24.410   | 23.810     | 0.000      | 10470.000  | 3902.000 | 3856.000 |
| 2    | 18:15:16 | 75.028%   | 1.546    | 25.610   | 23.650     | 0.000      | 11190.000  | 4089.000 | 4022.000 |
| 3    | 18:15:24 | 75.227%   | 1.517    | 24.400   | 23.710     | 0.000      | 11480.000  | 4211.000 | 4138.000 |
| X    |          | 75.304%   | 1.522    | 24.810   | 23.720     | 0.000      | 11050.000  | 4067.000 | 4005.000 |
| σ    |          | 0.322%    | 0.022    | 0.693    | 0.078      | 0.000      | 523.000    | 156.000  | 141.600  |
| %RSD |          | 0.427     | 1.464    | 2.795    | 0.328      | 0.000      | 4.734      | 3.835    | 3.537    |
| Run  | Time     | 27Al      | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca       | 45Sc     | 47Ti     |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb        | ppb      | ppb      |
| 1    | 18:15:09 | 9441.000  | 2407.000 | 0.000    | 1822.000   | 591100.000 | 574000.000 | 68.757%  | 531.600  |
| 2    | 18:15:16 | 10020.000 | 2378.000 | 0.000    | 1815.000   | 615500.000 | 583000.000 | 65.358%  | 546.300  |
| 3    | 18:15:24 | 10280.000 | 2477.000 | 0.000    | 1891.000   | 640000.000 | 611000.000 | 64.379%  | 553.100  |
| X    |          | 9915.000  | 2421.000 | 0.000    | 1843.000   | 615500.000 | 589300.000 | 66.165%  | 543.700  |
| σ    |          | 431.100   | 50.820   | 0.000    | 42.130     | 24480.000  | 19300.000  | 2.298%   | 11.000   |
| %RSD |          | 4.348     | 2.099    | 0.000    | 2.286      | 3.977      | 3.274      | 3.473    | 2.022    |
| Run  | Time     | 51V       | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co       | 60Ni     | 63Cu     |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb        | ppb      | ppb      |
| 1    | 18:15:09 | 255.100   | 1505.000 | 1187.000 | 185900.000 | 183200.000 | 23.410     | 57.050   | 117.800  |
| 2    | 18:15:16 | 270.600   | 1564.000 | 1288.000 | 191100.000 | 190900.000 | 25.300     | 60.990   | 124.100  |
| 3    | 18:15:24 | 276.500   | 1602.000 | 1262.000 | 196400.000 | 189200.000 | 25.620     | 62.580   | 126.000  |
| X    |          | 267.400   | 1557.000 | 1246.000 | 191100.000 | 187800.000 | 24.780     | 60.210   | 122.600  |
| σ    |          | 11.050    | 48.680   | 52.360   | 5235.000   | 4019.000   | 1.196      | 2.851    | 4.281    |
| %RSD |          | 4.133     | 3.127    | 4.203    | 2.739      | 2.140      | 4.829      | 4.736    | 3.491    |
| Run  | Time     | 65Cu      | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se       | 83Kr     | 88Sr     |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb        | ppb      | ppb      |
| 1    | 18:15:09 | 120.400   | 4118.000 | 4106.000 | 72.910     | 1.704      | -0.581     | 0.000    | 1666.000 |
| 2    | 18:15:16 | 126.800   | 4269.000 | 4241.000 | 72.780     | 1.987      | 0.092      | 0.000    | 1649.000 |
| 3    | 18:15:24 | 126.800   | 4311.000 | 4222.000 | 73.960     | 2.014      | 0.544      | 0.000    | 1668.000 |
| X    |          | 124.700   | 4233.000 | 4190.000 | 73.220     | 1.902      | 0.018      | 0.000    | 1661.000 |
| σ    |          | 3.675     | 101.600  | 73.090   | 0.646      | 0.172      | 0.566      | 0.000    | 10.430   |
| %RSD |          | 2.948     | 2.401    | 1.744    | 0.883      | 9.034      | 3091.000   | 0.000    | 0.628    |
| Run  | Time     | 89Y       | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag      | 111Cd    | 114Cd    |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb        | ppb      | ppb      |
| 1    | 18:15:09 | 76.057%   | 8.687    | 9.454    | 48.039%    | 1.001      | 0.977      | 25.010   | 41.480   |
| 2    | 18:15:16 | 78.389%   | 9.062    | 10.120   | 48.458%    | 1.042      | 1.272      | 25.550   | 41.120   |
| 3    | 18:15:24 | 78.865%   | 8.982    | 9.884    | 48.601%    | 1.154      | 1.025      | 27.540   | 41.490   |
| X    |          | 77.770%   | 8.910    | 9.818    | 48.366%    | 1.066      | 1.091      | 26.030   | 41.360   |
| σ    |          | 1.503%    | 0.197    | 0.335    | 0.292%     | 0.079      | 0.158      | 1.332    | 0.213    |
| %RSD |          | 1.933     | 2.213    | 3.416    | 0.604      | 7.442      | 14.520     | 5.115    | 0.514    |
| Run  | Time     | 115In     | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba      | 159Tb    | 165Ho    |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb        | ppb      | ppb      |
| 1    | 18:15:09 | 55.139%   | 702.000  | 4.213    | 3.865      | 86.510     | 86.570     | 66.869%  | 68.382%  |
| 2    | 18:15:16 | 55.830%   | 710.900  | 4.513    | 3.647      | 95.110     | 88.320     | 68.030%  | 69.204%  |
| 3    | 18:15:24 | 56.061%   | 720.900  | 3.948    | 3.435      | 86.220     | 89.960     | 68.800%  | 69.932%  |
| X    |          | 55.676%   | 711.300  | 4.225    | 3.649      | 89.280     | 88.280     | 67.900%  | 69.173%  |
| σ    |          | 0.480%    | 9.450    | 0.283    | 0.215      | 5.051      | 1.699      | 0.972%   | 0.775%   |
| %RSD |          | 0.862     | 1.329    | 6.688    | 5.894      | 5.657      | 1.925      | 1.432    | 1.121    |
| Run  | Time     | 203Tl     | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi      |          |          |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb        |          |          |
| 1    | 18:15:09 | 0.478     | 0.448    | 223.400  | 203.400    | 214.800    | 48.440%    |          |          |
| 2    | 18:15:16 | 0.500     | 0.506    | 222.700  | 208.800    | 216.200    | 49.338%    |          |          |
| 3    | 18:15:24 | 0.436     | 0.438    | 223.200  | 204.900    | 214.500    | 50.237%    |          |          |
| X    |          | 0.471     | 0.464    | 223.100  | 205.700    | 215.100    | 49.339%    |          |          |
| σ    |          | 0.033     | 0.037    | 0.351    | 2.785      | 0.926      | 0.898%     |          |          |
| %RSD |          | 6.984     | 7.934    | 0.157    | 1.354      | 0.430      | 1.821      |          |          |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li       | 9Be       | 10B       | 11B        | 13C        | 23Na       | 25Mg      | 26Mg      |
|------|----------|-----------|-----------|-----------|------------|------------|------------|-----------|-----------|
|      |          | ppb       | ppb       | ppb       | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 18:20:11 | 66.271%   | 1.515     | 51.920    | 50.710     | 0.000      | 26990.000  | 21240.000 | 21640.000 |
| 2    | 18:20:19 | 64.784%   | 1.539     | 52.090    | 49.000     | 0.000      | 27710.000  | 22300.000 | 22130.000 |
| 3    | 18:20:27 | 66.798%   | 1.440     | 49.110    | 47.790     | 0.000      | 26880.000  | 21690.000 | 21920.000 |
| X    |          | 65.951%   | 1.498     | 51.040    | 49.170     | 0.000      | 27190.000  | 21740.000 | 21900.000 |
| σ    |          | 1.044%    | 0.052     | 1.672     | 1.469      | 0.000      | 453.200    | 529.900   | 249.000   |
| %RSD |          | 1.584     | 3.457     | 3.275     | 2.989      | 0.000      | 1.667      | 2.437     | 1.137     |
| Run  | Time     | 27Al      | 28Si      | 37Cl      | 39K        | 43Ca       | 44Ca       | 45Sc      | 47Ti      |
|      |          | ppb       | ppb       | ppb       | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 18:20:11 | 21940.000 | 11470.000 | 0.000     | 3474.000   | 154100.000 | 157900.000 | 62.428%   | 844.200   |
| 2    | 18:20:19 | 22190.000 | 11770.000 | 0.000     | 3597.000   | 156000.000 | 161700.000 | 61.563%   | 839.600   |
| 3    | 18:20:27 | 22080.000 | 11180.000 | 0.000     | 3524.000   | 156400.000 | 159600.000 | 61.432%   | 824.900   |
| X    |          | 22070.000 | 11470.000 | 0.000     | 3532.000   | 155500.000 | 159700.000 | 61.807%   | 836.200   |
| σ    |          | 121.800   | 291.700   | 0.000     | 61.990     | 1233.000   | 1945.000   | 0.541%    | 10.100    |
| %RSD |          | 0.552     | 2.542     | 0.000     | 1.755      | 0.793      | 1.218      | 0.876     | 1.207     |
| Run  | Time     | 51V       | 52Cr      | 55Mn      | 56Fe       | 57Fe       | 59Co       | 60Ni      | 63Cu      |
|      |          | ppb       | ppb       | ppb       | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 18:20:11 | 44.080    | 12240.000 | 7223.000  | 889300.000 | 878700.000 | 64.480     | 588.700   | 980.800   |
| 2    | 18:20:19 | 109.200   | 12640.000 | 7535.000  | 909700.000 | 895300.000 | 64.250     | 592.200   | 984.200   |
| 3    | 18:20:27 | 128.300   | 12910.000 | 7531.000  | 913400.000 | 908900.000 | 64.520     | 600.200   | 992.300   |
| X    |          | 93.870    | 12600.000 | 7430.000  | 904100.000 | 894300.000 | 64.420     | 593.700   | 985.800   |
| σ    |          | 44.170    | 338.700   | 178.700   | 12970.000  | 15140.000  | 0.148      | 5.875     | 5.918     |
| %RSD |          | 47.050    | 2.689     | 2.405     | 1.435      | 1.693      | 0.229      | 0.990     | 0.600     |
| Run  | Time     | 65Cu      | 66Zn      | 68Zn      | 75As       | 78Se       | 82Se       | 83Kr      | 88Sr      |
|      |          | ppb       | ppb       | ppb       | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 18:20:11 | 953.100   | 16640.000 | 16480.000 | 85.420     | 4.619      | 5.810      | 0.000     | 331.700   |
| 2    | 18:20:19 | 980.500   | 17120.000 | 16850.000 | 84.790     | 5.260      | 7.163      | 0.000     | 329.200   |
| 3    | 18:20:27 | 969.800   | 17120.000 | 16920.000 | 87.600     | 5.137      | 6.661      | 0.000     | 337.600   |
| X    |          | 967.800   | 16960.000 | 16750.000 | 85.940     | 5.005      | 6.545      | 0.000     | 332.800   |
| σ    |          | 13.800    | 273.900   | 233.800   | 1.477      | 0.341      | 0.684      | 0.000     | 4.330     |
| %RSD |          | 1.426     | 1.615     | 1.396     | 1.718      | 6.802      | 10.450     | 0.000     | 1.301     |
| Run  | Time     | 89Y       | 95Mo      | 98Mo      | 103Rh      | 107Ag      | 109Ag      | 111Cd     | 114Cd     |
|      |          | ppb       | ppb       | ppb       | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 18:20:11 | 71.745%   | 80.840    | 88.440    | 44.070%    | 11.770     | 11.630     | 78.550    | 160.800   |
| 2    | 18:20:19 | 72.658%   | 81.560    | 89.530    | 44.934%    | 11.450     | 11.250     | 77.690    | 162.300   |
| 3    | 18:20:27 | 71.730%   | 83.580    | 89.160    | 44.889%    | 11.800     | 11.390     | 77.610    | 163.200   |
| X    |          | 72.044%   | 81.990    | 89.040    | 44.631%    | 11.670     | 11.420     | 77.950    | 162.100   |
| σ    |          | 0.532%    | 1.423     | 0.552     | 0.486%     | 0.197      | 0.192      | 0.520     | 1.168     |
| %RSD |          | 0.738     | 1.735     | 0.620     | 1.089      | 1.684      | 1.684      | 0.667     | 0.720     |
| Run  | Time     | 115In     | 118Sn     | 121Sb     | 123Sb      | 135Ba      | 137Ba      | 159Tb     | 165Ho     |
|      |          | ppb       | ppb       | ppb       | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 18:20:11 | 52.003%   | 4038.000  | 27.510    | 25.810     | 239.700    | 240.300    | 60.761%   | 61.809%   |
| 2    | 18:20:19 | 53.558%   | 3979.000  | 25.370    | 25.330     | 233.300    | 238.400    | 60.768%   | 62.376%   |
| 3    | 18:20:27 | 52.831%   | 4061.000  | 28.330    | 26.780     | 241.800    | 244.400    | 61.891%   | 62.078%   |
| X    |          | 52.798%   | 4026.000  | 27.070    | 25.970     | 238.300    | 241.000    | 61.140%   | 62.088%   |
| σ    |          | 0.778%    | 42.460    | 1.526     | 0.736      | 4.434      | 3.052      | 0.650%    | 0.284%    |
| %RSD |          | 1.473     | 1.055     | 5.637     | 2.832      | 1.861      | 1.266      | 1.064     | 0.457     |
| Run  | Time     | 203Tl     | 205Tl     | 206Pb     | 207Pb      | 208Pb      | 209Bi      |           |           |
|      |          | ppb       | ppb       | ppb       | ppb        | ppb        | ppb        |           |           |
| 1    | 18:20:11 | 1.285     | 1.339     | 1140.000  | 1041.000   | 1105.000   | 45.200%    |           |           |
| 2    | 18:20:19 | 1.344     | 1.367     | 1145.000  | 1039.000   | 1099.000   | 45.612%    |           |           |
| 3    | 18:20:27 | 1.306     | 1.389     | 1139.000  | 1033.000   | 1097.000   | 45.809%    |           |           |
| X    |          | 1.312     | 1.365     | 1141.000  | 1038.000   | 1100.000   | 45.541%    |           |           |
| σ    |          | 0.030     | 0.025     | 3.459     | 3.835      | 4.211      | 0.311%     |           |           |
| %RSD |          | 2.282     | 1.839     | 0.303     | 0.370      | 0.383      | 0.682      |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li        | 9Be      | 10B      | 11B        | 13C        | 23Na      | 25Mg      | 26Mg      |
|------|----------|------------|----------|----------|------------|------------|-----------|-----------|-----------|
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:25:16 | 62.571%    | 9.565    | 370.600  | 361.700    | 0.000      | 91950.000 | 94570.000 | 95410.000 |
| 2    | 18:25:24 | 61.314%    | 9.672    | 380.400  | 364.400    | 0.000      | 94840.000 | 98750.000 | 95610.000 |
| 3    | 18:25:31 | 62.613%    | 9.418    | 375.500  | 358.800    | 0.000      | 96480.000 | 97540.000 | 96800.000 |
| X    |          | 62.166%    | 9.552    | 375.500  | 361.700    | 0.000      | 94430.000 | 96960.000 | 95940.000 |
| σ    |          | 0.738%     | 0.127    | 4.896    | 2.822      | 0.000      | 2292.000  | 2153.000  | 752.000   |
| %RSD |          | 1.188      | 1.332    | 1.304    | 0.780      | 0.000      | 2.428     | 2.220     | 0.784     |
| Run  | Time     | 27Al       | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:25:16 | 177700.000 | 2542.000 | 0.000    | 46320.000  | 59520.000  | 60540.000 | 76.802%   | 9855.000  |
| 2    | 18:25:24 | 181100.000 | 2542.000 | 0.000    | 46000.000  | 59270.000  | 61730.000 | 75.351%   | 9996.000  |
| 3    | 18:25:31 | 181400.000 | 2535.000 | 0.000    | 47780.000  | 61840.000  | 62060.000 | 74.835%   | 9948.000  |
| X    |          | 180100.000 | 2540.000 | 0.000    | 46700.000  | 60210.000  | 61440.000 | 75.663%   | 9933.000  |
| σ    |          | 2055.000   | 3.645    | 0.000    | 950.700    | 1418.000   | 801.000   | 1.020%    | 71.690    |
| %RSD |          | 1.141      | 0.143    | 0.000    | 2.036      | 2.356      | 1.304     | 1.348     | 0.722     |
| Run  | Time     | 51V        | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:25:16 | 601.700    | 673.500  | 3418.000 | 338400.000 | 332500.000 | 100.400   | 281.900   | 385.600   |
| 2    | 18:25:24 | 619.700    | 696.700  | 3469.000 | 345200.000 | 345000.000 | 98.970    | 287.400   | 390.300   |
| 3    | 18:25:31 | 600.200    | 686.400  | 3549.000 | 352800.000 | 345300.000 | 100.600   | 285.500   | 390.100   |
| X    |          | 607.200    | 685.500  | 3479.000 | 345500.000 | 340900.000 | 99.980    | 284.900   | 388.700   |
| σ    |          | 10.840     | 11.590   | 65.910   | 7246.000   | 7293.000   | 0.876     | 2.812     | 2.692     |
| %RSD |          | 1.785      | 1.691    | 1.895    | 2.097      | 2.139      | 0.876     | 0.987     | 0.693     |
| Run  | Time     | 65Cu       | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:25:16 | 394.700    | 1332.000 | 1354.000 | 171.400    | 12.590     | 26.340    | 0.000     | 592.500   |
| 2    | 18:25:24 | 397.900    | 1342.000 | 1367.000 | 170.600    | 11.120     | 26.830    | 0.000     | 581.800   |
| 3    | 18:25:31 | 395.500    | 1334.000 | 1368.000 | 170.900    | 12.000     | 27.410    | 0.000     | 586.300   |
| X    |          | 396.000    | 1336.000 | 1363.000 | 171.000    | 11.900     | 26.860    | 0.000     | 586.900   |
| σ    |          | 1.661      | 5.655    | 7.571    | 0.426      | 0.743      | 0.534     | 0.000     | 5.357     |
| %RSD |          | 0.419      | 0.423    | 0.555    | 0.250      | 6.239      | 1.990     | 0.000     | 0.913     |
| Run  | Time     | 89Y        | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:25:16 | 0.000      | 26.690   | 27.520   | 43.679%    | 8.416      | 8.310     | 5.603     | 7.095     |
| 2    | 18:25:24 | 0.000      | 27.060   | 28.840   | 44.552%    | 8.324      | 8.057     | 5.658     | 7.372     |
| 3    | 18:25:31 | 0.000      | 27.940   | 28.470   | 44.965%    | 7.759      | 8.037     | 5.860     | 7.671     |
| X    |          | 0.000      | 27.230   | 28.280   | 44.399%    | 8.166      | 8.135     | 5.707     | 7.379     |
| σ    |          | 0.000      | 0.642    | 0.683    | 0.657%     | 0.356      | 0.152     | 0.135     | 0.288     |
| %RSD |          | 0.000      | 2.358    | 2.414    | 1.479      | 4.354      | 1.871     | 2.373     | 3.902     |
| Run  | Time     | 115In      | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:25:16 | 50.403%    | 87.780   | 1.299    | 1.337      | 505.100    | 511.400   | 69.147%   | 69.270%   |
| 2    | 18:25:24 | 51.064%    | 85.270   | 1.769    | 1.505      | 514.400    | 509.600   | 70.922%   | 71.282%   |
| 3    | 18:25:31 | 51.558%    | 86.580   | 1.581    | 1.501      | 501.800    | 513.600   | 71.969%   | 72.389%   |
| X    |          | 51.008%    | 86.540   | 1.550    | 1.448      | 507.100    | 511.500   | 70.679%   | 70.981%   |
| σ    |          | 0.580%     | 1.254    | 0.237    | 0.096      | 6.515      | 1.973     | 1.427%    | 1.581%    |
| %RSD |          | 1.136      | 1.450    | 15.290   | 6.610      | 1.285      | 0.386     | 2.018     | 2.228     |
| Run  | Time     | 203Tl      | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi     |           |           |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       |           |           |
| 1    | 18:25:16 | 3.329      | 3.329    | 640.900  | 584.100    | 621.300    | 42.124%   |           |           |
| 2    | 18:25:24 | 3.528      | 3.324    | 646.800  | 582.900    | 623.300    | 43.403%   |           |           |
| 3    | 18:25:31 | 3.414      | 3.432    | 643.900  | 585.100    | 621.100    | 44.104%   |           |           |
| X    |          | 3.424      | 3.362    | 643.900  | 584.000    | 621.900    | 43.210%   |           |           |
| σ    |          | 0.100      | 0.061    | 2.980    | 1.093      | 1.205      | 1.004%    |           |           |
| %RSD |          | 2.925      | 1.815    | 0.463    | 0.187      | 0.194      | 2.323     |           |           |



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User Pre-dilution: 1.000

| Run  | Time     | 6Li        | 9Be      | 10B      | 11B        | 13C        | 23Na      | 25Mg      | 26Mg      |
|------|----------|------------|----------|----------|------------|------------|-----------|-----------|-----------|
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:30:18 | 67.702%    | 8.446    | 347.000  | 334.400    | 0.000      | 85040.000 | 88360.000 | 87250.000 |
| 2    | 18:30:26 | 74.208%    | 7.721    | 317.600  | 303.800    | 0.000      | 84640.000 | 86460.000 | 88160.000 |
| 3    | 18:30:34 | 65.500%    | 8.855    | 347.600  | 349.200    | 0.000      | 91330.000 | 89750.000 | 90700.000 |
| X    |          | 69.137%    | 8.341    | 337.400  | 329.100    | 0.000      | 87000.000 | 88190.000 | 88700.000 |
| σ    |          | 4.528%     | 0.575    | 17.130   | 23.160     | 0.000      | 3750.000  | 1655.000  | 1783.000  |
| %RSD |          | 6.549      | 6.888    | 5.076    | 7.037      | 0.000      | 4.311     | 1.877     | 2.010     |
| Run  | Time     | 27Al       | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:30:18 | 168700.000 | 1796.000 | 0.000    | 43680.000  | 49200.000  | 50560.000 | 84.410%   | 8745.000  |
| 2    | 18:30:26 | 165300.000 | 1756.000 | 0.000    | 45290.000  | 52320.000  | 54050.000 | 78.958%   | 9290.000  |
| 3    | 18:30:34 | 173900.000 | 1827.000 | 0.000    | 43800.000  | 49050.000  | 52620.000 | 82.487%   | 9000.000  |
| X    |          | 169300.000 | 1793.000 | 0.000    | 44260.000  | 50190.000  | 52410.000 | 81.951%   | 9012.000  |
| σ    |          | 4351.000   | 35.850   | 0.000    | 896.700    | 1844.000   | 1754.000  | 2.765%    | 272.400   |
| %RSD |          | 2.570      | 1.999    | 0.000    | 2.026      | 3.675      | 3.346     | 3.374     | 3.022     |
| Run  | Time     | 51V        | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:30:18 | 552.500    | 614.700  | 3214.000 | 318300.000 | 313000.000 | 92.670    | 265.500   | 364.100   |
| 2    | 18:30:26 | 585.100    | 651.700  | 3479.000 | 327600.000 | 330000.000 | 96.310    | 272.000   | 379.200   |
| 3    | 18:30:34 | 566.200    | 637.100  | 3397.000 | 328300.000 | 328500.000 | 93.190    | 268.300   | 366.900   |
| X    |          | 567.900    | 634.500  | 3363.000 | 324700.000 | 323800.000 | 94.060    | 268.600   | 370.100   |
| σ    |          | 16.400     | 18.640   | 135.500  | 5609.000   | 9406.000   | 1.970     | 3.256     | 8.020     |
| %RSD |          | 2.888      | 2.938    | 4.030    | 1.727      | 2.905      | 2.095     | 1.212     | 2.167     |
| Run  | Time     | 65Cu       | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:30:18 | 378.300    | 1283.000 | 1304.000 | 155.400    | 9.782      | 20.150    | 0.000     | 584.800   |
| 2    | 18:30:26 | 390.100    | 1331.000 | 1331.000 | 160.400    | 10.700     | 23.060    | 0.000     | 605.500   |
| 3    | 18:30:34 | 383.000    | 1296.000 | 1322.000 | 158.400    | 11.520     | 23.930    | 0.000     | 603.800   |
| X    |          | 383.800    | 1303.000 | 1319.000 | 158.100    | 10.670     | 22.380    | 0.000     | 598.100   |
| σ    |          | 5.935      | 25.000   | 13.690   | 2.512      | 0.870      | 1.981     | 0.000     | 11.500    |
| %RSD |          | 1.546      | 1.919    | 1.038    | 1.589      | 8.155      | 8.854     | 0.000     | 1.923     |
| Run  | Time     | 89Y        | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:30:18 | 0.000      | 28.580   | 28.210   | 46.604%    | 7.616      | 7.803     | 6.374     | 7.174     |
| 2    | 18:30:26 | 0.000      | 27.790   | 29.350   | 47.013%    | 7.983      | 7.523     | 5.960     | 7.462     |
| 3    | 18:30:34 | 0.000      | 28.890   | 29.110   | 46.673%    | 8.299      | 7.586     | 6.018     | 7.594     |
| X    |          | 0.000      | 28.420   | 28.890   | 46.763%    | 7.966      | 7.637     | 6.117     | 7.410     |
| σ    |          | 0.000      | 0.567    | 0.605    | 0.219%     | 0.342      | 0.147     | 0.224     | 0.214     |
| %RSD |          | 0.000      | 1.995    | 2.093    | 0.468      | 4.290      | 1.922     | 3.668     | 2.894     |
| Run  | Time     | 115In      | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:30:18 | 53.712%    | 76.980   | 1.191    | 1.198      | 500.700    | 494.100   | 73.110%   | 73.091%   |
| 2    | 18:30:26 | 54.561%    | 78.300   | 1.182    | 0.901      | 506.600    | 496.800   | 73.486%   | 75.216%   |
| 3    | 18:30:34 | 54.266%    | 77.770   | 1.037    | 1.100      | 502.900    | 499.100   | 73.703%   | 74.979%   |
| X    |          | 54.180%    | 77.680   | 1.137    | 1.066      | 503.400    | 496.700   | 73.433%   | 74.429%   |
| σ    |          | 0.431%     | 0.666    | 0.086    | 0.152      | 2.967      | 2.509     | 0.300%    | 1.165%    |
| %RSD |          | 0.796      | 0.857    | 7.606    | 14.210     | 0.589      | 0.505     | 0.409     | 1.565     |
| Run  | Time     | 203Tl      | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi     |           |           |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       |           |           |
| 1    | 18:30:18 | 3.419      | 3.406    | 626.300  | 572.300    | 604.400    | 45.754%   |           |           |
| 2    | 18:30:26 | 3.408      | 3.393    | 632.100  | 573.400    | 608.100    | 46.400%   |           |           |
| 3    | 18:30:34 | 3.450      | 3.303    | 621.000  | 568.300    | 602.200    | 47.064%   |           |           |
| X    |          | 3.426      | 3.368    | 626.400  | 571.300    | 604.900    | 46.406%   |           |           |
| σ    |          | 0.022      | 0.056    | 5.554    | 2.716      | 2.996      | 0.655%    |           |           |
| %RSD |          | 0.646      | 1.661    | 0.886    | 0.475      | 0.495      | 1.412     |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li        | 9Be      | 10B      | 11B        | 13C        | 23Na       | 25Mg      | 26Mg      |
|------|----------|------------|----------|----------|------------|------------|------------|-----------|-----------|
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 18:35:25 | 67.458%    | 7.249    | 373.100  | 367.100    | 0.000      | 126700.000 | 83860.000 | 84530.000 |
| 2    | 18:35:33 | 68.175%    | 7.241    | 357.000  | 350.000    | 0.000      | 134200.000 | 85780.000 | 87060.000 |
| 3    | 18:35:40 | 67.583%    | 7.260    | 360.400  | 336.400    | 0.000      | 134900.000 | 86240.000 | 86270.000 |
| X    |          | 67.739%    | 7.250    | 363.500  | 351.100    | 0.000      | 131900.000 | 85290.000 | 85960.000 |
| σ    |          | 0.383%     | 0.009    | 8.455    | 15.360     | 0.000      | 4544.000   | 1262.000  | 1292.000  |
| %RSD |          | 0.565      | 0.128    | 2.326    | 4.373      | 0.000      | 3.445      | 1.480     | 1.503     |
| Run  | Time     | 27Al       | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca       | 45Sc      | 47Ti      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 18:35:25 | 143500.000 | 2203.000 | 0.000    | 43190.000  | 48980.000  | 50420.000  | 79.550%   | 8112.000  |
| 2    | 18:35:33 | 149100.000 | 2214.000 | 0.000    | 42850.000  | 49350.000  | 52210.000  | 77.348%   | 8183.000  |
| 3    | 18:35:40 | 145400.000 | 2156.000 | 0.000    | 42040.000  | 48750.000  | 51220.000  | 76.819%   | 8256.000  |
| X    |          | 146000.000 | 2191.000 | 0.000    | 42690.000  | 49030.000  | 51280.000  | 77.906%   | 8184.000  |
| σ    |          | 2859.000   | 30.760   | 0.000    | 590.400    | 304.200    | 897.800    | 1.449%    | 71.740    |
| %RSD |          | 1.958      | 1.404    | 0.000    | 1.383      | 0.621      | 1.751      | 1.860     | 0.877     |
| Run  | Time     | 51V        | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co       | 60Ni      | 63Cu      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 18:35:25 | 446.300    | 505.300  | 2602.000 | 274500.000 | 271500.000 | 77.310     | 222.100   | 293.300   |
| 2    | 18:35:33 | 451.500    | 505.400  | 2744.000 | 279600.000 | 279400.000 | 79.440     | 229.200   | 304.500   |
| 3    | 18:35:40 | 450.400    | 509.000  | 2667.000 | 277900.000 | 278600.000 | 81.900     | 229.100   | 309.200   |
| X    |          | 449.400    | 506.600  | 2671.000 | 277300.000 | 276500.000 | 79.550     | 226.800   | 302.300   |
| σ    |          | 2.755      | 2.110    | 70.860   | 2581.000   | 4388.000   | 2.296      | 4.074     | 8.144     |
| %RSD |          | 0.613      | 0.417    | 2.653    | 0.931      | 1.587      | 2.887      | 1.796     | 2.694     |
| Run  | Time     | 65Cu       | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se       | 83Kr      | 88Sr      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 18:35:25 | 306.900    | 1011.000 | 1035.000 | 119.500    | 9.558      | 28.530     | 0.000     | 485.000   |
| 2    | 18:35:33 | 315.300    | 1034.000 | 1057.000 | 119.700    | 9.804      | 25.280     | 0.000     | 501.700   |
| 3    | 18:35:40 | 312.500    | 1041.000 | 1055.000 | 121.800    | 11.540     | 28.090     | 0.000     | 499.100   |
| X    |          | 311.600    | 1029.000 | 1049.000 | 120.300    | 10.300     | 27.300     | 0.000     | 495.300   |
| σ    |          | 4.255      | 15.680   | 12.440   | 1.286      | 1.078      | 1.763      | 0.000     | 8.959     |
| %RSD |          | 1.366      | 1.523    | 1.186    | 1.068      | 10.460     | 6.458      | 0.000     | 1.809     |
| Run  | Time     | 89Y        | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag      | 111Cd     | 114Cd     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 18:35:25 | 0.000      | 25.330   | 27.190   | 45.191%    | 4.993      | 4.912      | 4.488     | 6.077     |
| 2    | 18:35:33 | 0.000      | 26.970   | 26.010   | 45.317%    | 4.507      | 5.154      | 3.998     | 6.141     |
| 3    | 18:35:40 | 0.000      | 26.720   | 25.650   | 45.357%    | 5.085      | 4.941      | 4.961     | 5.649     |
| X    |          | 0.000      | 26.340   | 26.280   | 45.288%    | 4.862      | 5.002      | 4.483     | 5.956     |
| σ    |          | 0.000      | 0.887    | 0.806    | 0.087%     | 0.311      | 0.132      | 0.482     | 0.268     |
| %RSD |          | 0.000      | 3.369    | 3.066    | 0.191      | 6.391      | 2.638      | 10.740    | 4.496     |
| Run  | Time     | 115In      | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba      | 159Tb     | 165Ho     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 18:35:25 | 50.568%    | 67.150   | 1.023    | 0.914      | 404.900    | 408.400    | 70.272%   | 70.036%   |
| 2    | 18:35:33 | 51.808%    | 67.280   | 0.987    | 0.845      | 401.200    | 397.300    | 70.380%   | 71.425%   |
| 3    | 18:35:40 | 52.681%    | 67.300   | 0.969    | 0.969      | 393.300    | 390.600    | 71.705%   | 71.345%   |
| X    |          | 51.686%    | 67.240   | 0.993    | 0.909      | 399.800    | 398.700    | 70.786%   | 70.935%   |
| σ    |          | 1.062%     | 0.080    | 0.028    | 0.062      | 5.923      | 8.982      | 0.798%    | 0.780%    |
| %RSD |          | 2.054      | 0.120    | 2.775    | 6.835      | 1.481      | 2.253      | 1.127     | 1.100     |
| Run  | Time     | 203Tl      | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi      |           |           |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        |           |           |
| 1    | 18:35:25 | 2.919      | 3.039    | 412.000  | 380.900    | 400.300    | 44.010%    |           |           |
| 2    | 18:35:33 | 3.084      | 2.925    | 418.000  | 380.500    | 404.900    | 44.433%    |           |           |
| 3    | 18:35:40 | 2.883      | 2.942    | 419.300  | 379.800    | 401.600    | 44.363%    |           |           |
| X    |          | 2.962      | 2.968    | 416.400  | 380.400    | 402.300    | 44.269%    |           |           |
| σ    |          | 0.107      | 0.061    | 3.869    | 0.570      | 2.355      | 0.227%     |           |           |
| %RSD |          | 3.623      | 2.072    | 0.929    | 0.150      | 0.585      | 0.512      |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li        | 9Be      | 10B      | 11B        | 13C        | 23Na      | 25Mg      | 26Mg      |
|------|----------|------------|----------|----------|------------|------------|-----------|-----------|-----------|
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:40:29 | 65.402%    | 8.287    | 356.400  | 351.600    | 0.000      | 90590.000 | 95480.000 | 95050.000 |
| 2    | 18:40:37 | 66.575%    | 8.379    | 345.900  | 348.500    | 0.000      | 86750.000 | 93240.000 | 96480.000 |
| 3    | 18:40:45 | 65.166%    | 8.495    | 349.100  | 344.200    | 0.000      | 88110.000 | 92960.000 | 94830.000 |
| X    |          | 65.715%    | 8.387    | 350.500  | 348.100    | 0.000      | 88480.000 | 93890.000 | 95450.000 |
| σ    |          | 0.754%     | 0.104    | 5.419    | 3.748      | 0.000      | 1952.000  | 1381.000  | 894.800   |
| %RSD |          | 1.148      | 1.241    | 1.546    | 1.077      | 0.000      | 2.206     | 1.470     | 0.937     |
| Run  | Time     | 27Al       | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:40:29 | 165100.000 | 1739.000 | 0.000    | 43810.000  | 67700.000  | 72490.000 | 78.582%   | 9045.000  |
| 2    | 18:40:37 | 163500.000 | 1759.000 | 0.000    | 43050.000  | 68230.000  | 72680.000 | 78.345%   | 9034.000  |
| 3    | 18:40:45 | 158900.000 | 1794.000 | 0.000    | 41750.000  | 67250.000  | 70120.000 | 83.471%   | 8584.000  |
| X    |          | 162500.000 | 1764.000 | 0.000    | 42870.000  | 67730.000  | 71760.000 | 80.133%   | 8887.000  |
| σ    |          | 3216.000   | 27.620   | 0.000    | 1040.000   | 491.300    | 1425.000  | 2.894%    | 262.600   |
| %RSD |          | 1.979      | 1.566    | 0.000    | 2.427      | 0.725      | 1.985     | 3.611     | 2.954     |
| Run  | Time     | 51V        | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:40:29 | 548.000    | 614.400  | 3697.000 | 318700.000 | 313400.000 | 95.700    | 256.200   | 348.000   |
| 2    | 18:40:37 | 545.200    | 606.100  | 3818.000 | 320900.000 | 316100.000 | 93.920    | 258.500   | 353.600   |
| 3    | 18:40:45 | 526.400    | 583.200  | 3567.000 | 312600.000 | 309200.000 | 91.310    | 255.500   | 341.000   |
| X    |          | 539.900    | 601.200  | 3694.000 | 317400.000 | 312900.000 | 93.650    | 256.700   | 347.600   |
| σ    |          | 11.760     | 16.200   | 125.600  | 4302.000   | 3502.000   | 2.209     | 1.552     | 6.303     |
| %RSD |          | 2.178      | 2.694    | 3.400    | 1.355      | 1.119      | 2.359     | 0.605     | 1.813     |
| Run  | Time     | 65Cu       | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:40:29 | 363.700    | 1256.000 | 1268.000 | 151.200    | 12.260     | 22.910    | 0.000     | 449.500   |
| 2    | 18:40:37 | 360.200    | 1252.000 | 1274.000 | 148.400    | 11.560     | 29.640    | 0.000     | 452.600   |
| 3    | 18:40:45 | 351.300    | 1217.000 | 1231.000 | 146.000    | 11.490     | 23.920    | 0.000     | 442.700   |
| X    |          | 358.400    | 1242.000 | 1258.000 | 148.500    | 11.770     | 25.490    | 0.000     | 448.300   |
| σ    |          | 6.372      | 21.410   | 23.180   | 2.609      | 0.425      | 3.630     | 0.000     | 5.107     |
| %RSD |          | 1.778      | 1.724    | 1.843    | 1.757      | 3.607      | 14.240    | 0.000     | 1.139     |
| Run  | Time     | 89Y        | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:40:29 | 0.000      | 25.050   | 25.730   | 45.709%    | 7.556      | 7.343     | 6.902     | 7.571     |
| 2    | 18:40:37 | 0.000      | 26.100   | 26.660   | 46.251%    | 7.396      | 7.709     | 6.112     | 6.926     |
| 3    | 18:40:45 | 0.000      | 25.900   | 26.230   | 46.608%    | 7.529      | 7.357     | 6.313     | 7.608     |
| X    |          | 0.000      | 25.690   | 26.210   | 46.189%    | 7.494      | 7.470     | 6.442     | 7.368     |
| σ    |          | 0.000      | 0.559    | 0.467    | 0.452%     | 0.086      | 0.208     | 0.410     | 0.384     |
| %RSD |          | 0.000      | 2.177    | 1.783    | 0.980      | 1.146      | 2.780     | 6.369     | 5.205     |
| Run  | Time     | 115In      | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 18:40:29 | 52.499%    | 75.360   | 1.511    | 1.029      | 451.600    | 464.100   | 72.328%   | 72.919%   |
| 2    | 18:40:37 | 53.543%    | 77.790   | 1.531    | 1.047      | 483.000    | 464.100   | 73.274%   | 74.850%   |
| 3    | 18:40:45 | 54.233%    | 77.240   | 1.246    | 1.054      | 465.900    | 461.900   | 75.515%   | 75.690%   |
| X    |          | 53.425%    | 76.800   | 1.429    | 1.043      | 466.800    | 463.400   | 73.706%   | 74.487%   |
| σ    |          | 0.873%     | 1.275    | 0.159    | 0.013      | 15.740     | 1.237     | 1.637%    | 1.421%    |
| %RSD |          | 1.635      | 1.661    | 11.140   | 1.263      | 3.373      | 0.267     | 2.221     | 1.908     |
| Run  | Time     | 203Tl      | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi     |           |           |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       |           |           |
| 1    | 18:40:29 | 3.240      | 3.021    | 622.700  | 571.800    | 604.400    | 45.229%   |           |           |
| 2    | 18:40:37 | 3.002      | 2.928    | 616.300  | 564.500    | 596.800    | 47.240%   |           |           |
| 3    | 18:40:45 | 3.067      | 3.076    | 618.800  | 568.900    | 600.200    | 47.534%   |           |           |
| X    |          | 3.103      | 3.009    | 619.300  | 568.400    | 600.400    | 46.668%   |           |           |
| σ    |          | 0.123      | 0.075    | 3.263    | 3.667      | 3.810      | 1.255%    |           |           |
| %RSD |          | 3.958      | 2.487    | 0.527    | 0.645      | 0.635      | 2.689     |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li        | 9Be      | 10B      | 11B        | 13C        | 23Na       | 25Mg      | 26Mg      |
|------|----------|------------|----------|----------|------------|------------|------------|-----------|-----------|
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 18:45:32 | 69.211%    | 8.279    | 354.900  | 344.800    | 0.000      | 97320.000  | 86280.000 | 84900.000 |
| 2    | 18:45:40 | 64.767%    | 8.825    | 393.500  | 368.900    | 0.000      | 105200.000 | 94550.000 | 92090.000 |
| 3    | 18:45:48 | 64.535%    | 9.023    | 387.400  | 369.000    | 0.000      | 107200.000 | 95230.000 | 97980.000 |
| X    |          | 66.171%    | 8.709    | 378.600  | 360.900    | 0.000      | 103200.000 | 92020.000 | 91660.000 |
| σ    |          | 2.635%     | 0.385    | 20.720   | 13.930     | 0.000      | 5207.000   | 4984.000  | 6552.000  |
| %RSD |          | 3.983      | 4.426    | 5.472    | 3.859      | 0.000      | 5.044      | 5.416     | 7.148     |
| Run  | Time     | 27Al       | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca       | 45Sc      | 47Ti      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 18:45:32 | 156700.000 | 1644.000 | 0.000    | 40310.000  | 51020.000  | 54050.000  | 88.983%   | 8279.000  |
| 2    | 18:45:40 | 164800.000 | 1776.000 | 0.000    | 43880.000  | 52930.000  | 56110.000  | 85.044%   | 8620.000  |
| 3    | 18:45:48 | 178600.000 | 1882.000 | 0.000    | 46810.000  | 57500.000  | 61400.000  | 76.669%   | 9581.000  |
| X    |          | 166700.000 | 1767.000 | 0.000    | 43670.000  | 53820.000  | 57180.000  | 83.565%   | 8827.000  |
| σ    |          | 11090.000  | 119.300  | 0.000    | 3252.000   | 3330.000   | 3791.000   | 6.289%    | 674.800   |
| %RSD |          | 6.651      | 6.752    | 0.000    | 7.447      | 6.187      | 6.629      | 7.526     | 7.646     |
| Run  | Time     | 51V        | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co       | 60Ni      | 63Cu      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 18:45:32 | 500.800    | 554.900  | 3021.000 | 297000.000 | 294700.000 | 87.170     | 250.100   | 327.100   |
| 2    | 18:45:40 | 500.600    | 569.300  | 3121.000 | 306300.000 | 303100.000 | 90.220     | 253.400   | 333.400   |
| 3    | 18:45:48 | 554.500    | 636.400  | 3466.000 | 333900.000 | 331500.000 | 97.240     | 272.700   | 352.800   |
| X    |          | 518.600    | 586.900  | 3203.000 | 312400.000 | 309800.000 | 91.540     | 258.700   | 337.700   |
| σ    |          | 31.030     | 43.520   | 233.600  | 19210.000  | 19290.000  | 5.164      | 12.210    | 13.390    |
| %RSD |          | 5.983      | 7.415    | 7.294    | 6.149      | 6.226      | 5.641      | 4.721     | 3.966     |
| Run  | Time     | 65Cu       | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se       | 83Kr      | 88Sr      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 18:45:32 | 336.400    | 1200.000 | 1233.000 | 145.200    | 10.220     | 28.730     | 0.000     | 518.800   |
| 2    | 18:45:40 | 347.000    | 1216.000 | 1253.000 | 149.100    | 12.370     | 26.650     | 0.000     | 528.900   |
| 3    | 18:45:48 | 368.600    | 1309.000 | 1321.000 | 153.800    | 11.370     | 20.360     | 0.000     | 546.900   |
| X    |          | 350.600    | 1242.000 | 1269.000 | 149.400    | 11.320     | 25.250     | 0.000     | 531.600   |
| σ    |          | 16.420     | 58.790   | 46.170   | 4.295      | 1.072      | 4.358      | 0.000     | 14.250    |
| %RSD |          | 4.682      | 4.735    | 3.639    | 2.875      | 9.476      | 17.260     | 0.000     | 2.680     |
| Run  | Time     | 89Y        | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag      | 111Cd     | 114Cd     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 18:45:32 | 0.000      | 26.630   | 27.750   | 45.268%    | 6.868      | 6.300      | 4.253     | 6.668     |
| 2    | 18:45:40 | 0.000      | 27.890   | 26.980   | 45.690%    | 6.748      | 6.348      | 5.128     | 6.526     |
| 3    | 18:45:48 | 0.000      | 27.690   | 28.500   | 46.166%    | 6.727      | 6.172      | 5.259     | 6.958     |
| X    |          | 0.000      | 27.410   | 27.740   | 45.708%    | 6.781      | 6.273      | 4.880     | 6.717     |
| σ    |          | 0.000      | 0.678    | 0.759    | 0.449%     | 0.076      | 0.091      | 0.547     | 0.220     |
| %RSD |          | 0.000      | 2.473    | 2.737    | 0.982      | 1.121      | 1.451      | 11.200    | 3.276     |
| Run  | Time     | 115In      | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba      | 159Tb     | 165Ho     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 18:45:32 | 51.829%    | 78.030   | 0.975    | 1.104      | 474.400    | 474.600    | 71.097%   | 71.711%   |
| 2    | 18:45:40 | 52.357%    | 77.440   | 0.921    | 0.787      | 478.700    | 471.900    | 72.460%   | 73.023%   |
| 3    | 18:45:48 | 53.595%    | 74.800   | 1.043    | 0.964      | 462.100    | 468.200    | 72.145%   | 72.923%   |
| X    |          | 52.594%    | 76.760   | 0.980    | 0.952      | 471.700    | 471.600    | 71.901%   | 72.552%   |
| σ    |          | 0.907%     | 1.719    | 0.061    | 0.159      | 8.628      | 3.211      | 0.714%    | 0.730%    |
| %RSD |          | 1.724      | 2.240    | 6.212    | 16.680     | 1.829      | 0.681      | 0.993     | 1.006     |
| Run  | Time     | 203Tl      | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi      |           |           |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        |           |           |
| 1    | 18:45:32 | 3.453      | 3.411    | 527.800  | 480.600    | 511.400    | 44.334%    |           |           |
| 2    | 18:45:40 | 3.626      | 3.305    | 534.500  | 484.400    | 518.200    | 44.516%    |           |           |
| 3    | 18:45:48 | 3.160      | 3.384    | 528.300  | 488.600    | 514.100    | 45.153%    |           |           |
| X    |          | 3.413      | 3.367    | 530.200  | 484.500    | 514.600    | 44.668%    |           |           |
| σ    |          | 0.235      | 0.055    | 3.729    | 4.038      | 3.430      | 0.430%     |           |           |
| %RSD |          | 6.890      | 1.633    | 0.703    | 0.833      | 0.666      | 0.962      |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li        | 9Be      | 10B      | 11B        | 13C        | 23Na       | 25Mg       | 26Mg       |
|------|----------|------------|----------|----------|------------|------------|------------|------------|------------|
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb        | ppb        |
| 1    | 18:50:37 | 62.896%    | 9.617    | 458.400  | 436.600    | 0.000      | 96720.000  | 104000.000 | 102300.000 |
| 2    | 18:50:44 | 62.204%    | 9.656    | 440.800  | 442.200    | 0.000      | 100900.000 | 107500.000 | 106000.000 |
| 3    | 18:50:52 | 61.731%    | 9.703    | 448.300  | 440.800    | 0.000      | 103300.000 | 108600.000 | 108300.000 |
| X    |          | 62.277%    | 9.659    | 449.200  | 439.800    | 0.000      | 100300.000 | 106700.000 | 105500.000 |
| σ    |          | 0.586%     | 0.043    | 8.823    | 2.912      | 0.000      | 3347.000   | 2427.000   | 3063.000   |
| %RSD |          | 0.941      | 0.443    | 1.964    | 0.662      | 0.000      | 3.336      | 2.274      | 2.902      |
| Run  | Time     | 27Al       | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca       | 45Sc       | 47Ti       |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb        | ppb        |
| 1    | 18:50:37 | 182000.000 | 1758.000 | 0.000    | 45760.000  | 59070.000  | 62290.000  | 85.962%    | 8986.000   |
| 2    | 18:50:44 | 192800.000 | 1899.000 | 0.000    | 52270.000  | 67330.000  | 69200.000  | 77.362%    | 9918.000   |
| 3    | 18:50:52 | 192800.000 | 1819.000 | 0.000    | 51440.000  | 65600.000  | 69100.000  | 79.116%    | 9549.000   |
| X    |          | 189200.000 | 1825.000 | 0.000    | 49820.000  | 64000.000  | 66860.000  | 80.814%    | 9484.000   |
| σ    |          | 6220.000   | 70.370   | 0.000    | 3545.000   | 4355.000   | 3962.000   | 4.544%     | 469.700    |
| %RSD |          | 3.288      | 3.855    | 0.000    | 7.115      | 6.805      | 5.926      | 5.623      | 4.952      |
| Run  | Time     | 51V        | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co       | 60Ni       | 63Cu       |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb        | ppb        |
| 1    | 18:50:37 | 535.300    | 606.000  | 3190.000 | 306700.000 | 310400.000 | 93.710     | 267.100    | 366.600    |
| 2    | 18:50:44 | 575.300    | 656.000  | 3493.000 | 338200.000 | 333600.000 | 97.980     | 276.800    | 378.800    |
| 3    | 18:50:52 | 571.100    | 646.500  | 3460.000 | 338200.000 | 340600.000 | 99.530     | 278.900    | 380.900    |
| X    |          | 560.500    | 636.200  | 3381.000 | 327700.000 | 328200.000 | 97.070     | 274.300    | 375.400    |
| σ    |          | 21.980     | 26.600   | 165.900  | 18190.000  | 15800.000  | 3.011      | 6.287      | 7.692      |
| %RSD |          | 3.922      | 4.182    | 4.907    | 5.550      | 4.816      | 3.102      | 2.292      | 2.049      |
| Run  | Time     | 65Cu       | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se       | 83Kr       | 88Sr       |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb        | ppb        |
| 1    | 18:50:37 | 379.500    | 1211.000 | 1240.000 | 142.100    | 11.750     | 25.840     | 0.000      | 558.600    |
| 2    | 18:50:44 | 390.700    | 1279.000 | 1298.000 | 145.500    | 11.560     | 20.070     | 0.000      | 567.100    |
| 3    | 18:50:52 | 392.300    | 1271.000 | 1277.000 | 144.800    | 11.000     | 24.070     | 0.000      | 560.900    |
| X    |          | 387.500    | 1254.000 | 1272.000 | 144.100    | 11.440     | 23.330     | 0.000      | 562.200    |
| σ    |          | 6.984      | 37.110   | 29.300   | 1.836      | 0.390      | 2.956      | 0.000      | 4.389      |
| %RSD |          | 1.802      | 2.960    | 2.304    | 1.274      | 3.412      | 12.670     | 0.000      | 0.781      |
| Run  | Time     | 89Y        | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag      | 111Cd      | 114Cd      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb        | ppb        |
| 1    | 18:50:37 | 0.000      | 29.970   | 29.910   | 43.865%    | 7.426      | 7.164      | 5.567      | 6.741      |
| 2    | 18:50:44 | 0.000      | 30.640   | 30.240   | 45.063%    | 7.422      | 7.218      | 4.757      | 6.775      |
| 3    | 18:50:52 | 0.000      | 28.900   | 30.190   | 44.904%    | 6.875      | 7.133      | 5.547      | 7.182      |
| X    |          | 0.000      | 29.840   | 30.110   | 44.611%    | 7.241      | 7.172      | 5.290      | 6.899      |
| σ    |          | 0.000      | 0.877    | 0.177    | 0.651%     | 0.317      | 0.043      | 0.462      | 0.245      |
| %RSD |          | 0.000      | 2.939    | 0.588    | 1.459      | 4.373      | 0.600      | 8.735      | 3.552      |
| Run  | Time     | 115In      | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba      | 159Tb      | 165Ho      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb        | ppb        |
| 1    | 18:50:37 | 51.135%    | 79.710   | 1.023    | 1.345      | 509.300    | 514.200    | 69.789%    | 70.538%    |
| 2    | 18:50:44 | 51.269%    | 80.060   | 1.262    | 1.000      | 513.300    | 502.500    | 71.348%    | 72.135%    |
| 3    | 18:50:52 | 52.435%    | 80.890   | 1.024    | 1.388      | 503.300    | 510.100    | 72.449%    | 73.909%    |
| X    |          | 51.613%    | 80.220   | 1.103    | 1.244      | 508.600    | 508.900    | 71.195%    | 72.194%    |
| σ    |          | 0.715%     | 0.606    | 0.138    | 0.213      | 5.043      | 5.953      | 1.337%     | 1.686%     |
| %RSD |          | 1.385      | 0.755    | 12.490   | 17.110     | 0.992      | 1.170      | 1.877      | 2.336      |
| Run  | Time     | 203Tl      | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi      |            |            |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        |            |            |
| 1    | 18:50:37 | 3.370      | 3.450    | 592.600  | 544.100    | 574.600    | 43.403%    |            |            |
| 2    | 18:50:44 | 3.637      | 3.413    | 595.300  | 544.900    | 577.000    | 44.609%    |            |            |
| 3    | 18:50:52 | 3.338      | 3.473    | 588.400  | 548.700    | 575.600    | 46.221%    |            |            |
| X    |          | 3.448      | 3.445    | 592.100  | 545.900    | 575.800    | 44.744%    |            |            |
| σ    |          | 0.164      | 0.030    | 3.465    | 2.465      | 1.235      | 1.414%     |            |            |
| %RSD |          | 4.758      | 0.883    | 0.585    | 0.452      | 0.215      | 3.160      |            |            |

CCV 1533080 5/1/2015 7:00:30 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be      | 10B      | 11B       | 13C       | 23Na      | 25Mg      | 26Mg      |
|------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 18:59:38 | 93.952%  | 92.060   | 86.860   | 86.450    | 0.000     | 52930.000 | 53500.000 | 53100.000 |
| 2    | 18:59:46 | 94.042%  | 91.830   | 89.610   | 84.850    | 0.000     | 54620.000 | 54570.000 | 54100.000 |
| 3    | 18:59:53 | 95.175%  | 90.500   | 87.130   | 86.880    | 0.000     | 53830.000 | 53760.000 | 53940.000 |
| X    |          | 94.390%  | 91.465%  | 87.868%  | 86.058%   | 0.000     | 107.588%  | 107.885%  | 107.423%  |
| σ    |          | 0.682%   | n/a      | n/a      | n/a       | 0.000     | n/a       | n/a       | n/a       |
| %RSD |          | 0.722    | 0.921    | 1.728    | 1.241     | 0.000     | 1.578     | 1.034     | 1.003     |
| Run  | Time     | 27Al     | 28Si     | 37Cl     | 39K       | 43Ca      | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 18:59:38 | 563.400  | 5446.000 | 0.000    | 51960.000 | 48420.000 | 53530.000 | 94.371%   | 105.000   |
| 2    | 18:59:46 | 603.100  | 5417.000 | 0.000    | 54330.000 | 50410.000 | 54860.000 | 90.073%   | 108.400   |
| 3    | 18:59:53 | 621.400  | 5463.000 | 0.000    | 54570.000 | 50790.000 | 55670.000 | 92.660%   | 107.200   |
| X    |          | 119.196% | 108.835% | 0.000    | 107.239%  | 99.747%   | 109.374%  | 92.368%   | 106.865%  |
| σ    |          | n/a      | n/a      | 0.000    | n/a       | n/a       | n/a       | 2.164%    | n/a       |
| %RSD |          | 4.975    | 0.426    | 0.000    | 2.696     | 2.546     | 1.970     | 2.343     | 1.610     |
| Run  | Time     | 51V      | 52Cr     | 55Mn     | 56Fe      | 57Fe      | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 18:59:38 | 88.250   | 90.550   | 531.200  | 23940.000 | 22940.000 | 91.370    | 93.470    | 101.400   |
| 2    | 18:59:46 | 89.740   | 93.800   | 555.400  | 24890.000 | 24450.000 | 94.610    | 97.150    | 102.400   |
| 3    | 18:59:53 | 91.150   | 91.440   | 545.600  | 24990.000 | 24120.000 | 95.390    | 96.700    | 104.400   |
| X    |          | 89.714%  | 91.932%  | 108.814% | 98.429%   | 95.359%   | 93.789%   | 95.772%   | 102.736%  |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | n/a       | n/a       | n/a       |
| %RSD |          | 1.617    | 1.825    | 2.241    | 2.364     | 3.337     | 2.273     | 2.099     | 1.472     |
| Run  | Time     | 65Cu     | 66Zn     | 68Zn     | 75As      | 78Se      | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 18:59:38 | 100.900  | 103.900  | 107.600  | 105.300   | 108.500   | 103.000   | 0.000     | 97.960    |
| 2    | 18:59:46 | 104.600  | 109.400  | 110.200  | 102.200   | 106.500   | 102.300   | 0.000     | 92.920    |
| 3    | 18:59:53 | 102.800  | 108.400  | 109.100  | 107.200   | 110.400   | 113.700   | 0.000     | 94.760    |
| X    |          | 102.759% | 107.191% | 108.975% | 104.906%  | 108.471%  | 106.323%  | 0.000     | 95.213%   |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | n/a       | 0.000     | n/a       |
| %RSD |          | 1.806    | 2.735    | 1.195    | 2.430     | 1.780     | 6.037     | 0.000     | 2.678     |
| Run  | Time     | 89Y      | 95Mo     | 98Mo     | 103Rh     | 107Ag     | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 18:59:38 | 77.176%  | 104.100  | 108.100  | 64.738%   | 104.200   | 102.100   | 104.400   | 107.300   |
| 2    | 18:59:46 | 80.216%  | 104.200  | 107.300  | 66.499%   | 101.400   | 102.600   | 101.700   | 104.800   |
| 3    | 18:59:53 | 79.077%  | 109.400  | 109.900  | 67.604%   | 102.800   | 100.800   | 99.000    | 105.300   |
| X    |          | 78.823%  | 105.905% | 108.445% | 66.280%   | 102.820%  | 101.844%  | 101.711%  | 105.821%  |
| σ    |          | 1.536%   | n/a      | n/a      | 1.446%    | n/a       | n/a       | n/a       | n/a       |
| %RSD |          | 1.948    | 2.867    | 1.264    | 2.181     | 1.350     | 0.905     | 2.679     | 1.257     |
| Run  | Time     | 115In    | 118Sn    | 121Sb    | 123Sb     | 135Ba     | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 18:59:38 | 69.334%  | 96.050   | 97.290   | 98.370    | 96.160    | 98.500    | 77.672%   | 77.770%   |
| 2    | 18:59:46 | 70.929%  | 94.270   | 98.420   | 97.420    | 93.990    | 97.110    | 78.688%   | 79.386%   |
| 3    | 18:59:53 | 71.660%  | 94.250   | 98.130   | 100.300   | 97.070    | 97.300    | 78.590%   | 79.365%   |
| X    |          | 70.641%  | 94.856%  | 97.946%  | 98.705%   | 95.743%   | 97.634%   | 78.317%   | 78.840%   |
| σ    |          | 1.189%   | n/a      | n/a      | n/a       | n/a       | n/a       | 0.560%    | 0.927%    |
| %RSD |          | 1.684    | 1.091    | 0.600    | 1.504     | 1.651     | 0.771     | 0.715     | 1.176     |
| Run  | Time     | 203Tl    | 205Tl    | 206Pb    | 207Pb     | 208Pb     | 209Bi     |           |           |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       |           |           |
| 1    | 18:59:38 | 95.290   | 94.310   | 96.640   | 95.090    | 96.540    | 63.731%   |           |           |
| 2    | 18:59:46 | 96.150   | 94.850   | 97.210   | 97.740    | 97.930    | 64.354%   |           |           |
| 3    | 18:59:53 | 96.810   | 94.680   | 96.460   | 97.530    | 97.290    | 64.571%   |           |           |
| X    |          | 96.085%  | 94.616%  | 96.770%  | 96.786%   | 97.254%   | 64.219%   |           |           |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | 0.436%    |           |           |
| %RSD |          | 0.796    | 0.291    | 0.400    | 1.523     | 0.713     | 0.679     |           |           |

CCB3 5/1/2015 7:09:34 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be    | 10B     | 11B     | 13C     | 23Na     | 25Mg     | 26Mg    |
|------|----------|----------|--------|---------|---------|---------|----------|----------|---------|
|      |          | ppb      | ppb    | ppb     | ppb     | ppb     | ppb      | ppb      | ppb     |
| 1    | 19:08:43 | 102.784% | -0.018 | 1.000   | 1.009   | 0.000   | 6.907    | 7.038    | 7.464   |
| 2    | 19:08:50 | 98.712%  | -0.020 | 0.958   | 0.943   | 0.000   | 6.766    | 7.487    | 6.947   |
| 3    | 19:08:58 | 97.562%  | -0.022 | 1.016   | 0.926   | 0.000   | 6.167    | 7.733    | 7.733   |
| X    |          | 99.686%  | -0.020 | 0.991   | 0.959   | 0.000   | 6.613    | 7.419    | 7.381   |
| σ    |          | 2.744%   | 0.002  | 0.030   | 0.043   | 0.000   | 0.393    | 0.353    | 0.400   |
| %RSD |          | 2.753    | 9.715  | 3.017   | 4.530   | 0.000   | 5.942    | 4.754    | 5.416   |
| Run  | Time     | 27Al     | 28Si   | 37Cl    | 39K     | 43Ca    | 44Ca     | 45Sc     | 47Ti    |
|      |          | ppb      | ppb    | ppb     | ppb     | ppb     | ppb      | ppb      | ppb     |
| 1    | 19:08:43 | 2.001    | 12.620 | 0.000   | 10.430  | 5.594   | 9.765    | 112.744% | 0.311   |
| 2    | 19:08:50 | 2.121    | 8.738  | 0.000   | 9.714   | 9.732   | 9.160    | 107.166% | 0.202   |
| 3    | 19:08:58 | 1.687    | 5.103  | 0.000   | 7.655   | 8.666   | 6.705    | 109.140% | 0.308   |
| X    |          | 1.936    | 8.821  | 0.000   | 9.266   | 7.997   | 8.543    | 109.683% | 0.274   |
| σ    |          | 0.224    | 3.760  | 0.000   | 1.440   | 2.148   | 1.620    | 2.828%   | 0.062   |
| %RSD |          | 11.580   | 42.620 | 0.000   | 15.540  | 26.860  | 18.970   | 2.579    | 22.750  |
| Run  | Time     | 51V      | 52Cr   | 55Mn    | 56Fe    | 57Fe    | 59Co     | 60Ni     | 63Cu    |
|      |          | ppb      | ppb    | ppb     | ppb     | ppb     | ppb      | ppb      | ppb     |
| 1    | 19:08:43 | -0.008   | 0.029  | 0.305   | 15.940  | 14.660  | 0.018    | 0.010    | 0.013   |
| 2    | 19:08:50 | 0.009    | 0.032  | 0.279   | 14.730  | 12.530  | 0.019    | 0.012    | -0.057  |
| 3    | 19:08:58 | 0.026    | 0.014  | 0.259   | 13.770  | 14.280  | 0.020    | 0.002    | -0.023  |
| X    |          | 0.009    | 0.025  | 0.281   | 14.810  | 13.820  | 0.019    | 0.008    | -0.023  |
| σ    |          | 0.017    | 0.010  | 0.023   | 1.087   | 1.136   | 0.001    | 0.005    | 0.035   |
| %RSD |          | 192.700  | 39.420 | 8.343   | 7.338   | 8.223   | 5.843    | 68.710   | 154.700 |
| Run  | Time     | 65Cu     | 66Zn   | 68Zn    | 75As    | 78Se    | 82Se     | 83Kr     | 88Sr    |
|      |          | ppb      | ppb    | ppb     | ppb     | ppb     | ppb      | ppb      | ppb     |
| 1    | 19:08:43 | -0.027   | 0.026  | 0.030   | 0.058   | 0.101   | 0.465    | 0.000    | 0.021   |
| 2    | 19:08:50 | -0.009   | 0.033  | 0.065   | 0.033   | 0.144   | 0.399    | 0.000    | 0.001   |
| 3    | 19:08:58 | -0.043   | 0.014  | -0.002  | 0.074   | 0.035   | -0.450   | 0.000    | 0.028   |
| X    |          | -0.026   | 0.024  | 0.031   | 0.055   | 0.093   | 0.138    | 0.000    | 0.017   |
| σ    |          | 0.017    | 0.009  | 0.033   | 0.020   | 0.055   | 0.510    | 0.000    | 0.014   |
| %RSD |          | 66.060   | 38.900 | 108.300 | 37.230  | 58.440  | 370.400  | 0.000    | 82.160  |
| Run  | Time     | 89Y      | 95Mo   | 98Mo    | 103Rh   | 107Ag   | 109Ag    | 111Cd    | 114Cd   |
|      |          | ppb      | ppb    | ppb     | ppb     | ppb     | ppb      | ppb      | ppb     |
| 1    | 19:08:43 | 88.410%  | 0.351  | 0.362   | 86.756% | -0.007  | -0.001   | -0.004   | -0.003  |
| 2    | 19:08:50 | 89.734%  | 0.343  | 0.337   | 85.577% | -0.013  | -0.003   | 0.036    | -0.015  |
| 3    | 19:08:58 | 91.808%  | 0.311  | 0.257   | 84.608% | 0.003   | 0.004    | -0.004   | -0.020  |
| X    |          | 89.984%  | 0.335  | 0.319   | 85.647% | -0.006  | 0.000    | 0.009    | -0.013  |
| σ    |          | 1.713%   | 0.021  | 0.055   | 1.076%  | 0.008   | 0.004    | 0.023    | 0.009   |
| %RSD |          | 1.903    | 6.211  | 17.290  | 1.256   | 145.500 | 2468.000 | 253.600  | 69.170  |
| Run  | Time     | 115In    | 118Sn  | 121Sb   | 123Sb   | 135Ba   | 137Ba    | 159Tb    | 165Ho   |
|      |          | ppb      | ppb    | ppb     | ppb     | ppb     | ppb      | ppb      | ppb     |
| 1    | 19:08:43 | 84.963%  | -0.511 | 0.009   | -0.145  | 0.146   | 0.030    | 89.459%  | 91.260% |
| 2    | 19:08:50 | 86.288%  | -0.409 | -0.032  | -0.083  | 0.052   | 0.010    | 90.450%  | 91.442% |
| 3    | 19:08:58 | 84.829%  | -0.477 | 0.002   | -0.090  | -0.009  | 0.030    | 89.674%  | 90.262% |
| X    |          | 85.360%  | -0.466 | -0.007  | -0.106  | 0.063   | 0.023    | 89.861%  | 90.988% |
| σ    |          | 0.807%   | 0.052  | 0.022   | 0.034   | 0.078   | 0.011    | 0.521%   | 0.635%  |
| %RSD |          | 0.945    | 11.120 | 310.900 | 32.070  | 123.900 | 49.260   | 0.580    | 0.698   |
| Run  | Time     | 203Tl    | 205Tl  | 206Pb   | 207Pb   | 208Pb   | 209Bi    |          |         |
|      |          | ppb      | ppb    | ppb     | ppb     | ppb     | ppb      |          |         |
| 1    | 19:08:43 | 0.025    | 0.026  | -0.012  | -0.012  | -0.011  | 92.967%  |          |         |
| 2    | 19:08:50 | 0.020    | 0.048  | -0.002  | -0.031  | 0.001   | 92.750%  |          |         |
| 3    | 19:08:58 | 0.008    | 0.037  | -0.015  | 0.017   | 0.004   | 92.664%  |          |         |
| X    |          | 0.018    | 0.037  | -0.010  | -0.009  | -0.002  | 92.793%  |          |         |
| σ    |          | 0.009    | 0.011  | 0.007   | 0.024   | 0.008   | 0.156%   |          |         |
| %RSD |          | 48.010   | 30.700 | 67.720  | 277.400 | 375.200 | 0.168    |          |         |

180-43389-B-7-A

5/1/2015 7:14:42 PM

User Pre-dilution: 1.000

| Run  | Time     | 6Li        | 9Be      | 10B      | 11B        | 13C        | 23Na       | 25Mg      | 26Mg      |
|------|----------|------------|----------|----------|------------|------------|------------|-----------|-----------|
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 19:13:48 | 69.793%    | 8.313    | 358.600  | 359.700    | 0.000      | 102600.000 | 89090.000 | 87710.000 |
| 2    | 19:13:56 | 67.229%    | 8.814    | 367.100  | 344.700    | 0.000      | 104700.000 | 88050.000 | 90660.000 |
| 3    | 19:14:04 | 67.211%    | 8.751    | 357.900  | 355.200    | 0.000      | 109400.000 | 94020.000 | 95750.000 |
| X    |          | 68.078%    | 8.626    | 361.200  | 353.200    | 0.000      | 105600.000 | 90390.000 | 91370.000 |
| σ    |          | 1.485%     | 0.273    | 5.097    | 7.728      | 0.000      | 3468.000   | 3188.000  | 4067.000  |
| %RSD |          | 2.182      | 3.165    | 1.411    | 2.188      | 0.000      | 3.286      | 3.527     | 4.451     |
| Run  | Time     | 27Al       | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca       | 45Sc      | 47Ti      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 19:13:48 | 164100.000 | 1717.000 | 0.000    | 42450.000  | 45860.000  | 48270.000  | 94.760%   | 8694.000  |
| 2    | 19:13:56 | 172300.000 | 1713.000 | 0.000    | 43330.000  | 46140.000  | 47990.000  | 92.815%   | 8671.000  |
| 3    | 19:14:04 | 182600.000 | 1798.000 | 0.000    | 46850.000  | 50460.000  | 53320.000  | 83.487%   | 9417.000  |
| X    |          | 173000.000 | 1742.000 | 0.000    | 44210.000  | 47490.000  | 49860.000  | 90.354%   | 8927.000  |
| σ    |          | 9272.000   | 48.040   | 0.000    | 2327.000   | 2580.000   | 3002.000   | 6.026%    | 424.100   |
| %RSD |          | 5.358      | 2.757    | 0.000    | 5.262      | 5.433      | 6.021      | 6.669     | 4.751     |
| Run  | Time     | 51V        | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co       | 60Ni      | 63Cu      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 19:13:48 | 502.400    | 578.200  | 2905.000 | 287400.000 | 289800.000 | 83.280     | 234.500   | 340.800   |
| 2    | 19:13:56 | 532.200    | 588.000  | 3008.000 | 297200.000 | 297000.000 | 84.950     | 246.100   | 344.000   |
| 3    | 19:14:04 | 574.400    | 636.900  | 3268.000 | 316900.000 | 322400.000 | 90.410     | 255.100   | 366.100   |
| X    |          | 536.300    | 601.000  | 3060.000 | 300500.000 | 303100.000 | 86.220     | 245.200   | 350.300   |
| σ    |          | 36.160     | 31.470   | 187.100  | 15030.000  | 17100.000  | 3.729      | 10.290    | 13.790    |
| %RSD |          | 6.742      | 5.236    | 6.115    | 5.001      | 5.643      | 4.325      | 4.196     | 3.936     |
| Run  | Time     | 65Cu       | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se       | 83Kr      | 88Sr      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 19:13:48 | 347.500    | 1131.000 | 1149.000 | 148.400    | 9.950      | 20.400     | 0.000     | 532.000   |
| 2    | 19:13:56 | 353.600    | 1149.000 | 1159.000 | 151.700    | 10.310     | 26.270     | 0.000     | 531.000   |
| 3    | 19:14:04 | 382.900    | 1208.000 | 1224.000 | 158.300    | 11.200     | 26.180     | 0.000     | 543.200   |
| X    |          | 361.300    | 1163.000 | 1177.000 | 152.800    | 10.490     | 24.280     | 0.000     | 535.400   |
| σ    |          | 18.940     | 40.410   | 40.820   | 5.012      | 0.640      | 3.362      | 0.000     | 6.764     |
| %RSD |          | 5.242      | 3.476    | 3.467    | 3.280      | 6.103      | 13.840     | 0.000     | 1.263     |
| Run  | Time     | 89Y        | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag      | 111Cd     | 114Cd     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 19:13:48 | 0.000      | 27.130   | 28.590   | 50.060%    | 7.429      | 7.337      | 5.029     | 7.057     |
| 2    | 19:13:56 | 0.000      | 27.550   | 28.830   | 51.065%    | 7.285      | 7.041      | 5.107     | 6.871     |
| 3    | 19:14:04 | 0.000      | 28.570   | 28.690   | 50.739%    | 7.817      | 7.540      | 5.385     | 6.529     |
| X    |          | 0.000      | 27.750   | 28.700   | 50.621%    | 7.510      | 7.306      | 5.174     | 6.819     |
| σ    |          | 0.000      | 0.742    | 0.119    | 0.512%     | 0.275      | 0.251      | 0.187     | 0.268     |
| %RSD |          | 0.000      | 2.674    | 0.415    | 1.012      | 3.666      | 3.435      | 3.621     | 3.930     |
| Run  | Time     | 115In      | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba      | 159Tb     | 165Ho     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 19:13:48 | 57.862%    | 78.700   | 1.610    | 1.448      | 480.700    | 482.000    | 77.185%   | 77.820%   |
| 2    | 19:13:56 | 58.764%    | 81.310   | 1.434    | 1.164      | 481.100    | 483.200    | 78.694%   | 78.899%   |
| 3    | 19:14:04 | 59.472%    | 80.320   | 1.461    | 1.439      | 472.700    | 481.300    | 79.606%   | 79.465%   |
| X    |          | 58.700%    | 80.110   | 1.502    | 1.351      | 478.200    | 482.200    | 78.495%   | 78.728%   |
| σ    |          | 0.807%     | 1.319    | 0.095    | 0.162      | 4.732      | 0.941      | 1.223%    | 0.836%    |
| %RSD |          | 1.375      | 1.646    | 6.320    | 11.960     | 0.990      | 0.195      | 1.558     | 1.062     |
| Run  | Time     | 203Tl      | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi      |           |           |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        |           |           |
| 1    | 19:13:48 | 3.320      | 3.299    | 601.200  | 553.200    | 586.300    | 49.809%    |           |           |
| 2    | 19:13:56 | 3.192      | 3.243    | 601.300  | 546.100    | 580.800    | 51.273%    |           |           |
| 3    | 19:14:04 | 3.334      | 3.092    | 598.400  | 552.100    | 578.800    | 52.006%    |           |           |
| X    |          | 3.282      | 3.211    | 600.300  | 550.500    | 582.000    | 51.029%    |           |           |
| σ    |          | 0.078      | 0.107    | 1.626    | 3.868      | 3.844      | 1.118%     |           |           |
| %RSD |          | 2.381      | 3.336    | 0.271    | 0.703      | 0.660      | 2.192      |           |           |



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User Pre-dilution: 1.000

| Run  | Time     | 6Li        | 9Be      | 10B      | 11B        | 13C        | 23Na      | 25Mg      | 26Mg      |
|------|----------|------------|----------|----------|------------|------------|-----------|-----------|-----------|
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 19:18:56 | 76.523%    | 7.405    | 277.400  | 272.700    | 0.000      | 79050.000 | 76100.000 | 75970.000 |
| 2    | 19:19:04 | 70.237%    | 8.089    | 305.900  | 292.700    | 0.000      | 84510.000 | 79210.000 | 80940.000 |
| 3    | 19:19:12 | 81.554%    | 7.121    | 271.400  | 253.100    | 0.000      | 76200.000 | 75020.000 | 74270.000 |
| X    |          | 76.104%    | 7.538    | 284.900  | 272.800    | 0.000      | 79920.000 | 76780.000 | 77060.000 |
| σ    |          | 5.670%     | 0.498    | 18.430   | 19.790     | 0.000      | 4224.000  | 2172.000  | 3462.000  |
| %RSD |          | 7.450      | 6.601    | 6.471    | 7.254      | 0.000      | 5.285     | 2.829     | 4.492     |
| Run  | Time     | 27Al       | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 19:18:56 | 150100.000 | 1873.000 | 0.000    | 38710.000  | 36040.000  | 37770.000 | 96.757%   | 7991.000  |
| 2    | 19:19:04 | 159900.000 | 2010.000 | 0.000    | 41790.000  | 39240.000  | 39520.000 | 92.456%   | 8445.000  |
| 3    | 19:19:12 | 150700.000 | 1800.000 | 0.000    | 40520.000  | 38100.000  | 39910.000 | 91.110%   | 8645.000  |
| X    |          | 153600.000 | 1894.000 | 0.000    | 40340.000  | 37790.000  | 39070.000 | 93.441%   | 8360.000  |
| σ    |          | 5443.000   | 106.600  | 0.000    | 1549.000   | 1621.000   | 1142.000  | 2.950%    | 335.300   |
| %RSD |          | 3.544      | 5.625    | 0.000    | 3.839      | 4.289      | 2.923     | 3.157     | 4.010     |
| Run  | Time     | 51V        | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 19:18:56 | 484.800    | 546.900  | 2418.000 | 277700.000 | 274500.000 | 77.330    | 224.500   | 317.700   |
| 2    | 19:19:04 | 499.900    | 568.300  | 2566.000 | 289700.000 | 283600.000 | 81.190    | 230.300   | 333.300   |
| 3    | 19:19:12 | 502.400    | 576.300  | 2611.000 | 289200.000 | 281500.000 | 78.430    | 231.300   | 327.500   |
| X    |          | 495.700    | 563.900  | 2532.000 | 285500.000 | 279900.000 | 78.980    | 228.700   | 326.200   |
| σ    |          | 9.515      | 15.190   | 100.900  | 6773.000   | 4768.000   | 1.986     | 3.682     | 7.852     |
| %RSD |          | 1.920      | 2.695    | 3.985    | 2.372      | 1.704      | 2.514     | 1.610     | 2.407     |
| Run  | Time     | 65Cu       | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 19:18:56 | 324.300    | 1014.000 | 1063.000 | 129.500    | 9.557      | 21.550    | 0.000     | 470.500   |
| 2    | 19:19:04 | 341.300    | 1103.000 | 1132.000 | 135.800    | 10.880     | 18.740    | 0.000     | 492.300   |
| 3    | 19:19:12 | 341.500    | 1091.000 | 1096.000 | 135.700    | 10.390     | 20.790    | 0.000     | 493.700   |
| X    |          | 335.700    | 1069.000 | 1097.000 | 133.700    | 10.280     | 20.360    | 0.000     | 485.500   |
| σ    |          | 9.909      | 48.550   | 34.560   | 3.641      | 0.669      | 1.453     | 0.000     | 12.970    |
| %RSD |          | 2.952      | 4.540    | 3.151    | 2.724      | 6.506      | 7.137     | 0.000     | 2.671     |
| Run  | Time     | 89Y        | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 19:18:56 | 0.000      | 26.150   | 26.880   | 52.291%    | 6.994      | 6.781     | 3.974     | 5.702     |
| 2    | 19:19:04 | 0.000      | 27.410   | 27.240   | 51.195%    | 7.058      | 6.760     | 4.370     | 5.581     |
| 3    | 19:19:12 | 0.000      | 27.650   | 28.420   | 51.586%    | 6.935      | 6.655     | 4.468     | 5.236     |
| X    |          | 0.000      | 27.070   | 27.510   | 51.690%    | 6.996      | 6.732     | 4.271     | 5.506     |
| σ    |          | 0.000      | 0.810    | 0.809    | 0.555%     | 0.062      | 0.068     | 0.262     | 0.242     |
| %RSD |          | 0.000      | 2.991    | 2.942    | 1.074      | 0.880      | 1.003     | 6.130     | 4.396     |
| Run  | Time     | 115In      | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 19:18:56 | 58.659%    | 75.030   | 1.342    | 1.127      | 456.400    | 460.800   | 78.928%   | 79.341%   |
| 2    | 19:19:04 | 59.133%    | 74.790   | 1.453    | 1.106      | 462.900    | 474.200   | 78.605%   | 79.564%   |
| 3    | 19:19:12 | 59.367%    | 73.920   | 1.204    | 1.135      | 468.800    | 465.100   | 80.213%   | 80.141%   |
| X    |          | 59.053%    | 74.580   | 1.333    | 1.123      | 462.700    | 466.700   | 79.249%   | 79.682%   |
| σ    |          | 0.361%     | 0.585    | 0.124    | 0.015      | 6.185      | 6.818     | 0.851%    | 0.413%    |
| %RSD |          | 0.611      | 0.784    | 9.332    | 1.359      | 1.337      | 1.461     | 1.073     | 0.518     |
| Run  | Time     | 203Tl      | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi     |           |           |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       |           |           |
| 1    | 19:18:56 | 2.928      | 3.081    | 567.300  | 521.700    | 550.600    | 52.071%   |           |           |
| 2    | 19:19:04 | 3.062      | 2.974    | 575.000  | 529.200    | 554.600    | 52.245%   |           |           |
| 3    | 19:19:12 | 3.093      | 3.059    | 573.400  | 521.700    | 553.300    | 52.468%   |           |           |
| X    |          | 3.028      | 3.038    | 571.900  | 524.200    | 552.800    | 52.261%   |           |           |
| σ    |          | 0.087      | 0.057    | 4.084    | 4.304      | 2.020      | 0.199%    |           |           |
| %RSD |          | 2.881      | 1.872    | 0.714    | 0.821      | 0.365      | 0.381     |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li        | 9Be      | 10B      | 11B        | 13C        | 23Na       | 25Mg      | 26Mg      |
|------|----------|------------|----------|----------|------------|------------|------------|-----------|-----------|
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 19:24:04 | 81.950%    | 6.175    | 300.400  | 305.100    | 0.000      | 101700.000 | 76020.000 | 76080.000 |
| 2    | 19:24:12 | 70.548%    | 7.219    | 354.200  | 342.000    | 0.000      | 112700.000 | 88060.000 | 84070.000 |
| 3    | 19:24:20 | 74.458%    | 6.983    | 334.000  | 327.200    | 0.000      | 106800.000 | 82560.000 | 81400.000 |
| X    |          | 75.652%    | 6.792    | 329.500  | 324.800    | 0.000      | 107000.000 | 82210.000 | 80510.000 |
| σ    |          | 5.794%     | 0.548    | 27.160   | 18.530     | 0.000      | 5521.000   | 6029.000  | 4070.000  |
| %RSD |          | 7.658      | 8.062    | 8.242    | 5.706      | 0.000      | 5.158      | 7.334     | 5.055     |
| Run  | Time     | 27Al       | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca       | 45Sc      | 47Ti      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 19:24:04 | 132200.000 | 1392.000 | 0.000    | 36910.000  | 51950.000  | 54510.000  | 95.500%   | 7257.000  |
| 2    | 19:24:12 | 142000.000 | 1508.000 | 0.000    | 38320.000  | 52800.000  | 56860.000  | 93.110%   | 7185.000  |
| 3    | 19:24:20 | 137200.000 | 1444.000 | 0.000    | 38900.000  | 53860.000  | 57310.000  | 91.825%   | 7576.000  |
| X    |          | 137100.000 | 1448.000 | 0.000    | 38040.000  | 52870.000  | 56230.000  | 93.478%   | 7339.000  |
| σ    |          | 4906.000   | 58.400   | 0.000    | 1026.000   | 957.200    | 1500.000   | 1.865%    | 207.700   |
| %RSD |          | 3.578      | 4.033    | 0.000    | 2.698      | 1.810      | 2.668      | 1.995     | 2.830     |
| Run  | Time     | 51V        | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co       | 60Ni      | 63Cu      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 19:24:04 | 405.800    | 449.600  | 2501.000 | 243000.000 | 240200.000 | 72.150     | 207.500   | 253.000   |
| 2    | 19:24:12 | 414.800    | 456.800  | 2554.000 | 246700.000 | 237500.000 | 72.310     | 208.600   | 257.700   |
| 3    | 19:24:20 | 415.500    | 461.800  | 2660.000 | 246800.000 | 247800.000 | 73.160     | 210.500   | 250.400   |
| X    |          | 412.000    | 456.000  | 2571.000 | 245500.000 | 241800.000 | 72.540     | 208.900   | 253.700   |
| σ    |          | 5.411      | 6.126    | 81.110   | 2168.000   | 5300.000   | 0.547      | 1.515     | 3.691     |
| %RSD |          | 1.313      | 1.343    | 3.154    | 0.883      | 2.192      | 0.754      | 0.725     | 1.455     |
| Run  | Time     | 65Cu       | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se       | 83Kr      | 88Sr      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 19:24:04 | 264.900    | 901.000  | 926.500  | 118.500    | 9.059      | 26.000     | 0.000     | 478.000   |
| 2    | 19:24:12 | 263.000    | 896.800  | 922.200  | 118.300    | 8.815      | 23.670     | 0.000     | 475.400   |
| 3    | 19:24:20 | 270.400    | 920.200  | 925.400  | 119.400    | 9.299      | 26.610     | 0.000     | 482.200   |
| X    |          | 266.100    | 906.000  | 924.700  | 118.700    | 9.058      | 25.430     | 0.000     | 478.500   |
| σ    |          | 3.824      | 12.490   | 2.225    | 0.577      | 0.242      | 1.553      | 0.000     | 3.450     |
| %RSD |          | 1.437      | 1.378    | 0.241    | 0.486      | 2.673      | 6.108      | 0.000     | 0.721     |
| Run  | Time     | 89Y        | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag      | 111Cd     | 114Cd     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 19:24:04 | 0.000      | 23.520   | 22.780   | 49.624%    | 4.784      | 4.608      | 4.108     | 5.211     |
| 2    | 19:24:12 | 0.000      | 22.960   | 23.220   | 50.022%    | 5.071      | 4.684      | 3.852     | 5.305     |
| 3    | 19:24:20 | 0.000      | 24.350   | 23.160   | 50.053%    | 5.070      | 4.590      | 4.051     | 5.074     |
| X    |          | 0.000      | 23.610   | 23.050   | 49.900%    | 4.975      | 4.628      | 4.004     | 5.197     |
| σ    |          | 0.000      | 0.702    | 0.239    | 0.239%     | 0.166      | 0.050      | 0.134     | 0.116     |
| %RSD |          | 0.000      | 2.972    | 1.038    | 0.479      | 3.328      | 1.081      | 3.355     | 2.230     |
| Run  | Time     | 115In      | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba      | 159Tb     | 165Ho     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 19:24:04 | 55.992%    | 62.290   | 0.796    | 1.044      | 396.000    | 392.600    | 75.961%   | 75.450%   |
| 2    | 19:24:12 | 57.189%    | 63.800   | 0.626    | 0.545      | 398.800    | 394.400    | 76.077%   | 77.841%   |
| 3    | 19:24:20 | 57.393%    | 64.550   | 0.755    | 0.698      | 391.900    | 393.500    | 77.385%   | 78.359%   |
| X    |          | 56.858%    | 63.540   | 0.726    | 0.762      | 395.600    | 393.500    | 76.474%   | 77.217%   |
| σ    |          | 0.757%     | 1.150    | 0.089    | 0.256      | 3.480      | 0.938      | 0.791%    | 1.552%    |
| %RSD |          | 1.331      | 1.810    | 12.270   | 33.570     | 0.880      | 0.238      | 1.034     | 2.010     |
| Run  | Time     | 203Tl      | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi      |           |           |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        |           |           |
| 1    | 19:24:04 | 2.576      | 2.496    | 407.900  | 370.500    | 392.600    | 48.266%    |           |           |
| 2    | 19:24:12 | 2.573      | 2.519    | 402.400  | 369.100    | 387.700    | 49.344%    |           |           |
| 3    | 19:24:20 | 2.528      | 2.714    | 401.700  | 365.900    | 386.600    | 49.629%    |           |           |
| X    |          | 2.559      | 2.577    | 404.000  | 368.500    | 388.900    | 49.080%    |           |           |
| σ    |          | 0.027      | 0.120    | 3.387    | 2.324      | 3.201      | 0.719%     |           |           |
| %RSD |          | 1.052      | 4.657    | 0.838    | 0.631      | 0.823      | 1.465      |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be      | 10B     | 11B     | 13C     | 23Na    | 25Mg     | 26Mg    |
|------|----------|----------|----------|---------|---------|---------|---------|----------|---------|
|      |          | ppb      | ppb      | ppb     | ppb     | ppb     | ppb     | ppb      | ppb     |
| 1    | 19:33:12 | 111.446% | -0.012   | 1.135   | 1.122   | 0.000   | 34.750  | 22.810   | 22.890  |
| 2    | 19:33:20 | 111.477% | -0.017   | 1.075   | 1.058   | 0.000   | 41.900  | 27.470   | 27.450  |
| 3    | 19:33:28 | 106.511% | -0.015   | 1.086   | 1.057   | 0.000   | 50.970  | 36.450   | 33.620  |
| X    |          | 109.811% | -0.015   | 1.098   | 1.079   | 0.000   | 42.540  | 28.910   | 27.990  |
| σ    |          | 2.859%   | 0.002    | 0.032   | 0.037   | 0.000   | 8.127   | 6.935    | 5.388   |
| %RSD |          | 2.603    | 14.350   | 2.906   | 3.459   | 0.000   | 19.100  | 23.990   | 19.250  |
| Run  | Time     | 27Al     | 28Si     | 37Cl    | 39K     | 43Ca    | 44Ca    | 45Sc     | 47Ti    |
|      |          | ppb      | ppb      | ppb     | ppb     | ppb     | ppb     | ppb      | ppb     |
| 1    | 19:33:12 | 34.890   | 9.229    | 0.000   | 9.738   | 18.810  | 17.780  | 115.518% | 2.327   |
| 2    | 19:33:20 | 43.870   | 5.792    | 0.000   | 13.240  | 17.580  | 20.940  | 108.085% | 2.905   |
| 3    | 19:33:28 | 54.510   | 3.791    | 0.000   | 12.390  | 22.560  | 20.660  | 110.676% | 3.146   |
| X    |          | 44.420   | 6.271    | 0.000   | 11.790  | 19.650  | 19.790  | 111.426% | 2.792   |
| σ    |          | 9.820    | 2.750    | 0.000   | 1.829   | 2.597   | 1.747   | 3.773%   | 0.421   |
| %RSD |          | 22.110   | 43.860   | 0.000   | 15.510  | 13.220  | 8.827   | 3.386    | 15.080  |
| Run  | Time     | 51V      | 52Cr     | 55Mn    | 56Fe    | 57Fe    | 59Co    | 60Ni     | 63Cu    |
|      |          | ppb      | ppb      | ppb     | ppb     | ppb     | ppb     | ppb      | ppb     |
| 1    | 19:33:12 | 0.094    | 0.144    | 0.872   | 79.330  | 79.690  | 0.022   | 0.062    | 0.092   |
| 2    | 19:33:20 | 0.158    | 0.175    | 1.003   | 93.980  | 87.420  | 0.028   | 0.189    | 0.192   |
| 3    | 19:33:28 | 0.153    | 0.185    | 1.085   | 105.300 | 108.800 | 0.041   | 0.221    | 0.214   |
| X    |          | 0.135    | 0.168    | 0.987   | 92.880  | 91.970  | 0.030   | 0.157    | 0.166   |
| σ    |          | 0.035    | 0.021    | 0.107   | 13.030  | 15.070  | 0.010   | 0.084    | 0.065   |
| %RSD |          | 26.160   | 12.780   | 10.870  | 14.030  | 16.390  | 31.840  | 53.600   | 38.980  |
| Run  | Time     | 65Cu     | 66Zn     | 68Zn    | 75As    | 78Se    | 82Se    | 83Kr     | 88Sr    |
|      |          | ppb      | ppb      | ppb     | ppb     | ppb     | ppb     | ppb      | ppb     |
| 1    | 19:33:12 | 0.091    | 0.977    | 0.700   | 0.083   | 0.036   | 0.662   | 0.000    | 0.097   |
| 2    | 19:33:20 | 0.185    | 1.190    | 1.148   | 0.053   | 0.037   | 0.285   | 0.000    | 0.161   |
| 3    | 19:33:28 | 0.185    | 1.399    | 1.216   | 0.074   | 0.037   | -0.345  | 0.000    | 0.222   |
| X    |          | 0.154    | 1.189    | 1.021   | 0.070   | 0.037   | 0.201   | 0.000    | 0.160   |
| σ    |          | 0.054    | 0.211    | 0.281   | 0.015   | 0.000   | 0.509   | 0.000    | 0.062   |
| %RSD |          | 35.430   | 17.740   | 27.480  | 21.950  | 1.102   | 253.700 | 0.000    | 38.940  |
| Run  | Time     | 89Y      | 95Mo     | 98Mo    | 103Rh   | 107Ag   | 109Ag   | 111Cd    | 114Cd   |
|      |          | ppb      | ppb      | ppb     | ppb     | ppb     | ppb     | ppb      | ppb     |
| 1    | 19:33:12 | 87.697%  | -0.012   | -0.009  | 83.819% | 0.003   | 0.015   | -0.004   | 0.003   |
| 2    | 19:33:20 | 87.159%  | -0.005   | -0.014  | 85.253% | -0.007  | -0.005  | 0.009    | -0.026  |
| 3    | 19:33:28 | 87.503%  | 0.018    | 0.005   | 83.323% | -0.025  | -0.000  | 0.009    | -0.014  |
| X    |          | 87.453%  | 0.001    | -0.006  | 84.132% | -0.010  | 0.003   | 0.005    | -0.012  |
| σ    |          | 0.272%   | 0.015    | 0.010   | 1.002%  | 0.015   | 0.011   | 0.008    | 0.014   |
| %RSD |          | 0.311    | 2997.000 | 155.500 | 1.191   | 151.900 | 307.800 | 161.900  | 115.500 |
| Run  | Time     | 115In    | 118Sn    | 121Sb   | 123Sb   | 135Ba   | 137Ba   | 159Tb    | 165Ho   |
|      |          | ppb      | ppb      | ppb     | ppb     | ppb     | ppb     | ppb      | ppb     |
| 1    | 19:33:12 | 84.789%  | -0.678   | -0.104  | -0.210  | 0.115   | 0.106   | 90.154%  | 90.777% |
| 2    | 19:33:20 | 84.180%  | -0.603   | -0.097  | -0.265  | 0.022   | 0.126   | 90.922%  | 90.390% |
| 3    | 19:33:28 | 84.483%  | -0.570   | -0.110  | -0.126  | 0.207   | 0.145   | 90.675%  | 90.566% |
| X    |          | 84.484%  | -0.617   | -0.104  | -0.200  | 0.114   | 0.126   | 90.584%  | 90.578% |
| σ    |          | 0.304%   | 0.055    | 0.007   | 0.070   | 0.093   | 0.019   | 0.392%   | 0.194%  |
| %RSD |          | 0.360    | 8.942    | 6.450   | 34.860  | 80.880  | 15.230  | 0.433    | 0.214   |
| Run  | Time     | 203Tl    | 205Tl    | 206Pb   | 207Pb   | 208Pb   | 209Bi   |          |         |
|      |          | ppb      | ppb      | ppb     | ppb     | ppb     | ppb     |          |         |
| 1    | 19:33:12 | -0.018   | -0.014   | 0.119   | 0.091   | 0.124   | 89.878% |          |         |
| 2    | 19:33:20 | -0.008   | -0.012   | 0.127   | 0.127   | 0.128   | 91.093% |          |         |
| 3    | 19:33:28 | -0.021   | -0.007   | 0.147   | 0.154   | 0.147   | 92.529% |          |         |
| X    |          | -0.016   | -0.011   | 0.131   | 0.124   | 0.133   | 91.167% |          |         |
| σ    |          | 0.007    | 0.004    | 0.014   | 0.031   | 0.012   | 1.327%  |          |         |
| %RSD |          | 41.400   | 32.610   | 11.000  | 25.400  | 9.041   | 1.455   |          |         |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be     | 10B    | 11B     | 13C     | 23Na    | 25Mg     | 26Mg    |
|------|----------|----------|---------|--------|---------|---------|---------|----------|---------|
|      |          | ppb      | ppb     | ppb    | ppb     | ppb     | ppb     | ppb      | ppb     |
| 1    | 19:38:13 | 108.468% | -0.017  | 1.006  | 1.043   | 0.000   | 1.842   | 0.408    | 0.130   |
| 2    | 19:38:21 | 109.982% | -0.025  | 0.879  | 0.918   | 0.000   | 1.305   | 0.177    | 0.151   |
| 3    | 19:38:29 | 107.268% | -0.028  | 0.878  | 0.857   | 0.000   | 1.597   | 0.163    | 0.506   |
| X    |          | 108.573% | -0.023  | 0.921  | 0.940   | 0.000   | 1.581   | 0.249    | 0.263   |
| σ    |          | 1.360%   | 0.005   | 0.074  | 0.095   | 0.000   | 0.269   | 0.137    | 0.211   |
| %RSD |          | 1.253    | 22.630  | 8.004  | 10.090  | 0.000   | 17.000  | 55.100   | 80.390  |
| Run  | Time     | 27Al     | 28Si    | 37Cl   | 39K     | 43Ca    | 44Ca    | 45Sc     | 47Ti    |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb     | ppb     | ppb      | ppb     |
| 1    | 19:38:13 | 1.204    | 15.060  | 0.000  | 2.324   | 8.927   | 4.990   | 117.401% | 0.593   |
| 2    | 19:38:21 | 0.957    | 8.837   | 0.000  | 1.423   | 1.814   | 4.741   | 118.743% | 0.751   |
| 3    | 19:38:29 | 0.750    | 5.940   | 0.000  | 1.925   | 5.052   | 5.010   | 114.334% | 0.638   |
| X    |          | 0.971    | 9.946   | 0.000  | 1.891   | 5.264   | 4.914   | 116.826% | 0.661   |
| σ    |          | 0.227    | 4.660   | 0.000  | 0.451   | 3.561   | 0.149   | 2.260%   | 0.082   |
| %RSD |          | 23.400   | 46.860  | 0.000  | 23.880  | 67.650  | 3.042   | 1.935    | 12.350  |
| Run  | Time     | 51V      | 52Cr    | 55Mn   | 56Fe    | 57Fe    | 59Co    | 60Ni     | 63Cu    |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb     | ppb     | ppb      | ppb     |
| 1    | 19:38:13 | -0.021   | 0.020   | 0.220  | 9.024   | 6.695   | 0.005   | 0.042    | 0.013   |
| 2    | 19:38:21 | 0.017    | 0.012   | 0.211  | 7.193   | 6.310   | 0.001   | 0.079    | 0.019   |
| 3    | 19:38:29 | 0.017    | 0.019   | 0.196  | 6.945   | 6.447   | 0.001   | 0.073    | 0.006   |
| X    |          | 0.004    | 0.017   | 0.209  | 7.721   | 6.484   | 0.002   | 0.065    | 0.013   |
| σ    |          | 0.022    | 0.004   | 0.012  | 1.136   | 0.195   | 0.002   | 0.020    | 0.006   |
| %RSD |          | 525.900  | 25.080  | 5.859  | 14.710  | 3.008   | 93.540  | 30.440   | 49.150  |
| Run  | Time     | 65Cu     | 66Zn    | 68Zn   | 75As    | 78Se    | 82Se    | 83Kr     | 88Sr    |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb     | ppb     | ppb      | ppb     |
| 1    | 19:38:13 | 0.039    | 0.538   | 0.478  | 0.027   | -0.007  | 0.282   | 0.000    | 0.007   |
| 2    | 19:38:21 | -0.009   | 0.331   | 0.444  | 0.012   | 0.056   | 0.518   | 0.000    | 0.001   |
| 3    | 19:38:29 | -0.038   | 0.497   | 0.226  | -0.022  | 0.014   | 0.030   | 0.000    | -0.002  |
| X    |          | -0.003   | 0.455   | 0.383  | 0.006   | 0.021   | 0.277   | 0.000    | 0.002   |
| σ    |          | 0.039    | 0.110   | 0.137  | 0.025   | 0.032   | 0.244   | 0.000    | 0.004   |
| %RSD |          | 1450.000 | 24.100  | 35.710 | 447.500 | 150.600 | 88.120  | 0.000    | 211.500 |
| Run  | Time     | 89Y      | 95Mo    | 98Mo   | 103Rh   | 107Ag   | 109Ag   | 111Cd    | 114Cd   |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb     | ppb     | ppb      | ppb     |
| 1    | 19:38:13 | 90.393%  | 0.002   | -0.024 | 84.677% | -0.013  | -0.005  | -0.004   | -0.015  |
| 2    | 19:38:21 | 91.582%  | -0.013  | -0.024 | 84.599% | -0.005  | 0.002   | 0.009    | -0.009  |
| 3    | 19:38:29 | 92.261%  | 0.035   | -0.034 | 86.704% | -0.018  | -0.008  | 0.009    | -0.026  |
| X    |          | 91.412%  | 0.008   | -0.027 | 85.327% | -0.012  | -0.004  | 0.005    | -0.016  |
| σ    |          | 0.945%   | 0.025   | 0.006  | 1.194%  | 0.006   | 0.005   | 0.008    | 0.009   |
| %RSD |          | 1.034    | 315.100 | 20.620 | 1.399   | 52.990  | 127.100 | 166.500  | 51.710  |
| Run  | Time     | 115In    | 118Sn   | 121Sb  | 123Sb   | 135Ba   | 137Ba   | 159Tb    | 165Ho   |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb     | ppb     | ppb      | ppb     |
| 1    | 19:38:13 | 87.391%  | -0.647  | -0.092 | -0.238  | 0.052   | 0.010   | 90.605%  | 90.581% |
| 2    | 19:38:21 | 86.732%  | -0.621  | -0.104 | -0.238  | 0.021   | 0.029   | 91.022%  | 90.838% |
| 3    | 19:38:29 | 88.434%  | -0.687  | -0.118 | -0.176  | 0.021   | 0.065   | 91.447%  | 90.910% |
| X    |          | 87.519%  | -0.652  | -0.105 | -0.218  | 0.031   | 0.035   | 91.025%  | 90.776% |
| σ    |          | 0.858%   | 0.034   | 0.013  | 0.036   | 0.018   | 0.028   | 0.421%   | 0.173%  |
| %RSD |          | 0.981    | 5.159   | 12.420 | 16.380  | 56.140  | 81.790  | 0.463    | 0.191   |
| Run  | Time     | 203Tl    | 205Tl   | 206Pb  | 207Pb   | 208Pb   | 209Bi   |          |         |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb     | ppb     |          |         |
| 1    | 19:38:13 | -0.023   | -0.014  | -0.018 | -0.019  | -0.010  | 91.843% |          |         |
| 2    | 19:38:21 | -0.018   | -0.014  | -0.034 | -0.019  | -0.013  | 90.538% |          |         |
| 3    | 19:38:29 | -0.013   | -0.009  | -0.022 | -0.016  | -0.011  | 92.863% |          |         |
| X    |          | -0.018   | -0.013  | -0.025 | -0.018  | -0.012  | 91.748% |          |         |
| σ    |          | 0.005    | 0.003   | 0.008  | 0.002   | 0.002   | 1.165%  |          |         |
| %RSD |          | 26.510   | 23.180  | 34.140 | 10.230  | 13.640  | 1.270   |          |         |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be       | 10B      | 11B       | 13C       | 23Na      | 25Mg      | 26Mg      |
|------|----------|----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|
|      |          | ppb      | ppb       | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 19:43:18 | 89.759%  | 49.360    | 915.600  | 975.500   | 0.000     | 52270.000 | 51510.000 | 51180.000 |
| 2    | 19:43:26 | 88.887%  | 50.220    | 931.000  | 962.200   | 0.000     | 51310.000 | 50800.000 | 50390.000 |
| 3    | 19:43:34 | 84.169%  | 54.060    | 994.200  | 1049.000  | 0.000     | 55950.000 | 54420.000 | 54320.000 |
| X    |          | 87.605%  | 51.210    | 946.900  | 995.500   | 0.000     | 53180.000 | 52240.000 | 51970.000 |
| σ    |          | 3.007%   | 2.504     | 41.650   | 46.610    | 0.000     | 2452.000  | 1921.000  | 2080.000  |
| %RSD |          | 3.433    | 4.889     | 4.398    | 4.682     | 0.000     | 4.610     | 3.678     | 4.002     |
| Run  | Time     | 27Al     | 28Si      | 37Cl     | 39K       | 43Ca      | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb      | ppb       | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 19:43:18 | 1933.000 | 11220.000 | 0.000    | 55250.000 | 52550.000 | 57750.000 | 89.643%   | 1022.000  |
| 2    | 19:43:26 | 1956.000 | 11230.000 | 0.000    | 56840.000 | 52330.000 | 57240.000 | 88.855%   | 1014.000  |
| 3    | 19:43:34 | 2128.000 | 11840.000 | 0.000    | 59570.000 | 55460.000 | 58410.000 | 83.585%   | 1059.000  |
| X    |          | 2005.000 | 11430.000 | 0.000    | 57220.000 | 53450.000 | 57800.000 | 87.361%   | 1032.000  |
| σ    |          | 106.400  | 354.800   | 0.000    | 2188.000  | 1747.000  | 589.900   | 3.293%    | 23.780    |
| %RSD |          | 5.305    | 3.103     | 0.000    | 3.823     | 3.269     | 1.021     | 3.770     | 2.305     |
| Run  | Time     | 51V      | 52Cr      | 55Mn     | 56Fe      | 57Fe      | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb      | ppb       | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 19:43:18 | 437.400  | 176.500   | 549.100  | 950.400   | 1167.000  | 456.300   | 448.900   | 235.900   |
| 2    | 19:43:26 | 425.500  | 174.300   | 542.200  | 1000.000  | 1222.000  | 458.100   | 461.000   | 247.500   |
| 3    | 19:43:34 | 460.500  | 184.600   | 572.900  | 1022.000  | 1227.000  | 466.400   | 471.000   | 248.100   |
| X    |          | 441.100  | 178.500   | 554.700  | 990.800   | 1205.000  | 460.200   | 460.300   | 243.900   |
| σ    |          | 17.830   | 5.446     | 16.100   | 36.680    | 33.400    | 5.400     | 11.090    | 6.866     |
| %RSD |          | 4.042    | 3.051     | 2.902    | 3.702     | 2.772     | 1.173     | 2.409     | 2.816     |
| Run  | Time     | 65Cu     | 66Zn      | 68Zn     | 75As      | 78Se      | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb      | ppb       | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 19:43:18 | 244.100  | 530.100   | 525.700  | 40.590    | 10.640    | 11.630    | 0.000     | 909.200   |
| 2    | 19:43:26 | 242.100  | 523.500   | 519.700  | 39.520    | 10.720    | 12.760    | 0.000     | 910.600   |
| 3    | 19:43:34 | 247.100  | 537.200   | 535.700  | 41.880    | 11.200    | 12.790    | 0.000     | 908.200   |
| X    |          | 244.400  | 530.300   | 527.000  | 40.660    | 10.850    | 12.390    | 0.000     | 909.300   |
| σ    |          | 2.518    | 6.817     | 8.067    | 1.183     | 0.304     | 0.662     | 0.000     | 1.216     |
| %RSD |          | 1.030    | 1.285     | 1.531    | 2.909     | 2.798     | 5.342     | 0.000     | 0.134     |
| Run  | Time     | 89Y      | 95Mo      | 98Mo     | 103Rh     | 107Ag     | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb      | ppb       | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 19:43:18 | 80.746%  | 1015.000  | 1046.000 | 68.527%   | 50.290    | 49.940    | 50.040    | 89.840    |
| 2    | 19:43:26 | 81.616%  | 1015.000  | 1041.000 | 69.833%   | 48.670    | 49.150    | 52.830    | 92.260    |
| 3    | 19:43:34 | 81.100%  | 1061.000  | 1082.000 | 66.845%   | 51.300    | 51.130    | 52.020    | 91.040    |
| X    |          | 81.154%  | 1031.000  | 1056.000 | 68.402%   | 50.090    | 50.070    | 51.630    | 91.050    |
| σ    |          | 0.438%   | 26.680    | 22.250   | 1.498%    | 1.326     | 0.996     | 1.436     | 1.213     |
| %RSD |          | 0.539    | 2.588     | 2.107    | 2.190     | 2.647     | 1.990     | 2.782     | 1.332     |
| Run  | Time     | 115In    | 118Sn     | 121Sb    | 123Sb     | 135Ba     | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb      | ppb       | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 19:43:18 | 73.323%  | 1890.000  | 493.400  | 494.500   | 1836.000  | 1867.000  | 83.260%   | 84.805%   |
| 2    | 19:43:26 | 72.305%  | 1998.000  | 510.100  | 505.200   | 1823.000  | 1873.000  | 83.088%   | 84.148%   |
| 3    | 19:43:34 | 73.734%  | 1920.000  | 496.500  | 496.000   | 1808.000  | 1842.000  | 82.354%   | 82.937%   |
| X    |          | 73.121%  | 1936.000  | 500.000  | 498.600   | 1822.000  | 1861.000  | 82.901%   | 83.963%   |
| σ    |          | 0.736%   | 55.930    | 8.903    | 5.805     | 14.250    | 16.680    | 0.482%    | 0.948%    |
| %RSD |          | 1.006    | 2.889     | 1.781    | 1.164     | 0.782     | 0.897     | 0.581     | 1.129     |
| Run  | Time     | 203Tl    | 205Tl     | 206Pb    | 207Pb     | 208Pb     | 209Bi     |           |           |
|      |          | ppb      | ppb       | ppb      | ppb       | ppb       | ppb       |           |           |
| 1    | 19:43:18 | 45.250   | 45.510    | 18.500   | 18.900    | 18.770    | 72.403%   |           |           |
| 2    | 19:43:26 | 45.280   | 45.860    | 18.650   | 19.280    | 18.910    | 72.329%   |           |           |
| 3    | 19:43:34 | 46.130   | 46.400    | 19.290   | 19.530    | 19.430    | 71.666%   |           |           |
| X    |          | 45.560   | 45.920    | 18.820   | 19.240    | 19.040    | 72.133%   |           |           |
| σ    |          | 0.500    | 0.449     | 0.418    | 0.320     | 0.345     | 0.406%    |           |           |
| %RSD |          | 1.097    | 0.977     | 2.224    | 1.663     | 1.811     | 0.563     |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be       | 10B      | 11B       | 13C       | 23Na      | 25Mg      | 26Mg      |
|------|----------|----------|-----------|----------|-----------|-----------|-----------|-----------|-----------|
|      |          | ppb      | ppb       | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 19:48:21 | 85.975%  | 55.000    | 1026.000 | 1091.000  | 0.000     | 50370.000 | 51820.000 | 52260.000 |
| 2    | 19:48:28 | 82.911%  | 56.220    | 1038.000 | 1059.000  | 0.000     | 54810.000 | 54720.000 | 54010.000 |
| 3    | 19:48:36 | 84.632%  | 53.820    | 995.100  | 1108.000  | 0.000     | 54870.000 | 54760.000 | 54480.000 |
| X    |          | 84.506%  | 55.020    | 1020.000 | 1086.000  | 0.000     | 53350.000 | 53770.000 | 53580.000 |
| σ    |          | 1.536%   | 1.201     | 22.310   | 25.090    | 0.000     | 2584.000  | 1685.000  | 1172.000  |
| %RSD |          | 1.817    | 2.182     | 2.188    | 2.310     | 0.000     | 4.843     | 3.133     | 2.188     |
| Run  | Time     | 27Al     | 28Si      | 37Cl     | 39K       | 43Ca      | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb      | ppb       | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 19:48:21 | 1965.000 | 11090.000 | 0.000    | 51750.000 | 47780.000 | 51810.000 | 98.822%   | 968.000   |
| 2    | 19:48:28 | 2117.000 | 11210.000 | 0.000    | 52840.000 | 48790.000 | 54150.000 | 98.112%   | 960.700   |
| 3    | 19:48:36 | 2131.000 | 11690.000 | 0.000    | 54620.000 | 50940.000 | 55090.000 | 93.990%   | 1025.000  |
| X    |          | 2071.000 | 11330.000 | 0.000    | 53070.000 | 49170.000 | 53680.000 | 96.975%   | 984.600   |
| σ    |          | 92.140   | 314.000   | 0.000    | 1449.000  | 1614.000  | 1688.000  | 2.609%    | 35.130    |
| %RSD |          | 4.449    | 2.771     | 0.000    | 2.729     | 3.283     | 3.144     | 2.690     | 3.568     |
| Run  | Time     | 51V      | 52Cr      | 55Mn     | 56Fe      | 57Fe      | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb      | ppb       | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 19:48:21 | 417.200  | 173.800   | 518.200  | 932.700   | 1093.000  | 451.200   | 451.000   | 243.600   |
| 2    | 19:48:28 | 435.900  | 176.700   | 521.300  | 921.200   | 1118.000  | 465.400   | 473.000   | 243.200   |
| 3    | 19:48:36 | 458.000  | 178.500   | 543.800  | 943.500   | 1174.000  | 467.800   | 474.900   | 249.900   |
| X    |          | 437.000  | 176.300   | 527.800  | 932.500   | 1128.000  | 461.500   | 466.300   | 245.500   |
| σ    |          | 20.400   | 2.369     | 13.950   | 11.140    | 41.530    | 8.976     | 13.250    | 3.785     |
| %RSD |          | 4.667    | 1.344     | 2.644    | 1.195     | 3.681     | 1.945     | 2.841     | 1.541     |
| Run  | Time     | 65Cu     | 66Zn      | 68Zn     | 75As      | 78Se      | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb      | ppb       | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 19:48:21 | 243.200  | 509.700   | 522.900  | 42.130    | 10.240    | 10.910    | 0.000     | 952.300   |
| 2    | 19:48:28 | 246.400  | 532.200   | 533.100  | 42.090    | 12.450    | 10.630    | 0.000     | 964.100   |
| 3    | 19:48:36 | 250.100  | 533.000   | 538.400  | 43.630    | 11.120    | 8.624     | 0.000     | 973.100   |
| X    |          | 246.600  | 525.000   | 531.500  | 42.620    | 11.270    | 10.050    | 0.000     | 963.100   |
| σ    |          | 3.440    | 13.240    | 7.914    | 0.874     | 1.111     | 1.247     | 0.000     | 10.440    |
| %RSD |          | 1.395    | 2.521     | 1.489    | 2.050     | 9.855     | 12.400    | 0.000     | 1.084     |
| Run  | Time     | 89Y      | 95Mo      | 98Mo     | 103Rh     | 107Ag     | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb      | ppb       | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 19:48:21 | 80.968%  | 1083.000  | 1117.000 | 67.730%   | 50.880    | 51.080    | 54.960    | 96.410    |
| 2    | 19:48:28 | 80.935%  | 1086.000  | 1126.000 | 68.558%   | 51.270    | 51.140    | 52.400    | 96.690    |
| 3    | 19:48:36 | 80.323%  | 1126.000  | 1148.000 | 67.187%   | 51.480    | 52.210    | 54.360    | 100.000   |
| X    |          | 80.742%  | 1098.000  | 1130.000 | 67.825%   | 51.210    | 51.480    | 53.910    | 97.710    |
| σ    |          | 0.364%   | 24.040    | 15.950   | 0.690%    | 0.305     | 0.638     | 1.335     | 2.015     |
| %RSD |          | 0.450    | 2.189     | 1.411    | 1.018     | 0.596     | 1.239     | 2.477     | 2.062     |
| Run  | Time     | 115In    | 118Sn     | 121Sb    | 123Sb     | 135Ba     | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb      | ppb       | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 19:48:21 | 71.670%  | 2059.000  | 529.400  | 517.000   | 1940.000  | 1964.000  | 81.100%   | 83.849%   |
| 2    | 19:48:28 | 73.102%  | 2066.000  | 520.100  | 514.300   | 1938.000  | 1939.000  | 82.719%   | 83.430%   |
| 3    | 19:48:36 | 73.727%  | 2053.000  | 523.300  | 520.900   | 1951.000  | 1952.000  | 82.229%   | 83.674%   |
| X    |          | 72.833%  | 2059.000  | 524.300  | 517.400   | 1943.000  | 1952.000  | 82.016%   | 83.651%   |
| σ    |          | 1.054%   | 6.470     | 4.710    | 3.308     | 7.082     | 12.520    | 0.830%    | 0.210%    |
| %RSD |          | 1.448    | 0.314     | 0.898    | 0.639     | 0.364     | 0.641     | 1.012     | 0.251     |
| Run  | Time     | 203Tl    | 205Tl     | 206Pb    | 207Pb     | 208Pb     | 209Bi     |           |           |
|      |          | ppb      | ppb       | ppb      | ppb       | ppb       | ppb       |           |           |
| 1    | 19:48:21 | 46.350   | 47.350    | 19.040   | 19.560    | 19.340    | 71.841%   |           |           |
| 2    | 19:48:28 | 46.370   | 47.230    | 19.780   | 19.590    | 19.620    | 72.352%   |           |           |
| 3    | 19:48:36 | 46.460   | 47.370    | 19.920   | 19.950    | 19.800    | 71.665%   |           |           |
| X    |          | 46.390   | 47.320    | 19.580   | 19.700    | 19.590    | 71.953%   |           |           |
| σ    |          | 0.058    | 0.075     | 0.469    | 0.219     | 0.230     | 0.357%    |           |           |
| %RSD |          | 0.125    | 0.160     | 2.395    | 1.111     | 1.175     | 0.496     |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be      | 10B     | 11B     | 13C      | 23Na     | 25Mg     | 26Mg     |
|------|----------|----------|----------|---------|---------|----------|----------|----------|----------|
|      |          | ppb      | ppb      | ppb     | ppb     | ppb      | ppb      | ppb      | ppb      |
| 1    | 19:53:23 | 101.775% | 0.069    | 11.150  | 11.420  | 0.000    | 1046.000 | 1751.000 | 1690.000 |
| 2    | 19:53:31 | 102.718% | 0.068    | 9.970   | 10.010  | 0.000    | 1081.000 | 1784.000 | 1776.000 |
| 3    | 19:53:39 | 103.783% | 0.066    | 9.817   | 9.982   | 0.000    | 1076.000 | 1727.000 | 1674.000 |
| X    |          | 102.759% | 0.068    | 10.310  | 10.470  | 0.000    | 1068.000 | 1754.000 | 1713.000 |
| σ    |          | 1.005%   | 0.001    | 0.729   | 0.820   | 0.000    | 19.130   | 28.910   | 55.180   |
| %RSD |          | 0.978    | 2.119    | 7.072   | 7.829   | 0.000    | 1.792    | 1.648    | 3.221    |
| Run  | Time     | 27Al     | 28Si     | 37Cl    | 39K     | 43Ca     | 44Ca     | 45Sc     | 47Ti     |
|      |          | ppb      | ppb      | ppb     | ppb     | ppb      | ppb      | ppb      | ppb      |
| 1    | 19:53:23 | 308.300  | 2914.000 | 0.000   | 561.400 | 4606.000 | 4515.000 | 108.931% | 3.437    |
| 2    | 19:53:31 | 320.800  | 2842.000 | 0.000   | 577.000 | 4751.000 | 4691.000 | 108.364% | -31.870  |
| 3    | 19:53:39 | 312.400  | 2940.000 | 0.000   | 583.900 | 4700.000 | 4866.000 | 108.540% | 3.489    |
| X    |          | 313.900  | 2899.000 | 0.000   | 574.100 | 4686.000 | 4691.000 | 108.612% | -8.314   |
| σ    |          | 6.383    | 51.110   | 0.000   | 11.550  | 73.450   | 175.500  | 0.290%   | 20.400   |
| %RSD |          | 2.034    | 1.763    | 0.000   | 2.012   | 1.567    | 3.741    | 0.267    | 245.300  |
| Run  | Time     | 51V      | 52Cr     | 55Mn    | 56Fe    | 57Fe     | 59Co     | 60Ni     | 63Cu     |
|      |          | ppb      | ppb      | ppb     | ppb     | ppb      | ppb      | ppb      | ppb      |
| 1    | 19:53:23 | 0.514    | 0.224    | 279.000 | 107.400 | 132.900  | 5.237    | 9.267    | 9.232    |
| 2    | 19:53:31 | 0.325    | 0.233    | 291.700 | 107.700 | 130.100  | 5.268    | 10.080   | 9.316    |
| 3    | 19:53:39 | 0.342    | 0.227    | 283.200 | 108.700 | 125.700  | 5.424    | 10.030   | 9.197    |
| X    |          | 0.394    | 0.228    | 284.600 | 107.900 | 129.600  | 5.310    | 9.793    | 9.248    |
| σ    |          | 0.105    | 0.005    | 6.459   | 0.692   | 3.670    | 0.100    | 0.456    | 0.061    |
| %RSD |          | 26.560   | 2.080    | 2.269   | 0.641   | 2.833    | 1.889    | 4.660    | 0.662    |
| Run  | Time     | 65Cu     | 66Zn     | 68Zn    | 75As    | 78Se     | 82Se     | 83Kr     | 88Sr     |
|      |          | ppb      | ppb      | ppb     | ppb     | ppb      | ppb      | ppb      | ppb      |
| 1    | 19:53:23 | 9.323    | 24.700   | 25.300  | 0.191   | 0.211    | 0.730    | 0.000    | 14.780   |
| 2    | 19:53:31 | 9.151    | 23.860   | 23.690  | 0.200   | 0.300    | 0.535    | 0.000    | 14.190   |
| 3    | 19:53:39 | 9.221    | 25.030   | 24.530  | 0.186   | 0.279    | -0.416   | 0.000    | 14.830   |
| X    |          | 9.232    | 24.530   | 24.510  | 0.192   | 0.264    | 0.283    | 0.000    | 14.600   |
| σ    |          | 0.087    | 0.602    | 0.808   | 0.007   | 0.046    | 0.613    | 0.000    | 0.359    |
| %RSD |          | 0.940    | 2.454    | 3.297   | 3.689   | 17.630   | 216.600  | 0.000    | 2.458    |
| Run  | Time     | 89Y      | 95Mo     | 98Mo    | 103Rh   | 107Ag    | 109Ag    | 111Cd    | 114Cd    |
|      |          | ppb      | ppb      | ppb     | ppb     | ppb      | ppb      | ppb      | ppb      |
| 1    | 19:53:23 | 87.800%  | 9.774    | 9.615   | 82.235% | 0.002    | -0.009   | 0.258    | 0.474    |
| 2    | 19:53:31 | 87.295%  | 7.678    | 7.968   | 84.291% | -0.013   | -0.011   | 0.133    | 0.342    |
| 3    | 19:53:39 | 86.920%  | 7.050    | 7.122   | 82.293% | -0.000   | -0.014   | 0.212    | 0.365    |
| X    |          | 87.338%  | 8.167    | 8.235   | 82.940% | -0.004   | -0.011   | 0.201    | 0.394    |
| σ    |          | 0.441%   | 1.427    | 1.267   | 1.170%  | 0.008    | 0.002    | 0.063    | 0.070    |
| %RSD |          | 0.505    | 17.470   | 15.390  | 1.411   | 214.900  | 20.660   | 31.330   | 17.890   |
| Run  | Time     | 115In    | 118Sn    | 121Sb   | 123Sb   | 135Ba    | 137Ba    | 159Tb    | 165Ho    |
|      |          | ppb      | ppb      | ppb     | ppb     | ppb      | ppb      | ppb      | ppb      |
| 1    | 19:53:23 | 83.205%  | 8.407    | 0.058   | -0.096  | 39.360   | 38.770   | 89.761%  | 90.194%  |
| 2    | 19:53:31 | 82.570%  | 8.390    | 0.039   | -0.039  | 36.550   | 39.490   | 90.994%  | 92.695%  |
| 3    | 19:53:39 | 85.547%  | 6.983    | 0.027   | -0.165  | 38.920   | 39.260   | 90.837%  | 92.794%  |
| X    |          | 83.774%  | 7.927    | 0.042   | -0.100  | 38.280   | 39.170   | 90.530%  | 91.895%  |
| σ    |          | 1.568%   | 0.817    | 0.016   | 0.063   | 1.511    | 0.366    | 0.671%   | 1.473%   |
| %RSD |          | 1.872    | 10.310   | 37.700  | 63.100  | 3.946    | 0.934    | 0.741    | 1.603    |
| Run  | Time     | 203Tl    | 205Tl    | 206Pb   | 207Pb   | 208Pb    | 209Bi    |          |          |
|      |          | ppb      | ppb      | ppb     | ppb     | ppb      | ppb      |          |          |
| 1    | 19:53:23 | 0.183    | 0.204    | 0.130   | 0.079   | 0.118    | 92.948%  |          |          |
| 2    | 19:53:31 | 0.148    | 0.166    | 0.137   | 0.157   | 0.128    | 94.235%  |          |          |
| 3    | 19:53:39 | 0.138    | 0.137    | 0.104   | 0.113   | 0.124    | 94.864%  |          |          |
| X    |          | 0.156    | 0.169    | 0.123   | 0.116   | 0.124    | 94.016%  |          |          |
| σ    |          | 0.023    | 0.034    | 0.017   | 0.039   | 0.005    | 0.977%   |          |          |
| %RSD |          | 14.940   | 19.930   | 13.980  | 33.540  | 3.883    | 1.039    |          |          |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li     | 9Be      | 10B     | 11B      | 13C        | 23Na       | 25Mg      | 26Mg      |
|------|----------|---------|----------|---------|----------|------------|------------|-----------|-----------|
|      |          | ppb     | ppb      | ppb     | ppb      | ppb        | ppb        | ppb       | ppb       |
| 1    | 19:58:28 | 72.298% | 0.217    | 231.900 | 243.400  | 0.000      | 312000.000 | 64070.000 | 64920.000 |
| 2    | 19:58:36 | 69.762% | 0.212    | 246.200 | 236.600  | 0.000      | 354000.000 | 73510.000 | 72400.000 |
| 3    | 19:58:44 | 67.716% | 0.213    | 251.800 | 254.400  | 0.000      | 341200.000 | 70800.000 | 71540.000 |
| X    |          | 69.925% | 0.214    | 243.300 | 244.800  | 0.000      | 335800.000 | 69460.000 | 69620.000 |
| σ    |          | 2.295%  | 0.003    | 10.260  | 8.988    | 0.000      | 21510.000  | 4860.000  | 4090.000  |
| %RSD |          | 3.282   | 1.176    | 4.219   | 3.671    | 0.000      | 6.407      | 6.996     | 5.875     |
| Run  | Time     | 27Al    | 28Si     | 37Cl    | 39K      | 43Ca       | 44Ca       | 45Sc      | 47Ti      |
|      |          | ppb     | ppb      | ppb     | ppb      | ppb        | ppb        | ppb       | ppb       |
| 1    | 19:58:28 | 220.700 | 7237.000 | 0.000   | 6534.000 | 167800.000 | 181000.000 | 95.306%   | 1.856     |
| 2    | 19:58:36 | 257.200 | 7821.000 | 0.000   | 7517.000 | 195800.000 | 203100.000 | 81.920%   | 2.141     |
| 3    | 19:58:44 | 252.100 | 7676.000 | 0.000   | 7071.000 | 180300.000 | 189300.000 | 87.169%   | 2.111     |
| X    |          | 243.300 | 7578.000 | 0.000   | 7041.000 | 181300.000 | 191100.000 | 88.132%   | 2.036     |
| σ    |          | 19.800  | 304.200  | 0.000   | 492.000  | 14030.000  | 11180.000  | 6.745%    | 0.157     |
| %RSD |          | 8.136   | 4.014    | 0.000   | 6.988    | 7.738      | 5.852      | 7.653     | 7.700     |
| Run  | Time     | 51V     | 52Cr     | 55Mn    | 56Fe     | 57Fe       | 59Co       | 60Ni      | 63Cu      |
|      |          | ppb     | ppb      | ppb     | ppb      | ppb        | ppb        | ppb       | ppb       |
| 1    | 19:58:28 | 771.800 | 9.506    | 636.700 | 966.300  | 1901.000   | 21.720     | 57.370    | 2.050     |
| 2    | 19:58:36 | 865.700 | 10.260   | 731.400 | 1065.000 | 2042.000   | 23.320     | 61.950    | 2.277     |
| 3    | 19:58:44 | 819.000 | 9.549    | 684.200 | 1040.000 | 1966.000   | 22.770     | 60.550    | 2.141     |
| X    |          | 818.800 | 9.773    | 684.100 | 1024.000 | 1970.000   | 22.600     | 59.960    | 2.156     |
| σ    |          | 46.960  | 0.426    | 47.320  | 51.150   | 70.410     | 0.813      | 2.346     | 0.115     |
| %RSD |          | 5.735   | 4.361    | 6.917   | 4.996    | 3.574      | 3.596      | 3.913     | 5.311     |
| Run  | Time     | 65Cu    | 66Zn     | 68Zn    | 75As     | 78Se       | 82Se       | 83Kr      | 88Sr      |
|      |          | ppb     | ppb      | ppb     | ppb      | ppb        | ppb        | ppb       | ppb       |
| 1    | 19:58:28 | 2.606   | 74.860   | 77.260  | 3.263    | 2.522      | 6.261      | 0.000     | 3639.000  |
| 2    | 19:58:36 | 2.918   | 75.710   | 78.190  | 3.368    | 2.523      | 5.309      | 0.000     | 3646.000  |
| 3    | 19:58:44 | 2.694   | 74.550   | 77.220  | 3.474    | 2.186      | 5.865      | 0.000     | 3680.000  |
| X    |          | 2.739   | 75.040   | 77.550  | 3.369    | 2.411      | 5.812      | 0.000     | 3655.000  |
| σ    |          | 0.161   | 0.603    | 0.549   | 0.105    | 0.194      | 0.478      | 0.000     | 22.250    |
| %RSD |          | 5.871   | 0.804    | 0.708   | 3.128    | 8.064      | 8.231      | 0.000     | 0.609     |
| Run  | Time     | 89Y     | 95Mo     | 98Mo    | 103Rh    | 107Ag      | 109Ag      | 111Cd     | 114Cd     |
|      |          | ppb     | ppb      | ppb     | ppb      | ppb        | ppb        | ppb       | ppb       |
| 1    | 19:58:28 | 70.695% | 754.600  | 793.800 | 54.909%  | -0.008     | -0.010     | 1.322     | 0.839     |
| 2    | 19:58:36 | 72.645% | 747.900  | 797.800 | 55.821%  | -0.006     | -0.007     | 1.284     | 0.967     |
| 3    | 19:58:44 | 70.842% | 760.000  | 800.100 | 55.108%  | -0.005     | -0.013     | 0.987     | 1.156     |
| X    |          | 71.394% | 754.200  | 797.200 | 55.279%  | -0.006     | -0.010     | 1.198     | 0.987     |
| σ    |          | 1.086%  | 6.074    | 3.204   | 0.480%   | 0.002      | 0.003      | 0.184     | 0.160     |
| %RSD |          | 1.521   | 0.805    | 0.402   | 0.868    | 25.250     | 32.090     | 15.340    | 16.160    |
| Run  | Time     | 115In   | 118Sn    | 121Sb   | 123Sb    | 135Ba      | 137Ba      | 159Tb     | 165Ho     |
|      |          | ppb     | ppb      | ppb     | ppb      | ppb        | ppb        | ppb       | ppb       |
| 1    | 19:58:28 | 62.069% | 2.716    | 0.809   | 0.669    | 27.260     | 26.880     | 72.772%   | 75.982%   |
| 2    | 19:58:36 | 62.911% | 2.429    | 0.895   | 0.743    | 27.160     | 24.920     | 73.048%   | 74.958%   |
| 3    | 19:58:44 | 62.801% | 1.948    | 0.985   | 0.696    | 27.110     | 27.190     | 73.023%   | 75.330%   |
| X    |          | 62.594% | 2.364    | 0.896   | 0.703    | 27.180     | 26.330     | 72.948%   | 75.423%   |
| σ    |          | 0.458%  | 0.388    | 0.088   | 0.038    | 0.074      | 1.228      | 0.153%    | 0.518%    |
| %RSD |          | 0.731   | 16.400   | 9.811   | 5.379    | 0.271      | 4.663      | 0.209     | 0.687     |
| Run  | Time     | 203Tl   | 205Tl    | 206Pb   | 207Pb    | 208Pb      | 209Bi      |           |           |
|      |          | ppb     | ppb      | ppb     | ppb      | ppb        | ppb        |           |           |
| 1    | 19:58:28 | 0.096   | 0.142    | 0.217   | 0.186    | 0.225      | 58.214%    |           |           |
| 2    | 19:58:36 | 0.119   | 0.102    | 0.141   | 0.209    | 0.219      | 58.235%    |           |           |
| 3    | 19:58:44 | 0.143   | 0.103    | 0.234   | 0.264    | 0.239      | 58.919%    |           |           |
| X    |          | 0.119   | 0.116    | 0.197   | 0.220    | 0.228      | 58.456%    |           |           |
| σ    |          | 0.023   | 0.023    | 0.049   | 0.040    | 0.011      | 0.401%     |           |           |
| %RSD |          | 19.640  | 19.910   | 25.010  | 18.120   | 4.621      | 0.687      |           |           |



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User Pre-dilution: 1.000

| Run  | Time     | 6Li     | 9Be      | 10B     | 11B       | 13C       | 23Na      | 25Mg      | 26Mg      |
|------|----------|---------|----------|---------|-----------|-----------|-----------|-----------|-----------|
|      |          | ppb     | ppb      | ppb     | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 20:03:33 | 94.894% | 0.036    | 50.660  | 50.200    | 0.000     | 70570.000 | 14690.000 | 14490.000 |
| 2    | 20:03:40 | 85.832% | 0.038    | 56.370  | 55.040    | 0.000     | 71450.000 | 15000.000 | 15040.000 |
| 3    | 20:03:48 | 82.591% | 0.043    | 57.190  | 57.040    | 0.000     | 75540.000 | 16010.000 | 15580.000 |
| X    |          | 87.772% | 0.039    | 54.740  | 54.090    | 0.000     | 72520.000 | 15230.000 | 15040.000 |
| σ    |          | 6.376%  | 0.003    | 3.556   | 3.520     | 0.000     | 2654.000  | 687.600   | 545.900   |
| %RSD |          | 7.265   | 8.451    | 6.496   | 6.507     | 0.000     | 3.660     | 4.514     | 3.631     |
| Run  | Time     | 27Al    | 28Si     | 37Cl    | 39K       | 43Ca      | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb     | ppb      | ppb     | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 20:03:33 | 97.860  | 1397.000 | 0.000   | 1321.000  | 33670.000 | 36620.000 | 111.189%  | 0.394     |
| 2    | 20:03:40 | 79.330  | 1506.000 | 0.000   | 1329.000  | 34690.000 | 37450.000 | 110.819%  | 0.419     |
| 3    | 20:03:48 | 65.890  | 1550.000 | 0.000   | 1413.000  | 35070.000 | 38520.000 | 106.139%  | 1.475     |
| X    |          | 81.030  | 1484.000 | 0.000   | 1354.000  | 34480.000 | 37530.000 | 109.383%  | 0.763     |
| σ    |          | 16.050  | 78.600   | 0.000   | 50.800    | 721.500   | 952.500   | 2.815%    | 0.617     |
| %RSD |          | 19.810  | 5.296    | 0.000   | 3.751     | 2.093     | 2.538     | 2.573     | 80.890    |
| Run  | Time     | 51V     | 52Cr     | 55Mn    | 56Fe      | 57Fe      | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb     | ppb      | ppb     | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 20:03:33 | 153.300 | 2.232    | 122.800 | 286.600   | 501.200   | 4.627     | 13.660    | 0.581     |
| 2    | 20:03:40 | 152.700 | 2.055    | 126.800 | 251.900   | 449.800   | 4.608     | 12.580    | 0.491     |
| 3    | 20:03:48 | 161.000 | 2.136    | 134.900 | 227.200   | 409.900   | 4.610     | 12.820    | 0.528     |
| X    |          | 155.700 | 2.141    | 128.200 | 255.300   | 453.600   | 4.615     | 13.020    | 0.533     |
| σ    |          | 4.662   | 0.089    | 6.207   | 29.820    | 45.760    | 0.010     | 0.566     | 0.045     |
| %RSD |          | 2.995   | 4.141    | 4.842   | 11.680    | 10.090    | 0.223     | 4.344     | 8.482     |
| Run  | Time     | 65Cu    | 66Zn     | 68Zn    | 75As      | 78Se      | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb     | ppb      | ppb     | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 20:03:33 | 0.747   | 18.430   | 18.200  | 0.758     | 0.489     | 1.584     | 0.000     | 715.500   |
| 2    | 20:03:40 | 0.638   | 18.320   | 19.260  | 0.713     | 0.588     | 1.232     | 0.000     | 731.600   |
| 3    | 20:03:48 | 0.683   | 18.940   | 19.450  | 0.618     | 0.387     | 1.283     | 0.000     | 700.900   |
| X    |          | 0.689   | 18.560   | 18.970  | 0.696     | 0.488     | 1.366     | 0.000     | 716.000   |
| σ    |          | 0.055   | 0.331    | 0.673   | 0.072     | 0.101     | 0.190     | 0.000     | 15.350    |
| %RSD |          | 7.966   | 1.780    | 3.550   | 10.320    | 20.670    | 13.910    | 0.000     | 2.144     |
| Run  | Time     | 89Y     | 95Mo     | 98Mo    | 103Rh     | 107Ag     | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb     | ppb      | ppb     | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 20:03:33 | 83.852% | 149.400  | 152.100 | 73.218%   | -0.020    | -0.015    | 0.255     | 0.217     |
| 2    | 20:03:40 | 86.262% | 148.400  | 154.700 | 73.494%   | -0.016    | -0.000    | 0.249     | 0.252     |
| 3    | 20:03:48 | 88.227% | 150.600  | 153.700 | 74.386%   | -0.018    | 0.005     | 0.189     | 0.204     |
| X    |          | 86.114% | 149.500  | 153.500 | 73.699%   | -0.018    | -0.004    | 0.231     | 0.224     |
| σ    |          | 2.191%  | 1.078    | 1.304   | 0.610%    | 0.002     | 0.010     | 0.036     | 0.025     |
| %RSD |          | 2.545   | 0.721    | 0.849   | 0.828     | 12.530    | 282.900   | 15.760    | 11.150    |
| Run  | Time     | 115In   | 118Sn    | 121Sb   | 123Sb     | 135Ba     | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb     | ppb      | ppb     | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 20:03:33 | 75.758% | 1.065    | 0.172   | 0.043     | 4.759     | 5.386     | 84.658%   | 85.173%   |
| 2    | 20:03:40 | 78.593% | 0.913    | 0.069   | -0.027    | 4.989     | 5.913     | 87.383%   | 87.235%   |
| 3    | 20:03:48 | 78.118% | 0.808    | 0.149   | -0.016    | 5.022     | 5.482     | 86.771%   | 85.976%   |
| X    |          | 77.490% | 0.929    | 0.130   | 0.000     | 4.923     | 5.594     | 86.271%   | 86.128%   |
| σ    |          | 1.518%  | 0.129    | 0.054   | 0.038     | 0.143     | 0.281     | 1.430%    | 1.039%    |
| %RSD |          | 1.959   | 13.930   | 41.690  | 32800.000 | 2.906     | 5.016     | 1.657     | 1.206     |
| Run  | Time     | 203Tl   | 205Tl    | 206Pb   | 207Pb     | 208Pb     | 209Bi     |           |           |
|      |          | ppb     | ppb      | ppb     | ppb       | ppb       | ppb       |           |           |
| 1    | 20:03:33 | 0.036   | 0.028    | 0.164   | 0.145     | 0.154     | 74.507%   |           |           |
| 2    | 20:03:40 | 0.024   | 0.018    | 0.075   | 0.076     | 0.094     | 75.381%   |           |           |
| 3    | 20:03:48 | 0.029   | 0.015    | 0.093   | 0.052     | 0.072     | 76.117%   |           |           |
| X    |          | 0.029   | 0.020    | 0.111   | 0.091     | 0.107     | 75.335%   |           |           |
| σ    |          | 0.006   | 0.007    | 0.047   | 0.048     | 0.043     | 0.806%    |           |           |
| %RSD |          | 21.130  | 33.720   | 42.430  | 53.020    | 40.060    | 1.070     |           |           |

CCV 1533080 5/1/2015 8:09:32 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be      | 10B      | 11B       | 13C       | 23Na      | 25Mg      | 26Mg      |
|------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 20:08:39 | 101.476% | 86.080   | 82.340   | 81.040    | 0.000     | 51130.000 | 54600.000 | 53190.000 |
| 2    | 20:08:46 | 97.112%  | 92.290   | 86.350   | 84.250    | 0.000     | 55590.000 | 54580.000 | 56420.000 |
| 3    | 20:08:54 | 99.481%  | 91.040   | 84.660   | 82.210    | 0.000     | 55040.000 | 56600.000 | 55740.000 |
| X    |          | 99.356%  | 89.805%  | 84.452%  | 82.497%   | 0.000     | 107.840%  | 110.515%  | 110.234%  |
| σ    |          | 2.185%   | n/a      | n/a      | n/a       | 0.000     | n/a       | n/a       | n/a       |
| %RSD |          | 2.199    | 3.658    | 2.389    | 1.971     | 0.000     | 4.516     | 2.099     | 3.085     |
| Run  | Time     | 27Al     | 28Si     | 37Cl     | 39K       | 43Ca      | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 20:08:39 | 503.200  | 5270.000 | 0.000    | 52540.000 | 48820.000 | 53300.000 | 96.813%   | 99.010    |
| 2    | 20:08:46 | 523.300  | 5476.000 | 0.000    | 55090.000 | 51340.000 | 55040.000 | 94.314%   | 101.000   |
| 3    | 20:08:54 | 503.200  | 5527.000 | 0.000    | 54650.000 | 49530.000 | 55650.000 | 95.660%   | 100.700   |
| X    |          | 101.978% | 108.484% | 0.000    | 108.190%  | 99.789%   | 109.329%  | 95.596%   | 100.259%  |
| σ    |          | n/a      | n/a      | 0.000    | n/a       | n/a       | n/a       | 1.251%    | n/a       |
| %RSD |          | 2.286    | 2.506    | 0.000    | 2.516     | 2.605     | 2.230     | 1.308     | 1.088     |
| Run  | Time     | 51V      | 52Cr     | 55Mn     | 56Fe      | 57Fe      | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 20:08:39 | 87.500   | 89.970   | 537.300  | 23550.000 | 23680.000 | 91.790    | 95.490    | 100.100   |
| 2    | 20:08:46 | 91.490   | 93.220   | 561.600  | 25280.000 | 24240.000 | 95.660    | 99.130    | 99.430    |
| 3    | 20:08:54 | 90.200   | 90.130   | 549.800  | 25200.000 | 23930.000 | 93.990    | 94.940    | 100.900   |
| X    |          | 89.732%  | 91.106%  | 109.914% | 98.712%   | 95.805%   | 93.815%   | 96.517%   | 100.146%  |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | n/a       | n/a       | n/a       |
| %RSD |          | 2.271    | 2.009    | 2.212    | 3.959     | 1.170     | 2.070     | 2.361     | 0.743     |
| Run  | Time     | 65Cu     | 66Zn     | 68Zn     | 75As      | 78Se      | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 20:08:39 | 97.240   | 102.400  | 104.000  | 101.100   | 101.000   | 101.600   | 0.000     | 90.370    |
| 2    | 20:08:46 | 100.100  | 107.200  | 109.500  | 105.900   | 104.000   | 107.400   | 0.000     | 94.390    |
| 3    | 20:08:54 | 101.300  | 109.400  | 109.300  | 102.200   | 102.400   | 109.800   | 0.000     | 93.190    |
| X    |          | 99.531%  | 106.320% | 107.589% | 103.060%  | 102.480%  | 106.257%  | 0.000     | 92.651%   |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | n/a       | 0.000     | n/a       |
| %RSD |          | 2.079    | 3.365    | 2.911    | 2.440     | 1.494     | 3.992     | 0.000     | 2.225     |
| Run  | Time     | 89Y      | 95Mo     | 98Mo     | 103Rh     | 107Ag     | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 20:08:39 | 87.336%  | 106.200  | 109.000  | 74.669%   | 103.100   | 103.000   | 102.700   | 107.800   |
| 2    | 20:08:46 | 88.060%  | 106.500  | 109.300  | 75.684%   | 102.300   | 101.500   | 103.200   | 108.700   |
| 3    | 20:08:54 | 88.250%  | 106.900  | 112.700  | 75.454%   | 101.600   | 102.700   | 104.100   | 107.700   |
| X    |          | 87.882%  | 106.533% | 110.342% | 75.269%   | 102.351%  | 102.407%  | 103.331%  | 108.073%  |
| σ    |          | 0.483%   | n/a      | n/a      | 0.532%    | n/a       | n/a       | n/a       | n/a       |
| %RSD |          | 0.549    | 0.333    | 1.819    | 0.707     | 0.733     | 0.783     | 0.694     | 0.532     |
| Run  | Time     | 115In    | 118Sn    | 121Sb    | 123Sb     | 135Ba     | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 20:08:39 | 77.667%  | 98.670   | 100.800  | 99.270    | 99.660    | 99.880    | 86.278%   | 87.281%   |
| 2    | 20:08:46 | 78.122%  | 100.500  | 102.900  | 101.300   | 92.780    | 98.360    | 89.016%   | 88.226%   |
| 3    | 20:08:54 | 79.155%  | 102.200  | 102.500  | 103.000   | 97.360    | 100.000   | 87.686%   | 89.452%   |
| X    |          | 78.315%  | 100.471% | 102.068% | 101.203%  | 96.599%   | 99.422%   | 87.660%   | 88.320%   |
| σ    |          | 0.762%   | n/a      | n/a      | n/a       | n/a       | n/a       | 1.369%    | 1.088%    |
| %RSD |          | 0.973    | 1.760    | 1.073    | 1.868     | 3.629     | 0.929     | 1.562     | 1.232     |
| Run  | Time     | 203Tl    | 205Tl    | 206Pb    | 207Pb     | 208Pb     | 209Bi     |           |           |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       |           |           |
| 1    | 20:08:39 | 95.800   | 95.520   | 96.620   | 98.130    | 97.430    | 74.987%   |           |           |
| 2    | 20:08:46 | 94.240   | 95.080   | 95.050   | 96.380    | 95.670    | 77.181%   |           |           |
| 3    | 20:08:54 | 93.990   | 93.980   | 95.610   | 96.330    | 95.400    | 77.543%   |           |           |
| X    |          | 94.674%  | 94.862%  | 95.762%  | 96.944%   | 96.165%   | 76.570%   |           |           |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | 1.383%    |           |           |
| %RSD |          | 1.034    | 0.838    | 0.832    | 1.055     | 1.146     | 1.806     |           |           |

CCB4 5/1/2015 8:18:36 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be     | 10B      | 11B     | 13C     | 23Na     | 25Mg     | 26Mg     |
|------|----------|----------|---------|----------|---------|---------|----------|----------|----------|
|      |          | ppb      | ppb     | ppb      | ppb     | ppb     | ppb      | ppb      | ppb      |
| 1    | 20:17:43 | 102.719% | -0.016  | 1.624    | 1.559   | 0.000   | 10.960   | 9.426    | 8.331    |
| 2    | 20:17:51 | 101.072% | -0.011  | 1.453    | 1.556   | 0.000   | 10.040   | 8.768    | 8.922    |
| 3    | 20:17:58 | 103.707% | -0.021  | 1.387    | 1.371   | 0.000   | 11.380   | 9.172    | 8.814    |
| X    |          | 102.499% | -0.016  | 1.488    | 1.495   | 0.000   | 10.790   | 9.122    | 8.689    |
| σ    |          | 1.331%   | 0.005   | 0.122    | 0.108   | 0.000   | 0.683    | 0.332    | 0.315    |
| %RSD |          | 1.298    | 32.650  | 8.222    | 7.204   | 0.000   | 6.330    | 3.640    | 3.620    |
| Run  | Time     | 27Al     | 28Si    | 37Cl     | 39K     | 43Ca    | 44Ca     | 45Sc     | 47Ti     |
|      |          | ppb      | ppb     | ppb      | ppb     | ppb     | ppb      | ppb      | ppb      |
| 1    | 20:17:43 | 3.863    | 16.620  | 0.000    | 11.420  | 16.750  | 12.070   | 118.536% | 0.199    |
| 2    | 20:17:51 | 3.264    | 11.090  | 0.000    | 10.890  | 11.210  | 11.040   | 116.263% | 0.130    |
| 3    | 20:17:58 | 3.637    | 9.221   | 0.000    | 11.220  | 6.561   | 10.560   | 113.761% | 0.248    |
| X    |          | 3.588    | 12.310  | 0.000    | 11.180  | 11.510  | 11.220   | 116.187% | 0.192    |
| σ    |          | 0.303    | 3.847   | 0.000    | 0.270   | 5.100   | 0.771    | 2.388%   | 0.059    |
| %RSD |          | 8.440    | 31.250  | 0.000    | 2.413   | 44.320  | 6.873    | 2.055    | 30.920   |
| Run  | Time     | 51V      | 52Cr    | 55Mn     | 56Fe    | 57Fe    | 59Co     | 60Ni     | 63Cu     |
|      |          | ppb      | ppb     | ppb      | ppb     | ppb     | ppb      | ppb      | ppb      |
| 1    | 20:17:43 | 0.044    | 0.029   | 0.271    | 15.720  | 14.980  | 0.019    | 0.015    | -0.037   |
| 2    | 20:17:51 | 0.033    | 0.025   | 0.244    | 15.390  | 13.730  | 0.022    | 0.010    | -0.006   |
| 3    | 20:17:58 | -0.015   | 0.022   | 0.267    | 15.310  | 16.470  | 0.026    | 0.033    | -0.013   |
| X    |          | 0.021    | 0.025   | 0.261    | 15.470  | 15.060  | 0.022    | 0.019    | -0.019   |
| σ    |          | 0.031    | 0.003   | 0.015    | 0.213   | 1.373   | 0.004    | 0.012    | 0.016    |
| %RSD |          | 149.200  | 12.430  | 5.578    | 1.379   | 9.114   | 15.940   | 63.490   | 87.660   |
| Run  | Time     | 65Cu     | 66Zn    | 68Zn     | 75As    | 78Se    | 82Se     | 83Kr     | 88Sr     |
|      |          | ppb      | ppb     | ppb      | ppb     | ppb     | ppb      | ppb      | ppb      |
| 1    | 20:17:43 | -0.024   | 0.163   | -0.026   | 0.037   | 0.173   | 0.158    | 0.000    | 0.042    |
| 2    | 20:17:51 | -0.048   | 0.052   | -0.024   | 0.042   | 0.069   | 0.489    | 0.000    | 0.038    |
| 3    | 20:17:58 | -0.026   | 0.025   | 0.057    | 0.053   | 0.053   | 0.620    | 0.000    | 0.023    |
| X    |          | -0.033   | 0.080   | 0.002    | 0.044   | 0.098   | 0.422    | 0.000    | 0.034    |
| σ    |          | 0.014    | 0.073   | 0.048    | 0.008   | 0.065   | 0.238    | 0.000    | 0.010    |
| %RSD |          | 41.720   | 91.350  | 1989.000 | 18.950  | 66.100  | 56.480   | 0.000    | 29.010   |
| Run  | Time     | 89Y      | 95Mo    | 98Mo     | 103Rh   | 107Ag   | 109Ag    | 111Cd    | 114Cd    |
|      |          | ppb      | ppb     | ppb      | ppb     | ppb     | ppb      | ppb      | ppb      |
| 1    | 20:17:43 | 96.248%  | 0.834   | 0.780    | 92.994% | -0.011  | 0.002    | 0.020    | 0.016    |
| 2    | 20:17:51 | 102.861% | 0.664   | 0.711    | 94.075% | -0.003  | 0.004    | 0.008    | 0.006    |
| 3    | 20:17:58 | 98.097%  | 0.894   | 0.874    | 93.450% | 0.002   | 0.008    | 0.008    | -0.005   |
| X    |          | 99.069%  | 0.797   | 0.788    | 93.506% | -0.004  | 0.004    | 0.012    | 0.005    |
| σ    |          | 3.412%   | 0.119   | 0.082    | 0.543%  | 0.006   | 0.003    | 0.007    | 0.010    |
| %RSD |          | 3.444    | 14.950  | 10.380   | 0.581   | 158.200 | 69.820   | 58.830   | 192.000  |
| Run  | Time     | 115In    | 118Sn   | 121Sb    | 123Sb   | 135Ba   | 137Ba    | 159Tb    | 165Ho    |
|      |          | ppb      | ppb     | ppb      | ppb     | ppb     | ppb      | ppb      | ppb      |
| 1    | 20:17:43 | 92.904%  | 0.043   | 0.021    | -0.114  | 0.019   | 0.007    | 97.412%  | 97.379%  |
| 2    | 20:17:51 | 92.273%  | 0.073   | -0.033   | -0.156  | 0.076   | 0.043    | 98.039%  | 100.045% |
| 3    | 20:17:58 | 93.587%  | -0.080  | -0.005   | -0.133  | 0.019   | 0.006    | 101.646% | 100.169% |
| X    |          | 92.921%  | 0.012   | -0.005   | -0.134  | 0.038   | 0.019    | 99.032%  | 99.198%  |
| σ    |          | 0.657%   | 0.081   | 0.027    | 0.021   | 0.033   | 0.021    | 2.285%   | 1.577%   |
| %RSD |          | 0.707    | 669.600 | 500.200  | 15.580  | 86.650  | 110.000  | 2.308    | 1.589    |
| Run  | Time     | 203Tl    | 205Tl   | 206Pb    | 207Pb   | 208Pb   | 209Bi    |          |          |
|      |          | ppb      | ppb     | ppb      | ppb     | ppb     | ppb      |          |          |
| 1    | 20:17:43 | 0.034    | 0.047   | -0.010   | -0.012  | 0.004   | 102.404% |          |          |
| 2    | 20:17:51 | 0.051    | 0.052   | 0.013    | -0.012  | 0.008   | 102.719% |          |          |
| 3    | 20:17:58 | 0.050    | 0.033   | -0.022   | 0.004   | 0.002   | 104.347% |          |          |
| X    |          | 0.045    | 0.044   | -0.006   | -0.007  | 0.005   | 103.157% |          |          |
| σ    |          | 0.010    | 0.010   | 0.018    | 0.009   | 0.003   | 1.043%   |          |          |
| %RSD |          | 21.260   | 22.640  | 293.300  | 131.500 | 60.290  | 1.011    |          |          |

CRI 1525173 5/1/2015 8:47:38 PM QC Status: PASS (Initial: FAIL)

User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be      | 10B      | 11B      | 13C      | 23Na     | 25Mg     | 26Mg     |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
|      |          | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      |
| 1    | 20:46:45 | 108.624% | 0.963    | 19.670   | 19.680   | 0.000    | 547.000  | 540.900  | 518.500  |
| 2    | 20:46:53 | 111.344% | 1.006    | 20.090   | 19.880   | 0.000    | 557.700  | 515.000  | 513.900  |
| 3    | 20:47:00 | 109.984% | 0.984    | 19.810   | 19.760   | 0.000    | 536.500  | 540.700  | 530.900  |
| X    |          | 109.984% | 98.417%  | 397.144% | 395.432% | 0.000    | 683.824% | 532.181% | 521.100% |
| σ    |          | 1.360%   | n/a      | n/a      | n/a      | 0.000    | n/a      | n/a      | n/a      |
| %RSD |          | 1.237    | 2.191    | 1.060    | 0.511    | 0.000    | 1.933    | 2.795    | 1.692    |
| Run  | Time     | 27Al     | 28Si     | 37Cl     | 39K      | 43Ca     | 44Ca     | 45Sc     | 47Ti     |
|      |          | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      |
| 1    | 20:46:45 | 34.260   | 581.100  | 0.000    | 552.600  | 509.800  | 492.500  | 116.818% | 4.767    |
| 2    | 20:46:53 | 34.890   | 554.000  | 0.000    | 564.500  | 515.500  | 489.200  | 115.714% | 5.218    |
| 3    | 20:47:00 | 35.280   | 545.500  | 0.000    | 562.700  | 496.700  | 523.900  | 116.754% | 4.791    |
| X    |          | 116.025% | 112.041% | 0.000    | 559.912% | 507.319% | 501.877% | 116.428% | 98.508%  |
| σ    |          | n/a      | n/a      | 0.000    | n/a      | n/a      | n/a      | 0.619%   | n/a      |
| %RSD |          | 1.477    | 3.313    | 0.000    | 1.145    | 1.897    | 3.815    | 0.532    | 5.143    |
| Run  | Time     | 51V      | 52Cr     | 55Mn     | 56Fe     | 57Fe     | 59Co     | 60Ni     | 63Cu     |
|      |          | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      |
| 1    | 20:46:45 | 0.882    | 1.785    | 5.087    | 55.520   | 56.290   | 0.502    | 0.965    | 2.344    |
| 2    | 20:46:53 | 0.931    | 1.882    | 5.284    | 54.710   | 52.230   | 0.490    | 1.071    | 2.076    |
| 3    | 20:47:00 | 0.832    | 1.801    | 5.421    | 57.020   | 51.910   | 0.478    | 1.049    | 2.173    |
| X    |          | 88.156%  | 91.130%  | 105.280% | 111.498% | 106.957% | 97.975%  | 102.821% | 109.881% |
| σ    |          | n/a      | n/a      | n/a      | n/a      | n/a      | n/a      | n/a      | n/a      |
| %RSD |          | 5.597    | 2.858    | 3.184    | 2.106    | 4.565    | 2.414    | 5.457    | 6.166    |
| Run  | Time     | 65Cu     | 66Zn     | 68Zn     | 75As     | 78Se     | 82Se     | 83Kr     | 88Sr     |
|      |          | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      |
| 1    | 20:46:45 | 2.219    | 6.286    | 5.666    | 1.021    | 6.154    | 6.099    | 0.000    | 4.566    |
| 2    | 20:46:53 | 2.130    | 5.623    | 6.009    | 0.935    | 5.771    | 5.811    | 0.000    | 4.794    |
| 3    | 20:47:00 | 2.338    | 6.109    | 6.118    | 0.939    | 5.257    | 6.761    | 0.000    | 4.590    |
| X    |          | 111.452% | 120.115% | 118.618% | 96.475%  | 114.542% | 124.473% | 0.000    | 92.996%  |
| σ    |          | n/a      | n/a      | n/a      | n/a      | n/a      | n/a      | 0.000    | n/a      |
| %RSD |          | 4.676    | 5.714    | 3.975    | 5.009    | 7.854    | 7.825    | 0.000    | 2.690    |
| Run  | Time     | 89Y      | 95Mo     | 98Mo     | 103Rh    | 107Ag    | 109Ag    | 111Cd    | 114Cd    |
|      |          | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      |
| 1    | 20:46:45 | 104.245% | 4.841    | 4.899    | 94.942%  | 1.201    | 1.173    | 1.141    | 1.175    |
| 2    | 20:46:53 | 105.602% | 5.220    | 4.987    | 98.240%  | 1.125    | 1.255    | 1.291    | 1.305    |
| 3    | 20:47:00 | 106.558% | 5.041    | 4.902    | 96.977%  | 1.187    | 1.165    | 1.000    | 1.109    |
| X    |          | 105.469% | 100.683% | 98.590%  | 96.720%  | 117.085% | 119.786% | 114.402% | 119.651% |
| σ    |          | 1.163%   | n/a      | n/a      | 1.664%   | n/a      | n/a      | n/a      | n/a      |
| %RSD |          | 1.102    | 3.774    | 1.006    | 1.720    | 3.421    | 4.144    | 12.720   | 8.349    |
| Run  | Time     | 115In    | 118Sn    | 121Sb    | 123Sb    | 135Ba    | 137Ba    | 159Tb    | 165Ho    |
|      |          | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      |
| 1    | 20:46:45 | 97.914%  | 5.390    | 1.917    | 1.954    | 9.170    | 8.767    | 102.514% | 104.551% |
| 2    | 20:46:53 | 97.892%  | 4.131    | 1.992    | 1.561    | 9.055    | 10.030   | 102.727% | 103.534% |
| 3    | 20:47:00 | 98.399%  | 4.687    | 1.865    | 1.915    | 9.356    | 9.117    | 103.954% | 103.660% |
| X    |          | 98.068%  | 94.716%  | 96.228%  | 90.498%  | 91.938%  | 93.056%  | 103.065% | 103.915% |
| σ    |          | 0.286%   | n/a      | n/a      | n/a      | n/a      | n/a      | 0.778%   | 0.555%   |
| %RSD |          | 0.292    | 13.330   | 3.319    | 11.970   | 1.647    | 7.016    | 0.754    | 0.534    |
| Run  | Time     | 203Tl    | 205Tl    | 206Pb    | 207Pb    | 208Pb    | 209Bi    |          |          |
|      |          | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      |          |          |
| 1    | 20:46:45 | 0.724    | 0.819    | 0.836    | 0.836    | 0.857    | 108.779% |          |          |
| 2    | 20:46:53 | 0.818    | 0.819    | 0.814    | 0.896    | 0.879    | 110.357% |          |          |
| 3    | 20:47:00 | 0.817    | 0.787    | 0.847    | 0.930    | 0.897    | 109.237% |          |          |
| X    |          | 78.666%  | 80.844%  | 83.256%  | 88.750%  | 87.775%  | 109.458% |          |          |
| σ    |          | n/a      | n/a      | n/a      | n/a      | n/a      | 0.812%   |          |          |
| %RSD |          | 6.880    | 2.297    | 2.012    | 5.348    | 2.326    | 0.742    |          |          |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be     | 10B    | 11B     | 13C      | 23Na      | 25Mg     | 26Mg    |
|------|----------|----------|---------|--------|---------|----------|-----------|----------|---------|
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb       | ppb      | ppb     |
| 1    | 20:51:54 | 106.756% | -0.033  | 11.680 | 10.590  | 0.000    | 65420.000 | 177.800  | 175.700 |
| 2    | 20:52:02 | 102.640% | -0.036  | 11.240 | 11.740  | 0.000    | 69280.000 | 179.700  | 186.600 |
| 3    | 20:52:09 | 103.111% | -0.034  | 11.550 | 11.330  | 0.000    | 68170.000 | 187.800  | 176.700 |
| X    |          | 104.169% | -0.034  | 11.490 | 11.220  | 0.000    | 67620.000 | 181.800  | 179.700 |
| σ    |          | 2.252%   | 0.002   | 0.228  | 0.581   | 0.000    | 1987.000  | 5.300    | 6.012   |
| %RSD |          | 2.162    | 5.303   | 1.980  | 5.177   | 0.000    | 2.939     | 2.916    | 3.346   |
| Run  | Time     | 27Al     | 28Si    | 37Cl   | 39K     | 43Ca     | 44Ca      | 45Sc     | 47Ti    |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb       | ppb      | ppb     |
| 1    | 20:51:54 | 2.336    | 99.010  | 0.000  | 151.300 | 1057.000 | 1037.000  | 119.489% | 0.411   |
| 2    | 20:52:02 | 2.631    | 103.500 | 0.000  | 153.700 | 1129.000 | 1084.000  | 113.595% | 0.373   |
| 3    | 20:52:09 | 2.913    | 96.710  | 0.000  | 153.200 | 1096.000 | 1109.000  | 109.433% | 0.428   |
| X    |          | 2.626    | 99.740  | 0.000  | 152.700 | 1094.000 | 1076.000  | 114.172% | 0.404   |
| σ    |          | 0.289    | 3.459   | 0.000  | 1.270   | 36.180   | 36.790    | 5.053%   | 0.028   |
| %RSD |          | 10.990   | 3.468   | 0.000  | 0.831   | 3.307    | 3.418     | 4.426    | 6.934   |
| Run  | Time     | 51V      | 52Cr    | 55Mn   | 56Fe    | 57Fe     | 59Co      | 60Ni     | 63Cu    |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb       | ppb      | ppb     |
| 1    | 20:51:54 | -0.026   | 0.123   | 10.010 | 79.530  | 81.970   | 0.184     | 0.544    | 0.241   |
| 2    | 20:52:02 | 0.064    | 0.103   | 10.390 | 78.040  | 79.270   | 0.127     | 0.503    | 0.185   |
| 3    | 20:52:09 | 0.000    | 0.123   | 11.250 | 82.550  | 81.180   | 0.146     | 0.502    | 0.218   |
| X    |          | 0.013    | 0.116   | 10.550 | 80.040  | 80.810   | 0.153     | 0.516    | 0.214   |
| σ    |          | 0.046    | 0.012   | 0.636  | 2.297   | 1.385    | 0.029     | 0.024    | 0.028   |
| %RSD |          | 366.200  | 9.983   | 6.032  | 2.869   | 1.714    | 18.810    | 4.578    | 13.110  |
| Run  | Time     | 65Cu     | 66Zn    | 68Zn   | 75As    | 78Se     | 82Se      | 83Kr     | 88Sr    |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb       | ppb      | ppb     |
| 1    | 20:51:54 | 0.191    | 1.842   | 1.839  | 0.225   | 22.940   | 31.140    | 0.000    | 5.091   |
| 2    | 20:52:02 | 0.278    | 1.937   | 2.291  | 0.248   | 20.940   | 29.250    | 0.000    | 4.959   |
| 3    | 20:52:09 | 0.201    | 1.954   | 2.226  | 0.262   | 20.760   | 29.310    | 0.000    | 4.916   |
| X    |          | 0.223    | 1.911   | 2.119  | 0.245   | 21.550   | 29.900    | 0.000    | 4.989   |
| σ    |          | 0.048    | 0.061   | 0.244  | 0.019   | 1.212    | 1.071     | 0.000    | 0.092   |
| %RSD |          | 21.340   | 3.174   | 11.540 | 7.731   | 5.623    | 3.583     | 0.000    | 1.836   |
| Run  | Time     | 89Y      | 95Mo    | 98Mo   | 103Rh   | 107Ag    | 109Ag     | 111Cd    | 114Cd   |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb       | ppb      | ppb     |
| 1    | 20:51:54 | 86.324%  | 0.198   | 0.288  | 80.811% | -0.012   | -0.011    | -0.004   | 0.003   |
| 2    | 20:52:02 | 88.491%  | 0.284   | 0.254  | 80.181% | -0.008   | 0.017     | -0.004   | -0.002  |
| 3    | 20:52:09 | 88.577%  | 0.308   | 0.303  | 82.587% | -0.017   | -0.002    | -0.004   | -0.008  |
| X    |          | 87.797%  | 0.264   | 0.281  | 81.193% | -0.012   | 0.001     | -0.004   | -0.002  |
| σ    |          | 1.276%   | 0.058   | 0.025  | 1.248%  | 0.004    | 0.014     | 0.000    | 0.006   |
| %RSD |          | 1.454    | 21.960  | 8.858  | 1.537   | 35.730   | 1258.000  | 1.755    | 237.200 |
| Run  | Time     | 115In    | 118Sn   | 121Sb  | 123Sb   | 135Ba    | 137Ba     | 159Tb    | 165Ho   |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb       | ppb      | ppb     |
| 1    | 20:51:54 | 83.653%  | 0.062   | -0.077 | -0.181  | 0.891    | 0.744     | 90.523%  | 92.915% |
| 2    | 20:52:02 | 82.072%  | 0.042   | -0.035 | -0.189  | 0.769    | 0.860     | 92.271%  | 94.338% |
| 3    | 20:52:09 | 83.632%  | -0.027  | -0.097 | -0.209  | 0.761    | 1.158     | 92.222%  | 95.499% |
| X    |          | 83.119%  | 0.026   | -0.070 | -0.193  | 0.807    | 0.921     | 91.672%  | 94.251% |
| σ    |          | 0.907%   | 0.046   | 0.031  | 0.014   | 0.073    | 0.214     | 0.995%   | 1.294%  |
| %RSD |          | 1.091    | 180.900 | 45.260 | 7.499   | 9.042    | 23.190    | 1.085    | 1.373   |
| Run  | Time     | 203Tl    | 205Tl   | 206Pb  | 207Pb   | 208Pb    | 209Bi     |          |         |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb       |          |         |
| 1    | 20:51:54 | 0.074    | 0.089   | 0.062  | 0.028   | 0.059    | 92.409%   |          |         |
| 2    | 20:52:02 | 0.070    | 0.081   | 0.008  | 0.055   | 0.042    | 91.104%   |          |         |
| 3    | 20:52:09 | 0.053    | 0.048   | 0.088  | 0.045   | 0.076    | 89.940%   |          |         |
| X    |          | 0.066    | 0.072   | 0.053  | 0.043   | 0.059    | 91.151%   |          |         |
| σ    |          | 0.011    | 0.022   | 0.041  | 0.014   | 0.017    | 1.235%    |          |         |
| %RSD |          | 16.390   | 29.900  | 77.210 | 31.890  | 29.040   | 1.355     |          |         |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be     | 10B    | 11B     | 13C     | 23Na      | 25Mg     | 26Mg    |
|------|----------|----------|---------|--------|---------|---------|-----------|----------|---------|
|      |          | ppb      | ppb     | ppb    | ppb     | ppb     | ppb       | ppb      | ppb     |
| 1    | 20:56:53 | 106.328% | -0.039  | 11.490 | 11.100  | 0.000   | 67250.000 | 40.940   | 42.990  |
| 2    | 20:57:01 | 105.593% | -0.039  | 11.340 | 10.810  | 0.000   | 72130.000 | 44.660   | 46.410  |
| 3    | 20:57:09 | 98.688%  | -0.036  | 12.410 | 11.830  | 0.000   | 73750.000 | 47.830   | 47.520  |
| X    |          | 103.536% | -0.038  | 11.750 | 11.250  | 0.000   | 71040.000 | 44.480   | 45.640  |
| σ    |          | 4.215%   | 0.002   | 0.581  | 0.527   | 0.000   | 3384.000  | 3.449    | 2.358   |
| %RSD |          | 4.071    | 4.402   | 4.943  | 4.686   | 0.000   | 4.764     | 7.755    | 5.166   |
| Run  | Time     | 27Al     | 28Si    | 37Cl   | 39K     | 43Ca    | 44Ca      | 45Sc     | 47Ti    |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb     | ppb       | ppb      | ppb     |
| 1    | 20:56:53 | 1.038    | 99.180  | 0.000  | 148.600 | 733.300 | 722.900   | 114.522% | -0.082  |
| 2    | 20:57:01 | 1.132    | 93.540  | 0.000  | 151.500 | 784.700 | 749.200   | 110.886% | -0.054  |
| 3    | 20:57:09 | 1.223    | 103.500 | 0.000  | 164.200 | 825.400 | 793.000   | 107.147% | -0.070  |
| X    |          | 1.131    | 98.740  | 0.000  | 154.800 | 781.100 | 755.000   | 110.851% | -0.069  |
| σ    |          | 0.092    | 4.984   | 0.000  | 8.270   | 46.150  | 35.380    | 3.688%   | 0.014   |
| %RSD |          | 8.171    | 5.048   | 0.000  | 5.344   | 5.909   | 4.686     | 3.327    | 20.810  |
| Run  | Time     | 51V      | 52Cr    | 55Mn   | 56Fe    | 57Fe    | 59Co      | 60Ni     | 63Cu    |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb     | ppb       | ppb      | ppb     |
| 1    | 20:56:53 | 0.007    | 0.108   | 0.121  | 8.814   | 14.740  | 0.127     | 0.223    | 0.049   |
| 2    | 20:57:01 | -0.101   | 0.088   | 0.112  | 9.334   | 14.170  | 0.121     | 0.307    | 0.032   |
| 3    | 20:57:09 | 0.252    | 0.104   | 0.116  | 8.710   | 13.210  | 0.152     | 0.278    | 0.039   |
| X    |          | 0.052    | 0.100   | 0.116  | 8.953   | 14.040  | 0.133     | 0.269    | 0.040   |
| σ    |          | 0.181    | 0.011   | 0.005  | 0.335   | 0.775   | 0.016     | 0.043    | 0.008   |
| %RSD |          | 346.300  | 10.770  | 3.982  | 3.736   | 5.518   | 12.290    | 15.940   | 20.770  |
| Run  | Time     | 65Cu     | 66Zn    | 68Zn   | 75As    | 78Se    | 82Se      | 83Kr     | 88Sr    |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb     | ppb       | ppb      | ppb     |
| 1    | 20:56:53 | 0.118    | 0.912   | 0.846  | 0.137   | 25.460  | 34.460    | 0.000    | 3.689   |
| 2    | 20:57:01 | 0.086    | 0.818   | 0.554  | 0.197   | 27.030  | 37.440    | 0.000    | 3.788   |
| 3    | 20:57:09 | 0.069    | 1.020   | 0.755  | 0.142   | 27.030  | 37.690    | 0.000    | 3.816   |
| X    |          | 0.091    | 0.917   | 0.718  | 0.159   | 26.510  | 36.530    | 0.000    | 3.765   |
| σ    |          | 0.025    | 0.101   | 0.149  | 0.034   | 0.904   | 1.801     | 0.000    | 0.067   |
| %RSD |          | 27.820   | 11.050  | 20.770 | 21.250  | 3.410   | 4.930     | 0.000    | 1.772   |
| Run  | Time     | 89Y      | 95Mo    | 98Mo   | 103Rh   | 107Ag   | 109Ag     | 111Cd    | 114Cd   |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb     | ppb       | ppb      | ppb     |
| 1    | 20:56:53 | 88.423%  | 0.165   | 0.192  | 80.913% | -0.019  | -0.013    | 0.010    | -0.014  |
| 2    | 20:57:01 | 86.064%  | 0.104   | 0.118  | 78.439% | -0.027  | -0.006    | -0.004   | -0.003  |
| 3    | 20:57:09 | 89.561%  | 0.155   | 0.124  | 82.392% | -0.023  | -0.016    | -0.004   | -0.026  |
| X    |          | 88.016%  | 0.141   | 0.144  | 80.581% | -0.023  | -0.012    | 0.000    | -0.014  |
| σ    |          | 1.784%   | 0.033   | 0.041  | 1.997%  | 0.004   | 0.005     | 0.008    | 0.012   |
| %RSD |          | 2.027    | 23.220  | 28.390 | 2.478   | 18.370  | 41.530    | 2095.000 | 82.370  |
| Run  | Time     | 115In    | 118Sn   | 121Sb  | 123Sb   | 135Ba   | 137Ba     | 159Tb    | 165Ho   |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb     | ppb       | ppb      | ppb     |
| 1    | 20:56:53 | 82.415%  | -0.202  | -0.069 | -0.133  | 0.270   | 0.472     | 92.818%  | 93.838% |
| 2    | 20:57:01 | 83.682%  | -0.264  | -0.070 | -0.228  | 0.422   | 0.278     | 92.326%  | 92.983% |
| 3    | 20:57:09 | 84.082%  | -0.401  | -0.097 | -0.182  | 0.418   | 0.237     | 93.913%  | 92.379% |
| X    |          | 83.393%  | -0.289  | -0.079 | -0.181  | 0.370   | 0.329     | 93.019%  | 93.067% |
| σ    |          | 0.870%   | 0.102   | 0.016  | 0.047   | 0.087   | 0.126     | 0.812%   | 0.733%  |
| %RSD |          | 1.044    | 35.260  | 20.010 | 26.140  | 23.420  | 38.170    | 0.873    | 0.788   |
| Run  | Time     | 203Tl    | 205Tl   | 206Pb  | 207Pb   | 208Pb   | 209Bi     |          |         |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb     | ppb       |          |         |
| 1    | 20:56:53 | -0.008   | 0.025   | -0.003 | -0.007  | -0.003  | 87.637%   |          |         |
| 2    | 20:57:01 | -0.003   | 0.021   | -0.017 | -0.003  | 0.002   | 89.114%   |          |         |
| 3    | 20:57:09 | 0.009    | 0.015   | -0.011 | -0.026  | -0.006  | 89.248%   |          |         |
| X    |          | -0.001   | 0.020   | -0.010 | -0.012  | -0.003  | 88.666%   |          |         |
| σ    |          | 0.009    | 0.005   | 0.007  | 0.012   | 0.004   | 0.894%    |          |         |
| %RSD |          | 1557.000 | 22.670  | 67.810 | 101.600 | 157.000 | 1.009     |          |         |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be     | 10B     | 11B     | 13C      | 23Na      | 25Mg     | 26Mg    |
|------|----------|----------|---------|---------|---------|----------|-----------|----------|---------|
|      |          | ppb      | ppb     | ppb     | ppb     | ppb      | ppb       | ppb      | ppb     |
| 1    | 21:02:00 | 104.385% | -0.039  | 10.170  | 9.483   | 0.000    | 63430.000 | 195.500  | 197.500 |
| 2    | 21:02:07 | 104.524% | -0.033  | 9.953   | 10.160  | 0.000    | 66370.000 | 206.000  | 202.800 |
| 3    | 21:02:15 | 100.664% | -0.039  | 10.420  | 10.090  | 0.000    | 69340.000 | 216.500  | 217.000 |
| X    |          | 103.191% | -0.037  | 10.180  | 9.910   | 0.000    | 66380.000 | 206.000  | 205.800 |
| σ    |          | 2.189%   | 0.004   | 0.232   | 0.372   | 0.000    | 2952.000  | 10.500   | 10.050  |
| %RSD |          | 2.122    | 9.563   | 2.274   | 3.750   | 0.000    | 4.446     | 5.099    | 4.885   |
| Run  | Time     | 27Al     | 28Si    | 37Cl    | 39K     | 43Ca     | 44Ca      | 45Sc     | 47Ti    |
|      |          | ppb      | ppb     | ppb     | ppb     | ppb      | ppb       | ppb      | ppb     |
| 1    | 21:02:00 | 73.710   | 104.900 | 0.000   | 154.000 | 1261.000 | 1221.000  | 112.712% | 0.282   |
| 2    | 21:02:07 | 73.200   | 98.400  | 0.000   | 148.300 | 1198.000 | 1220.000  | 115.510% | 0.269   |
| 3    | 21:02:15 | 77.990   | 104.500 | 0.000   | 163.800 | 1305.000 | 1250.000  | 109.009% | 0.270   |
| X    |          | 74.970   | 102.600 | 0.000   | 155.400 | 1254.000 | 1231.000  | 112.410% | 0.274   |
| σ    |          | 2.631    | 3.635   | 0.000   | 7.845   | 53.790   | 16.950    | 3.261%   | 0.007   |
| %RSD |          | 3.509    | 3.543   | 0.000   | 5.049   | 4.289    | 1.378     | 2.901    | 2.666   |
| Run  | Time     | 51V      | 52Cr    | 55Mn    | 56Fe    | 57Fe     | 59Co      | 60Ni     | 63Cu    |
|      |          | ppb      | ppb     | ppb     | ppb     | ppb      | ppb       | ppb      | ppb     |
| 1    | 21:02:00 | 0.009    | 0.108   | 3.489   | 57.120  | 61.460   | 0.132     | 0.419    | 0.086   |
| 2    | 21:02:07 | -0.130   | 0.102   | 3.437   | 56.460  | 63.190   | 0.113     | 0.347    | 0.157   |
| 3    | 21:02:15 | 0.130    | 0.099   | 3.717   | 55.630  | 63.290   | 0.148     | 0.481    | 0.144   |
| X    |          | 0.003    | 0.103   | 3.548   | 56.400  | 62.650   | 0.131     | 0.416    | 0.129   |
| σ    |          | 0.130    | 0.004   | 0.149   | 0.748   | 1.029    | 0.018     | 0.067    | 0.038   |
| %RSD |          | 4432.000 | 4.345   | 4.205   | 1.326   | 1.643    | 13.530    | 16.110   | 29.200  |
| Run  | Time     | 65Cu     | 66Zn    | 68Zn    | 75As    | 78Se     | 82Se      | 83Kr     | 88Sr    |
|      |          | ppb      | ppb     | ppb     | ppb     | ppb      | ppb       | ppb      | ppb     |
| 1    | 21:02:00 | 0.247    | 3.051   | 2.836   | 0.326   | 15.890   | 20.510    | 0.000    | 3.861   |
| 2    | 21:02:07 | 0.110    | 2.471   | 2.513   | 0.353   | 17.310   | 23.470    | 0.000    | 3.959   |
| 3    | 21:02:15 | 0.170    | 2.227   | 2.720   | 0.244   | 15.930   | 22.610    | 0.000    | 3.808   |
| X    |          | 0.176    | 2.583   | 2.690   | 0.308   | 16.380   | 22.190    | 0.000    | 3.876   |
| σ    |          | 0.069    | 0.423   | 0.164   | 0.057   | 0.808    | 1.524     | 0.000    | 0.077   |
| %RSD |          | 39.020   | 16.380  | 6.092   | 18.500  | 4.934    | 6.869     | 0.000    | 1.984   |
| Run  | Time     | 89Y      | 95Mo    | 98Mo    | 103Rh   | 107Ag    | 109Ag     | 111Cd    | 114Cd   |
|      |          | ppb      | ppb     | ppb     | ppb     | ppb      | ppb       | ppb      | ppb     |
| 1    | 21:02:00 | 90.310%  | 0.184   | 0.234   | 81.513% | -0.021   | -0.011    | -0.004   | -0.002  |
| 2    | 21:02:07 | 93.073%  | 0.144   | 0.173   | 81.148% | -0.010   | -0.018    | -0.004   | -0.020  |
| 3    | 21:02:15 | 94.766%  | 0.156   | 0.126   | 81.323% | -0.023   | -0.014    | 0.010    | 0.003   |
| X    |          | 92.716%  | 0.162   | 0.178   | 81.328% | -0.018   | -0.014    | 0.000    | -0.006  |
| σ    |          | 2.249%   | 0.020   | 0.054   | 0.183%  | 0.007    | 0.003     | 0.008    | 0.012   |
| %RSD |          | 2.426    | 12.430  | 30.550  | 0.225   | 37.540   | 24.460    | 2097.000 | 187.300 |
| Run  | Time     | 115In    | 118Sn   | 121Sb   | 123Sb   | 135Ba    | 137Ba     | 159Tb    | 165Ho   |
|      |          | ppb      | ppb     | ppb     | ppb     | ppb      | ppb       | ppb      | ppb     |
| 1    | 21:02:00 | 83.165%  | -0.356  | -0.097  | -0.209  | 0.177    | 0.587     | 91.969%  | 94.214% |
| 2    | 21:02:07 | 83.226%  | -0.398  | -0.050  | -0.209  | 0.176    | 0.240     | 92.495%  | 92.791% |
| 3    | 21:02:15 | 83.833%  | -0.366  | -0.037  | -0.191  | 0.511    | 0.314     | 93.315%  | 93.606% |
| X    |          | 83.408%  | -0.374  | -0.061  | -0.203  | 0.288    | 0.380     | 92.593%  | 93.537% |
| σ    |          | 0.369%   | 0.021   | 0.031   | 0.010   | 0.193    | 0.183     | 0.678%   | 0.714%  |
| %RSD |          | 0.443    | 5.755   | 51.420  | 5.118   | 67.150   | 48.010    | 0.732    | 0.763   |
| Run  | Time     | 203Tl    | 205Tl   | 206Pb   | 207Pb   | 208Pb    | 209Bi     |          |         |
|      |          | ppb      | ppb     | ppb     | ppb     | ppb      | ppb       |          |         |
| 1    | 21:02:00 | -0.001   | -0.000  | -0.007  | 0.035   | 0.036    | 88.642%   |          |         |
| 2    | 21:02:07 | -0.018   | 0.001   | 0.030   | 0.062   | 0.046    | 88.688%   |          |         |
| 3    | 21:02:15 | -0.013   | 0.002   | -0.000  | 0.012   | 0.038    | 88.111%   |          |         |
| X    |          | -0.011   | 0.001   | 0.008   | 0.036   | 0.040    | 88.480%   |          |         |
| σ    |          | 0.009    | 0.001   | 0.020   | 0.025   | 0.006    | 0.321%    |          |         |
| %RSD |          | 85.370   | 176.800 | 259.300 | 68.030  | 14.150   | 0.363     |          |         |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be     | 10B    | 11B     | 13C      | 23Na      | 25Mg     | 26Mg     |
|------|----------|----------|---------|--------|---------|----------|-----------|----------|----------|
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb       | ppb      | ppb      |
| 1    | 21:07:06 | 108.600% | -0.045  | 9.389  | 9.112   | 0.000    | 59880.000 | 184.000  | 179.500  |
| 2    | 21:07:14 | 102.029% | -0.038  | 9.723  | 9.700   | 0.000    | 67110.000 | 198.100  | 196.800  |
| 3    | 21:07:21 | 109.969% | -0.042  | 9.521  | 8.840   | 0.000    | 62150.000 | 198.100  | 190.300  |
| X    |          | 106.866% | -0.041  | 9.544  | 9.217   | 0.000    | 63050.000 | 193.400  | 188.900  |
| σ    |          | 4.244%   | 0.004   | 0.168  | 0.440   | 0.000    | 3699.000  | 8.123    | 8.761    |
| %RSD |          | 3.972    | 8.541   | 1.765  | 4.770   | 0.000    | 5.868     | 4.200    | 4.639    |
| Run  | Time     | 27Al     | 28Si    | 37Cl   | 39K     | 43Ca     | 44Ca      | 45Sc     | 47Ti     |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb       | ppb      | ppb      |
| 1    | 21:07:06 | 0.768    | 97.260  | 0.000  | 143.800 | 1214.000 | 1169.000  | 116.127% | 0.087    |
| 2    | 21:07:14 | 0.837    | 102.800 | 0.000  | 154.300 | 1215.000 | 1174.000  | 114.902% | 0.113    |
| 3    | 21:07:21 | 0.784    | 90.190  | 0.000  | 144.800 | 1178.000 | 1193.000  | 113.943% | 0.240    |
| X    |          | 0.797    | 96.730  | 0.000  | 147.600 | 1202.000 | 1179.000  | 114.991% | 0.146    |
| σ    |          | 0.036    | 6.298   | 0.000  | 5.842   | 21.060   | 12.920    | 1.095%   | 0.082    |
| %RSD |          | 4.524    | 6.510   | 0.000  | 3.957   | 1.751    | 1.096     | 0.952    | 55.820   |
| Run  | Time     | 51V      | 52Cr    | 55Mn   | 56Fe    | 57Fe     | 59Co      | 60Ni     | 63Cu     |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb       | ppb      | ppb      |
| 1    | 21:07:06 | 0.163    | 0.101   | 2.624  | 7.504   | 15.980   | 0.133     | 0.279    | 0.012    |
| 2    | 21:07:14 | -0.023   | 0.087   | 2.598  | 7.896   | 17.370   | 0.122     | 0.415    | 0.018    |
| 3    | 21:07:21 | -0.011   | 0.088   | 2.652  | 7.473   | 12.520   | 0.116     | 0.283    | -0.029   |
| X    |          | 0.043    | 0.092   | 2.625  | 7.624   | 15.290   | 0.124     | 0.326    | 0.000    |
| σ    |          | 0.104    | 0.008   | 0.027  | 0.236   | 2.501    | 0.009     | 0.078    | 0.025    |
| %RSD |          | 243.400  | 8.683   | 1.033  | 3.096   | 16.350   | 6.900     | 23.870   | 9593.000 |
| Run  | Time     | 65Cu     | 66Zn    | 68Zn   | 75As    | 78Se     | 82Se      | 83Kr     | 88Sr     |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb       | ppb      | ppb      |
| 1    | 21:07:06 | 0.015    | 2.219   | 2.251  | 0.291   | 16.270   | 21.120    | 0.000    | 3.977    |
| 2    | 21:07:14 | 0.027    | 1.964   | 2.115  | 0.327   | 17.830   | 23.720    | 0.000    | 3.988    |
| 3    | 21:07:21 | 0.006    | 1.809   | 2.284  | 0.216   | 15.240   | 22.170    | 0.000    | 3.998    |
| X    |          | 0.016    | 1.997   | 2.216  | 0.278   | 16.450   | 22.340    | 0.000    | 3.987    |
| σ    |          | 0.010    | 0.207   | 0.090  | 0.057   | 1.306    | 1.310     | 0.000    | 0.011    |
| %RSD |          | 66.180   | 10.350  | 4.044  | 20.340  | 7.942    | 5.866     | 0.000    | 0.266    |
| Run  | Time     | 89Y      | 95Mo    | 98Mo   | 103Rh   | 107Ag    | 109Ag     | 111Cd    | 114Cd    |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb       | ppb      | ppb      |
| 1    | 21:07:06 | 84.132%  | 0.127   | 0.141  | 80.208% | -0.021   | -0.011    | -0.004   | -0.014   |
| 2    | 21:07:14 | 81.466%  | 0.131   | 0.186  | 80.214% | -0.025   | -0.009    | 0.010    | -0.014   |
| 3    | 21:07:21 | 86.591%  | 0.212   | 0.277  | 81.197% | -0.025   | -0.020    | -0.004   | -0.002   |
| X    |          | 84.063%  | 0.157   | 0.201  | 80.540% | -0.024   | -0.013    | 0.000    | -0.010   |
| σ    |          | 2.563%   | 0.048   | 0.069  | 0.569%  | 0.002    | 0.006     | 0.008    | 0.007    |
| %RSD |          | 3.049    | 30.730  | 34.480 | 0.707   | 10.530   | 45.490    | 2245.000 | 67.470   |
| Run  | Time     | 115In    | 118Sn   | 121Sb  | 123Sb   | 135Ba    | 137Ba     | 159Tb    | 165Ho    |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb       | ppb      | ppb      |
| 1    | 21:07:06 | 81.865%  | -0.357  | -0.062 | -0.132  | 0.054    | 0.205     | 91.233%  | 91.494%  |
| 2    | 21:07:14 | 83.946%  | -0.380  | -0.077 | -0.172  | 0.052    | 0.163     | 92.617%  | 92.920%  |
| 3    | 21:07:21 | 82.280%  | -0.297  | -0.056 | -0.171  | 0.147    | 0.204     | 91.874%  | 93.908%  |
| X    |          | 82.697%  | -0.345  | -0.065 | -0.158  | 0.084    | 0.191     | 91.908%  | 92.774%  |
| σ    |          | 1.101%   | 0.043   | 0.011  | 0.023   | 0.054    | 0.024     | 0.692%   | 1.214%   |
| %RSD |          | 1.332    | 12.420  | 16.890 | 14.390  | 64.230   | 12.760    | 0.753    | 1.308    |
| Run  | Time     | 203Tl    | 205Tl   | 206Pb  | 207Pb   | 208Pb    | 209Bi     |          |          |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb       |          |          |
| 1    | 21:07:06 | -0.010   | -0.003  | -0.034 | -0.014  | -0.014   | 87.425%   |          |          |
| 2    | 21:07:14 | -0.008   | -0.004  | -0.013 | 0.016   | 0.011    | 87.793%   |          |          |
| 3    | 21:07:21 | -0.008   | -0.000  | -0.017 | 0.005   | 0.000    | 87.000%   |          |          |
| X    |          | -0.009   | -0.002  | -0.021 | 0.002   | -0.001   | 87.406%   |          |          |
| σ    |          | 0.001    | 0.002   | 0.011  | 0.016   | 0.012    | 0.397%    |          |          |
| %RSD |          | 16.620   | 79.660  | 51.370 | 635.300 | 1178.000 | 0.454     |          |          |



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User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be    | 10B     | 11B     | 13C     | 23Na      | 25Mg     | 26Mg    |
|------|----------|----------|--------|---------|---------|---------|-----------|----------|---------|
|      |          | ppb      | ppb    | ppb     | ppb     | ppb     | ppb       | ppb      | ppb     |
| 1    | 21:12:14 | 103.423% | -0.037 | 10.700  | 10.650  | 0.000   | 73540.000 | 138.100  | 134.700 |
| 2    | 21:12:21 | 100.557% | -0.031 | 11.480  | 10.830  | 0.000   | 70830.000 | 134.800  | 136.700 |
| 3    | 21:12:29 | 104.150% | -0.034 | 10.230  | 10.340  | 0.000   | 69230.000 | 133.600  | 128.700 |
| X    |          | 102.710% | -0.034 | 10.800  | 10.610  | 0.000   | 71200.000 | 135.500  | 133.300 |
| σ    |          | 1.900%   | 0.003  | 0.633   | 0.250   | 0.000   | 2183.000  | 2.318    | 4.166   |
| %RSD |          | 1.850    | 8.963  | 5.860   | 2.358   | 0.000   | 3.066     | 1.711    | 3.124   |
| Run  | Time     | 27Al     | 28Si   | 37Cl    | 39K     | 43Ca    | 44Ca      | 45Sc     | 47Ti    |
|      |          | ppb      | ppb    | ppb     | ppb     | ppb     | ppb       | ppb      | ppb     |
| 1    | 21:12:14 | 0.948    | 92.460 | 0.000   | 144.000 | 940.200 | 919.400   | 108.204% | 0.213   |
| 2    | 21:12:21 | 0.873    | 89.960 | 0.000   | 144.700 | 999.500 | 942.900   | 113.529% | 0.190   |
| 3    | 21:12:29 | 0.786    | 85.150 | 0.000   | 142.700 | 954.800 | 903.600   | 112.169% | 0.070   |
| X    |          | 0.869    | 89.190 | 0.000   | 143.800 | 964.800 | 921.900   | 111.301% | 0.158   |
| σ    |          | 0.081    | 3.716  | 0.000   | 1.007   | 30.890  | 19.760    | 2.767%   | 0.077   |
| %RSD |          | 9.357    | 4.167  | 0.000   | 0.700   | 3.201   | 2.143     | 2.486    | 48.740  |
| Run  | Time     | 51V      | 52Cr   | 55Mn    | 56Fe    | 57Fe    | 59Co      | 60Ni     | 63Cu    |
|      |          | ppb      | ppb    | ppb     | ppb     | ppb     | ppb       | ppb      | ppb     |
| 1    | 21:12:14 | -0.034   | 0.090  | 9.605   | 54.480  | 56.500  | 0.210     | 0.608    | 0.109   |
| 2    | 21:12:21 | -0.026   | 0.079  | 9.261   | 53.190  | 56.340  | 0.193     | 0.619    | 0.074   |
| 3    | 21:12:29 | -0.003   | 0.088  | 9.540   | 54.350  | 59.330  | 0.186     | 0.608    | 0.066   |
| X    |          | -0.021   | 0.086  | 9.468   | 54.000  | 57.390  | 0.196     | 0.611    | 0.083   |
| σ    |          | 0.016    | 0.006  | 0.183   | 0.710   | 1.679   | 0.012     | 0.007    | 0.023   |
| %RSD |          | 76.810   | 6.697  | 1.933   | 1.315   | 2.926   | 6.134     | 1.067    | 27.590  |
| Run  | Time     | 65Cu     | 66Zn   | 68Zn    | 75As    | 78Se    | 82Se      | 83Kr     | 88Sr    |
|      |          | ppb      | ppb    | ppb     | ppb     | ppb     | ppb       | ppb      | ppb     |
| 1    | 21:12:14 | 0.093    | 2.091  | 2.043   | 0.186   | 25.150  | 33.670    | 0.000    | 4.662   |
| 2    | 21:12:21 | 0.136    | 2.086  | 2.183   | 0.228   | 23.660  | 34.440    | 0.000    | 4.688   |
| 3    | 21:12:29 | 0.153    | 2.019  | 1.980   | 0.208   | 23.320  | 35.330    | 0.000    | 4.785   |
| X    |          | 0.127    | 2.065  | 2.069   | 0.207   | 24.050  | 34.480    | 0.000    | 4.712   |
| σ    |          | 0.031    | 0.040  | 0.104   | 0.021   | 0.971   | 0.835     | 0.000    | 0.065   |
| %RSD |          | 24.590   | 1.943  | 5.013   | 10.060  | 4.038   | 2.421     | 0.000    | 1.380   |
| Run  | Time     | 89Y      | 95Mo   | 98Mo    | 103Rh   | 107Ag   | 109Ag     | 111Cd    | 114Cd   |
|      |          | ppb      | ppb    | ppb     | ppb     | ppb     | ppb       | ppb      | ppb     |
| 1    | 21:12:14 | 83.194%  | 0.092  | 0.063   | 78.171% | -0.021  | -0.013    | -0.004   | -0.020  |
| 2    | 21:12:21 | 87.901%  | 0.027  | 0.036   | 78.929% | -0.023  | -0.013    | -0.004   | -0.014  |
| 3    | 21:12:29 | 86.000%  | 0.013  | 0.083   | 79.424% | -0.023  | -0.013    | -0.004   | -0.014  |
| X    |          | 85.698%  | 0.044  | 0.061   | 78.841% | -0.022  | -0.013    | -0.004   | -0.016  |
| σ    |          | 2.368%   | 0.042  | 0.024   | 0.631%  | 0.001   | 0.000     | 0.000    | 0.003   |
| %RSD |          | 2.763    | 96.160 | 39.610  | 0.800   | 5.881   | 0.547     | 0.471    | 20.650  |
| Run  | Time     | 115In    | 118Sn  | 121Sb   | 123Sb   | 135Ba   | 137Ba     | 159Tb    | 165Ho   |
|      |          | ppb      | ppb    | ppb     | ppb     | ppb     | ppb       | ppb      | ppb     |
| 1    | 21:12:14 | 82.292%  | -0.489 | -0.124  | -0.246  | 1.029   | 0.754     | 89.698%  | 92.118% |
| 2    | 21:12:21 | 83.921%  | -0.475 | -0.070  | -0.191  | 0.667   | 0.716     | 92.468%  | 92.783% |
| 3    | 21:12:29 | 83.000%  | -0.499 | -0.076  | -0.190  | 0.983   | 0.799     | 91.833%  | 93.386% |
| X    |          | 83.071%  | -0.488 | -0.090  | -0.209  | 0.893   | 0.756     | 91.333%  | 92.763% |
| σ    |          | 0.817%   | 0.012  | 0.029   | 0.032   | 0.197   | 0.042     | 1.451%   | 0.634%  |
| %RSD |          | 0.983    | 2.505  | 32.310  | 15.330  | 22.100  | 5.543     | 1.589    | 0.684   |
| Run  | Time     | 203Tl    | 205Tl  | 206Pb   | 207Pb   | 208Pb   | 209Bi     |          |         |
|      |          | ppb      | ppb    | ppb     | ppb     | ppb     | ppb       |          |         |
| 1    | 21:12:14 | -0.008   | 0.015  | -0.007  | 0.020   | 0.017   | 88.941%   |          |         |
| 2    | 21:12:21 | 0.007    | 0.011  | 0.046   | 0.000   | 0.029   | 89.284%   |          |         |
| 3    | 21:12:29 | 0.009    | 0.009  | 0.009   | 0.011   | 0.026   | 89.861%   |          |         |
| X    |          | 0.003    | 0.012  | 0.016   | 0.010   | 0.024   | 89.362%   |          |         |
| σ    |          | 0.009    | 0.003  | 0.027   | 0.010   | 0.006   | 0.465%    |          |         |
| %RSD |          | 357.300  | 24.560 | 171.100 | 93.490  | 26.500  | 0.520     |          |         |

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5/1/2015 9:18:13 PM

User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be     | 10B    | 11B     | 13C      | 23Na      | 25Mg     | 26Mg    |
|------|----------|----------|---------|--------|---------|----------|-----------|----------|---------|
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb       | ppb      | ppb     |
| 1    | 21:17:19 | 110.398% | -0.035  | 9.893  | 9.273   | 0.000    | 62190.000 | 192.900  | 189.500 |
| 2    | 21:17:26 | 105.284% | -0.036  | 9.869  | 9.759   | 0.000    | 66540.000 | 200.800  | 202.900 |
| 3    | 21:17:34 | 101.497% | -0.039  | 10.450 | 10.210  | 0.000    | 70150.000 | 212.800  | 207.600 |
| X    |          | 105.726% | -0.037  | 10.070 | 9.748   | 0.000    | 66290.000 | 202.200  | 200.000 |
| σ    |          | 4.467%   | 0.002   | 0.330  | 0.470   | 0.000    | 3986.000  | 10.030   | 9.427   |
| %RSD |          | 4.225    | 6.316   | 3.280  | 4.821   | 0.000    | 6.012     | 4.963    | 4.714   |
| Run  | Time     | 27Al     | 28Si    | 37Cl   | 39K     | 43Ca     | 44Ca      | 45Sc     | 47Ti    |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb       | ppb      | ppb     |
| 1    | 21:17:19 | 67.470   | 96.290  | 0.000  | 118.300 | 1242.000 | 1232.000  | 115.870% | 0.246   |
| 2    | 21:17:26 | 72.290   | 101.700 | 0.000  | 120.200 | 1361.000 | 1330.000  | 111.582% | 0.191   |
| 3    | 21:17:34 | 74.220   | 99.060  | 0.000  | 118.300 | 1338.000 | 1304.000  | 110.642% | 0.044   |
| X    |          | 71.320   | 99.030  | 0.000  | 118.900 | 1314.000 | 1289.000  | 112.698% | 0.160   |
| σ    |          | 3.477    | 2.729   | 0.000  | 1.084   | 62.940   | 50.810    | 2.787%   | 0.104   |
| %RSD |          | 4.875    | 2.756   | 0.000  | 0.912   | 4.790    | 3.943     | 2.473    | 64.910  |
| Run  | Time     | 51V      | 52Cr    | 55Mn   | 56Fe    | 57Fe     | 59Co      | 60Ni     | 63Cu    |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb       | ppb      | ppb     |
| 1    | 21:17:19 | -0.032   | 0.096   | 6.010  | 55.070  | 58.950   | 0.123     | 0.402    | 0.136   |
| 2    | 21:17:26 | 0.033    | 0.090   | 6.174  | 56.030  | 60.910   | 0.119     | 0.362    | 0.184   |
| 3    | 21:17:34 | 0.097    | 0.106   | 6.013  | 54.030  | 59.890   | 0.131     | 0.382    | 0.206   |
| X    |          | 0.033    | 0.097   | 6.066  | 55.040  | 59.920   | 0.124     | 0.382    | 0.175   |
| σ    |          | 0.064    | 0.008   | 0.094  | 1.005   | 0.979    | 0.006     | 0.020    | 0.036   |
| %RSD |          | 198.300  | 8.392   | 1.545  | 1.825   | 1.634    | 4.859     | 5.213    | 20.420  |
| Run  | Time     | 65Cu     | 66Zn    | 68Zn   | 75As    | 78Se     | 82Se      | 83Kr     | 88Sr    |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb       | ppb      | ppb     |
| 1    | 21:17:19 | 0.129    | 2.108   | 2.032  | 0.275   | 16.720   | 23.400    | 0.000    | 4.825   |
| 2    | 21:17:26 | 0.200    | 2.019   | 2.008  | 0.290   | 15.820   | 24.220    | 0.000    | 4.503   |
| 3    | 21:17:34 | 0.189    | 2.062   | 1.634  | 0.237   | 14.870   | 24.260    | 0.000    | 4.688   |
| X    |          | 0.172    | 2.063   | 1.892  | 0.268   | 15.800   | 23.960    | 0.000    | 4.672   |
| σ    |          | 0.038    | 0.044   | 0.223  | 0.027   | 0.924    | 0.487     | 0.000    | 0.161   |
| %RSD |          | 22.300   | 2.157   | 11.800 | 10.170  | 5.849    | 2.034     | 0.000    | 3.454   |
| Run  | Time     | 89Y      | 95Mo    | 98Mo   | 103Rh   | 107Ag    | 109Ag     | 111Cd    | 114Cd   |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb       | ppb      | ppb     |
| 1    | 21:17:19 | 88.516%  | 0.091   | 0.052  | 81.325% | -0.013   | -0.009    | -0.004   | -0.026  |
| 2    | 21:17:26 | 89.420%  | 0.055   | 0.006  | 79.849% | -0.008   | -0.018    | 0.010    | -0.008  |
| 3    | 21:17:34 | 89.336%  | 0.113   | 0.038  | 80.716% | -0.025   | -0.016    | -0.004   | -0.003  |
| X    |          | 89.091%  | 0.086   | 0.032  | 80.630% | -0.015   | -0.014    | 0.000    | -0.012  |
| σ    |          | 0.499%   | 0.029   | 0.023  | 0.742%  | 0.009    | 0.005     | 0.008    | 0.012   |
| %RSD |          | 0.560    | 33.880  | 73.020 | 0.920   | 58.550   | 33.220    | 2018.000 | 97.280  |
| Run  | Time     | 115In    | 118Sn   | 121Sb  | 123Sb   | 135Ba    | 137Ba     | 159Tb    | 165Ho   |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb       | ppb      | ppb     |
| 1    | 21:17:19 | 83.585%  | -0.473  | -0.083 | -0.134  | 0.239    | 0.242     | 90.541%  | 92.086% |
| 2    | 21:17:26 | 82.590%  | -0.511  | -0.096 | -0.227  | 0.395    | 0.223     | 91.909%  | 94.620% |
| 3    | 21:17:34 | 85.137%  | -0.465  | -0.104 | -0.237  | 0.298    | 0.258     | 91.077%  | 92.614% |
| X    |          | 83.771%  | -0.483  | -0.095 | -0.200  | 0.311    | 0.241     | 91.176%  | 93.107% |
| σ    |          | 1.284%   | 0.025   | 0.010  | 0.057   | 0.079    | 0.018     | 0.689%   | 1.337%  |
| %RSD |          | 1.532    | 5.136   | 11.010 | 28.490  | 25.280   | 7.331     | 0.756    | 1.436   |
| Run  | Time     | 203Tl    | 205Tl   | 206Pb  | 207Pb   | 208Pb    | 209Bi     |          |         |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb       |          |         |
| 1    | 21:17:19 | -0.013   | 0.002   | 0.020  | -0.007  | 0.013    | 88.535%   |          |         |
| 2    | 21:17:26 | -0.003   | 0.001   | 0.016  | 0.004   | 0.029    | 89.645%   |          |         |
| 3    | 21:17:34 | 0.002    | -0.009  | 0.020  | 0.027   | 0.034    | 88.809%   |          |         |
| X    |          | -0.005   | -0.002  | 0.018  | 0.008   | 0.025    | 88.996%   |          |         |
| σ    |          | 0.008    | 0.006   | 0.002  | 0.018   | 0.011    | 0.578%    |          |         |
| %RSD |          | 158.800  | 315.200 | 12.990 | 219.000 | 43.900   | 0.649     |          |         |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be    | 10B    | 11B     | 13C     | 23Na     | 25Mg     | 26Mg     |
|------|----------|----------|--------|--------|---------|---------|----------|----------|----------|
|      |          | ppb      | ppb    | ppb    | ppb     | ppb     | ppb      | ppb      | ppb      |
| 1    | 21:22:23 | 113.062% | -0.020 | 0.609  | 0.644   | 0.000   | 12.940   | -0.853   | -0.812   |
| 2    | 21:22:30 | 104.689% | -0.022 | 0.636  | 0.625   | 0.000   | 9.776    | -1.084   | -0.913   |
| 3    | 21:22:38 | 113.756% | -0.027 | 0.442  | 0.508   | 0.000   | 4.608    | -1.021   | -1.032   |
| X    |          | 110.502% | -0.023 | 0.562  | 0.593   | 0.000   | 9.109    | -0.986   | -0.919   |
| σ    |          | 5.046%   | 0.003  | 0.105  | 0.074   | 0.000   | 4.207    | 0.119    | 0.110    |
| %RSD |          | 4.567    | 15.060 | 18.730 | 12.470  | 0.000   | 46.180   | 12.090   | 11.980   |
| Run  | Time     | 27Al     | 28Si   | 37Cl   | 39K     | 43Ca    | 44Ca     | 45Sc     | 47Ti     |
|      |          | ppb      | ppb    | ppb    | ppb     | ppb     | ppb      | ppb      | ppb      |
| 1    | 21:22:23 | -1.103   | 11.540 | 0.000  | -0.307  | 4.370   | 0.843    | 124.338% | -0.183   |
| 2    | 21:22:30 | -0.988   | 7.336  | 0.000  | -0.296  | 6.331   | 0.958    | 121.581% | -0.106   |
| 3    | 21:22:38 | -1.111   | 5.093  | 0.000  | 0.110   | -1.371  | 0.475    | 120.034% | -0.194   |
| X    |          | -1.068   | 7.989  | 0.000  | -0.164  | 3.110   | 0.758    | 121.984% | -0.161   |
| σ    |          | 0.069    | 3.271  | 0.000  | 0.238   | 4.002   | 0.252    | 2.180%   | 0.048    |
| %RSD |          | 6.457    | 40.950 | 0.000  | 144.900 | 128.700 | 33.280   | 1.787    | 29.720   |
| Run  | Time     | 51V      | 52Cr   | 55Mn   | 56Fe    | 57Fe    | 59Co     | 60Ni     | 63Cu     |
|      |          | ppb      | ppb    | ppb    | ppb     | ppb     | ppb      | ppb      | ppb      |
| 1    | 21:22:23 | 0.063    | 0.090  | 0.036  | 1.395   | 1.750   | 0.226    | 0.045    | -0.013   |
| 2    | 21:22:30 | 0.053    | 0.086  | 0.032  | 1.588   | -0.067  | 0.221    | 0.059    | -0.025   |
| 3    | 21:22:38 | 0.002    | 0.095  | 0.029  | 1.382   | 0.289   | 0.221    | 0.059    | -0.040   |
| X    |          | 0.039    | 0.090  | 0.032  | 1.455   | 0.657   | 0.223    | 0.054    | -0.026   |
| σ    |          | 0.032    | 0.005  | 0.003  | 0.115   | 0.963   | 0.003    | 0.008    | 0.013    |
| %RSD |          | 82.490   | 4.993  | 10.560 | 7.919   | 146.600 | 1.263    | 14.460   | 51.080   |
| Run  | Time     | 65Cu     | 66Zn   | 68Zn   | 75As    | 78Se    | 82Se     | 83Kr     | 88Sr     |
|      |          | ppb      | ppb    | ppb    | ppb     | ppb     | ppb      | ppb      | ppb      |
| 1    | 21:22:23 | -0.029   | 0.245  | 0.301  | -0.014  | 0.073   | 0.869    | 0.000    | -0.005   |
| 2    | 21:22:30 | 0.002    | 0.261  | 0.228  | -0.027  | 0.054   | 0.062    | 0.000    | 0.003    |
| 3    | 21:22:38 | -0.024   | 0.329  | 0.398  | -0.024  | 0.013   | 0.123    | 0.000    | 0.000    |
| X    |          | -0.017   | 0.278  | 0.309  | -0.021  | 0.047   | 0.351    | 0.000    | -0.000   |
| σ    |          | 0.017    | 0.045  | 0.085  | 0.007   | 0.031   | 0.450    | 0.000    | 0.004    |
| %RSD |          | 97.060   | 16.090 | 27.660 | 32.280  | 65.530  | 128.000  | 0.000    | 1238.000 |
| Run  | Time     | 89Y      | 95Mo   | 98Mo   | 103Rh   | 107Ag   | 109Ag    | 111Cd    | 114Cd    |
|      |          | ppb      | ppb    | ppb    | ppb     | ppb     | ppb      | ppb      | ppb      |
| 1    | 21:22:23 | 94.808%  | 0.050  | 0.050  | 94.866% | -0.004  | -0.017   | -0.004   | -0.026   |
| 2    | 21:22:30 | 94.713%  | 0.064  | 0.039  | 93.084% | -0.009  | -0.015   | -0.004   | -0.000   |
| 3    | 21:22:38 | 96.361%  | 0.029  | 0.013  | 95.099% | -0.000  | -0.005   | -0.004   | -0.010   |
| X    |          | 95.294%  | 0.047  | 0.034  | 94.349% | -0.004  | -0.012   | -0.004   | -0.012   |
| σ    |          | 0.925%   | 0.018  | 0.019  | 1.102%  | 0.004   | 0.006    | 0.000    | 0.013    |
| %RSD |          | 0.971    | 37.140 | 56.660 | 1.168   | 104.700 | 53.170   | 1.306    | 107.700  |
| Run  | Time     | 115In    | 118Sn  | 121Sb  | 123Sb   | 135Ba   | 137Ba    | 159Tb    | 165Ho    |
|      |          | ppb      | ppb    | ppb    | ppb     | ppb     | ppb      | ppb      | ppb      |
| 1    | 21:22:23 | 91.742%  | -0.449 | -0.087 | -0.249  | 0.020   | 0.008    | 97.372%  | 99.039%  |
| 2    | 21:22:30 | 93.884%  | -0.492 | -0.100 | -0.241  | -0.009  | 0.007    | 98.931%  | 97.814%  |
| 3    | 21:22:38 | 93.983%  | -0.540 | -0.094 | -0.241  | 0.019   | -0.028   | 98.657%  | 101.047% |
| X    |          | 93.203%  | -0.494 | -0.094 | -0.243  | 0.010   | -0.005   | 98.320%  | 99.300%  |
| σ    |          | 1.266%   | 0.046  | 0.006  | 0.004   | 0.016   | 0.020    | 0.832%   | 1.632%   |
| %RSD |          | 1.359    | 9.304  | 6.878  | 1.847   | 166.000 | 445.100  | 0.846    | 1.644    |
| Run  | Time     | 203Tl    | 205Tl  | 206Pb  | 207Pb   | 208Pb   | 209Bi    |          |          |
|      |          | ppb      | ppb    | ppb    | ppb     | ppb     | ppb      |          |          |
| 1    | 21:22:23 | -0.017   | -0.007 | -0.016 | -0.029  | -0.017  | 102.279% |          |          |
| 2    | 21:22:30 | -0.017   | -0.010 | -0.030 | -0.032  | -0.023  | 103.108% |          |          |
| 3    | 21:22:38 | -0.023   | -0.011 | -0.042 | -0.029  | -0.027  | 103.006% |          |          |
| X    |          | -0.019   | -0.009 | -0.029 | -0.030  | -0.023  | 102.798% |          |          |
| σ    |          | 0.004    | 0.002  | 0.013  | 0.002   | 0.005   | 0.452%   |          |          |
| %RSD |          | 20.280   | 21.010 | 45.140 | 6.487   | 20.990  | 0.440    |          |          |

LCS 180-139898/2-A 5/1/2015 9:28:21 PM

User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be      | 10B      | 11B       | 13C       | 23Na      | 25Mg      | 26Mg      |
|------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 21:27:27 | 100.039% | 47.230   | 829.800  | 883.200   | 0.000     | 43920.000 | 44410.000 | 42600.000 |
| 2    | 21:27:35 | 104.398% | 45.850   | 830.400  | 854.900   | 0.000     | 45510.000 | 46140.000 | 46730.000 |
| 3    | 21:27:43 | 96.975%  | 48.210   | 871.900  | 863.900   | 0.000     | 46510.000 | 45740.000 | 47180.000 |
| X    |          | 100.471% | 47.100   | 844.000  | 867.300   | 0.000     | 45310.000 | 45430.000 | 45500.000 |
| σ    |          | 3.730%   | 1.185    | 24.110   | 14.470    | 0.000     | 1302.000  | 909.700   | 2527.000  |
| %RSD |          | 3.713    | 2.516    | 2.856    | 1.669     | 0.000     | 2.874     | 2.002     | 5.553     |
| Run  | Time     | 27Al     | 28Si     | 37Cl     | 39K       | 43Ca      | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 21:27:27 | 1691.000 | 9429.000 | 0.000    | 53920.000 | 46640.000 | 50100.000 | 87.266%   | 889.900   |
| 2    | 21:27:35 | 1839.000 | 9328.000 | 0.000    | 55950.000 | 49150.000 | 52760.000 | 80.145%   | 951.600   |
| 3    | 21:27:43 | 1784.000 | 9765.000 | 0.000    | 58810.000 | 51920.000 | 53250.000 | 80.201%   | 932.700   |
| X    |          | 1772.000 | 9507.000 | 0.000    | 56230.000 | 49230.000 | 52040.000 | 82.537%   | 924.800   |
| σ    |          | 74.690   | 228.600  | 0.000    | 2460.000  | 2641.000  | 1696.000  | 4.095%    | 31.660    |
| %RSD |          | 4.216    | 2.405    | 0.000    | 4.374     | 5.365     | 3.259     | 4.961     | 3.424     |
| Run  | Time     | 51V      | 52Cr     | 55Mn     | 56Fe      | 57Fe      | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 21:27:27 | 409.300  | 165.900  | 495.500  | 884.300   | 1045.000  | 415.900   | 423.400   | 223.900   |
| 2    | 21:27:35 | 440.200  | 173.300  | 547.100  | 928.900   | 1116.000  | 446.200   | 466.200   | 251.500   |
| 3    | 21:27:43 | 446.700  | 173.300  | 543.200  | 916.800   | 1113.000  | 456.100   | 465.700   | 244.900   |
| X    |          | 432.100  | 170.900  | 528.600  | 910.000   | 1091.000  | 439.400   | 451.800   | 240.100   |
| σ    |          | 19.970   | 4.267    | 28.750   | 23.050    | 39.940    | 20.950    | 24.540    | 14.390    |
| %RSD |          | 4.622    | 2.497    | 5.439    | 2.533     | 3.660     | 4.767     | 5.432     | 5.993     |
| Run  | Time     | 65Cu     | 66Zn     | 68Zn     | 75As      | 78Se      | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 21:27:27 | 229.000  | 521.200  | 524.400  | 42.560    | 11.760    | 12.930    | 0.000     | 879.600   |
| 2    | 21:27:35 | 254.300  | 561.900  | 561.100  | 44.490    | 11.710    | 11.420    | 0.000     | 891.300   |
| 3    | 21:27:43 | 246.400  | 544.100  | 569.600  | 44.220    | 11.670    | 12.270    | 0.000     | 884.100   |
| X    |          | 243.200  | 542.400  | 551.700  | 43.760    | 11.710    | 12.210    | 0.000     | 885.000   |
| σ    |          | 12.950   | 20.420   | 24.030   | 1.041     | 0.041     | 0.760     | 0.000     | 5.872     |
| %RSD |          | 5.326    | 3.764    | 4.355    | 2.378     | 0.352     | 6.226     | 0.000     | 0.663     |
| Run  | Time     | 89Y      | 95Mo     | 98Mo     | 103Rh     | 107Ag     | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 21:27:27 | 77.037%  | 1020.000 | 1078.000 | 63.960%   | 51.800    | 52.780    | 54.800    | 96.810    |
| 2    | 21:27:35 | 75.700%  | 1025.000 | 1100.000 | 62.934%   | 53.630    | 52.440    | 54.870    | 96.510    |
| 3    | 21:27:43 | 76.652%  | 1042.000 | 1098.000 | 62.601%   | 54.310    | 53.230    | 57.970    | 94.050    |
| X    |          | 76.463%  | 1029.000 | 1092.000 | 63.165%   | 53.250    | 52.820    | 55.880    | 95.790    |
| σ    |          | 0.688%   | 11.380   | 11.900   | 0.708%    | 1.296     | 0.394     | 1.812     | 1.512     |
| %RSD |          | 0.900    | 1.106    | 1.089    | 1.121     | 2.435     | 0.745     | 3.243     | 1.578     |
| Run  | Time     | 115In    | 118Sn    | 121Sb    | 123Sb     | 135Ba     | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 21:27:27 | 67.845%  | 1971.000 | 506.900  | 497.200   | 1836.000  | 1869.000  | 81.653%   | 82.781%   |
| 2    | 21:27:35 | 68.286%  | 1955.000 | 503.900  | 500.500   | 1867.000  | 1870.000  | 82.179%   | 84.362%   |
| 3    | 21:27:43 | 67.429%  | 1940.000 | 503.400  | 505.900   | 1897.000  | 1897.000  | 81.309%   | 83.109%   |
| X    |          | 67.853%  | 1955.000 | 504.700  | 501.200   | 1867.000  | 1879.000  | 81.714%   | 83.417%   |
| σ    |          | 0.429%   | 15.540   | 1.903    | 4.412     | 30.120    | 15.750    | 0.439%    | 0.834%    |
| %RSD |          | 0.632    | 0.795    | 0.377    | 0.880     | 1.614     | 0.838     | 0.537     | 1.000     |
| Run  | Time     | 203Tl    | 205Tl    | 206Pb    | 207Pb     | 208Pb     | 209Bi     |           |           |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       |           |           |
| 1    | 21:27:27 | 46.100   | 46.230   | 19.620   | 19.210    | 19.600    | 74.738%   |           |           |
| 2    | 21:27:35 | 46.570   | 46.460   | 19.450   | 19.850    | 19.530    | 75.846%   |           |           |
| 3    | 21:27:43 | 46.770   | 46.870   | 19.640   | 19.420    | 19.740    | 75.938%   |           |           |
| X    |          | 46.480   | 46.520   | 19.570   | 19.490    | 19.620    | 75.508%   |           |           |
| σ    |          | 0.346    | 0.323    | 0.107    | 0.323     | 0.109     | 0.668%    |           |           |
| %RSD |          | 0.745    | 0.694    | 0.545    | 1.658     | 0.555     | 0.885     |           |           |

CCV 1533080 5/1/2015 9:33:26 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be      | 10B      | 11B       | 13C       | 23Na      | 25Mg      | 26Mg      |
|------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 21:32:33 | 97.235%  | 96.170   | 93.550   | 89.770    | 0.000     | 54360.000 | 53680.000 | 55630.000 |
| 2    | 21:32:41 | 94.366%  | 100.800  | 98.550   | 95.430    | 0.000     | 55000.000 | 54690.000 | 55040.000 |
| 3    | 21:32:49 | 95.155%  | 100.700  | 96.750   | 91.830    | 0.000     | 56980.000 | 56810.000 | 56330.000 |
| X    |          | 95.585%  | 99.208%  | 96.286%  | 92.344%   | 0.000     | 110.892%  | 110.126%  | 111.327%  |
| σ    |          | 1.482%   | n/a      | n/a      | n/a       | 0.000     | n/a       | n/a       | n/a       |
| %RSD |          | 1.550    | 2.649    | 2.631    | 3.104     | 0.000     | 2.460     | 2.898     | 1.162     |
| Run  | Time     | 27Al     | 28Si     | 37Cl     | 39K       | 43Ca      | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 21:32:33 | 512.300  | 5583.000 | 0.000    | 55390.000 | 49790.000 | 54880.000 | 105.608%  | 101.200   |
| 2    | 21:32:41 | 524.200  | 5914.000 | 0.000    | 57940.000 | 51120.000 | 56690.000 | 101.598%  | 103.200   |
| 3    | 21:32:49 | 508.900  | 5935.000 | 0.000    | 59580.000 | 55330.000 | 59210.000 | 97.780%   | 105.300   |
| X    |          | 103.026% | 116.214% | 0.000    | 115.271%  | 104.159%  | 113.857%  | 101.662%  | 103.248%  |
| σ    |          | n/a      | n/a      | 0.000    | n/a       | n/a       | n/a       | 3.915%    | n/a       |
| %RSD |          | 1.558    | 3.402    | 0.000    | 3.663     | 5.550     | 3.826     | 3.851     | 1.993     |
| Run  | Time     | 51V      | 52Cr     | 55Mn     | 56Fe      | 57Fe      | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 21:32:33 | 84.690   | 87.700   | 535.100  | 23520.000 | 23310.000 | 90.560    | 96.630    | 98.480    |
| 2    | 21:32:41 | 89.990   | 94.260   | 552.200  | 24260.000 | 23530.000 | 93.980    | 95.600    | 98.630    |
| 3    | 21:32:49 | 90.970   | 93.660   | 563.800  | 25630.000 | 24630.000 | 93.610    | 98.380    | 101.200   |
| X    |          | 88.550%  | 91.873%  | 110.072% | 97.881%   | 95.281%   | 92.718%   | 96.869%   | 99.441%   |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | n/a       | n/a       | n/a       |
| %RSD |          | 3.811    | 3.946    | 2.625    | 4.366     | 2.978     | 2.021     | 1.455     | 1.539     |
| Run  | Time     | 65Cu     | 66Zn     | 68Zn     | 75As      | 78Se      | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 21:32:33 | 98.500   | 104.800  | 103.200  | 101.000   | 103.400   | 103.100   | 0.000     | 89.840    |
| 2    | 21:32:41 | 100.500  | 104.200  | 105.900  | 102.200   | 105.900   | 109.600   | 0.000     | 90.700    |
| 3    | 21:32:49 | 97.470   | 106.500  | 104.100  | 104.000   | 104.100   | 110.800   | 0.000     | 90.060    |
| X    |          | 98.821%  | 105.170% | 104.432% | 102.392%  | 104.468%  | 107.828%  | 0.000     | 90.200%   |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | n/a       | 0.000     | n/a       |
| %RSD |          | 1.552    | 1.127    | 1.309    | 1.463     | 1.217     | 3.872     | 0.000     | 0.496     |
| Run  | Time     | 89Y      | 95Mo     | 98Mo     | 103Rh     | 107Ag     | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 21:32:33 | 95.463%  | 105.900  | 107.400  | 80.381%   | 102.200   | 104.800   | 105.700   | 108.800   |
| 2    | 21:32:41 | 94.481%  | 108.800  | 110.900  | 79.540%   | 102.700   | 101.900   | 104.200   | 107.800   |
| 3    | 21:32:49 | 96.435%  | 104.500  | 110.300  | 80.165%   | 102.000   | 102.600   | 103.300   | 109.000   |
| X    |          | 95.460%  | 106.394% | 109.539% | 80.029%   | 102.327%  | 103.115%  | 104.418%  | 108.534%  |
| σ    |          | 0.977%   | n/a      | n/a      | 0.437%    | n/a       | n/a       | n/a       | n/a       |
| %RSD |          | 1.024    | 2.044    | 1.713    | 0.546     | 0.363     | 1.458     | 1.162     | 0.553     |
| Run  | Time     | 115In    | 118Sn    | 121Sb    | 123Sb     | 135Ba     | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 21:32:33 | 83.406%  | 99.660   | 98.920   | 99.280    | 94.280    | 100.300   | 91.751%   | 91.147%   |
| 2    | 21:32:41 | 84.654%  | 99.590   | 101.100  | 98.710    | 98.100    | 100.500   | 92.019%   | 93.064%   |
| 3    | 21:32:49 | 84.914%  | 100.300  | 101.900  | 102.600   | 97.960    | 96.990    | 93.338%   | 92.805%   |
| X    |          | 84.325%  | 99.850%  | 100.638% | 100.193%  | 96.780%   | 99.280%   | 92.369%   | 92.339%   |
| σ    |          | 0.806%   | n/a      | n/a      | n/a       | n/a       | n/a       | 0.849%    | 1.040%    |
| %RSD |          | 0.956    | 0.396    | 1.528    | 2.088     | 2.237     | 1.998     | 0.920     | 1.127     |
| Run  | Time     | 203Tl    | 205Tl    | 206Pb    | 207Pb     | 208Pb     | 209Bi     |           |           |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       |           |           |
| 1    | 21:32:33 | 96.210   | 97.280   | 98.640   | 99.440    | 99.590    | 78.143%   |           |           |
| 2    | 21:32:41 | 96.900   | 97.310   | 98.600   | 100.200   | 99.230    | 78.593%   |           |           |
| 3    | 21:32:49 | 98.050   | 96.880   | 99.060   | 97.320    | 98.130    | 80.001%   |           |           |
| X    |          | 97.053%  | 97.157%  | 98.767%  | 98.982%   | 98.982%   | 78.913%   |           |           |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | 0.969%    |           |           |
| %RSD |          | 0.961    | 0.248    | 0.256    | 1.501     | 0.768     | 1.228     |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be    | 10B     | 11B     | 13C     | 23Na     | 25Mg     | 26Mg     |
|------|----------|----------|--------|---------|---------|---------|----------|----------|----------|
|      |          | ppb      | ppb    | ppb     | ppb     | ppb     | ppb      | ppb      | ppb      |
| 1    | 21:41:38 | 107.333% | -0.014 | 1.318   | 1.408   | 0.000   | 13.220   | 12.240   | 11.760   |
| 2    | 21:41:46 | 108.792% | -0.013 | 1.144   | 1.134   | 0.000   | 12.900   | 12.600   | 11.780   |
| 3    | 21:41:54 | 104.737% | -0.019 | 1.192   | 1.119   | 0.000   | 13.450   | 11.570   | 12.210   |
| X    |          | 106.954% | -0.015 | 1.218   | 1.220   | 0.000   | 13.190   | 12.140   | 11.920   |
| σ    |          | 2.054%   | 0.003  | 0.090   | 0.163   | 0.000   | 0.276    | 0.522    | 0.256    |
| %RSD |          | 1.920    | 19.300 | 7.375   | 13.340  | 0.000   | 2.089    | 4.305    | 2.145    |
| Run  | Time     | 27Al     | 28Si   | 37Cl    | 39K     | 43Ca    | 44Ca     | 45Sc     | 47Ti     |
|      |          | ppb      | ppb    | ppb     | ppb     | ppb     | ppb      | ppb      | ppb      |
| 1    | 21:41:38 | 3.254    | 17.240 | 0.000   | 15.460  | 14.830  | 13.100   | 117.654% | 0.125    |
| 2    | 21:41:46 | 3.565    | 11.730 | 0.000   | 13.720  | 20.650  | 13.520   | 116.742% | 0.078    |
| 3    | 21:41:54 | 3.659    | 9.046  | 0.000   | 13.830  | 16.330  | 11.360   | 115.465% | 0.147    |
| X    |          | 3.493    | 12.670 | 0.000   | 14.340  | 17.270  | 12.660   | 116.620% | 0.117    |
| σ    |          | 0.212    | 4.180  | 0.000   | 0.972   | 3.018   | 1.145    | 1.100%   | 0.035    |
| %RSD |          | 6.073    | 32.980 | 0.000   | 6.779   | 17.480  | 9.042    | 0.943    | 30.040   |
| Run  | Time     | 51V      | 52Cr   | 55Mn    | 56Fe    | 57Fe    | 59Co     | 60Ni     | 63Cu     |
|      |          | ppb      | ppb    | ppb     | ppb     | ppb     | ppb      | ppb      | ppb      |
| 1    | 21:41:38 | 0.021    | 0.027  | 0.294   | 15.340  | 14.630  | 0.042    | 0.014    | 0.006    |
| 2    | 21:41:46 | 0.030    | 0.028  | 0.268   | 16.100  | 17.050  | 0.035    | 0.022    | -0.017   |
| 3    | 21:41:54 | 0.044    | 0.034  | 0.275   | 16.010  | 14.960  | 0.022    | 0.022    | -0.022   |
| X    |          | 0.032    | 0.030  | 0.279   | 15.820  | 15.540  | 0.033    | 0.019    | -0.011   |
| σ    |          | 0.012    | 0.004  | 0.014   | 0.414   | 1.311   | 0.010    | 0.005    | 0.015    |
| %RSD |          | 37.350   | 12.710 | 4.884   | 2.619   | 8.437   | 29.860   | 24.010   | 138.300  |
| Run  | Time     | 65Cu     | 66Zn   | 68Zn    | 75As    | 78Se    | 82Se     | 83Kr     | 88Sr     |
|      |          | ppb      | ppb    | ppb     | ppb     | ppb     | ppb      | ppb      | ppb      |
| 1    | 21:41:38 | -0.029   | 0.136  | 0.205   | 0.061   | 0.071   | -0.179   | 0.000    | 0.052    |
| 2    | 21:41:46 | -0.000   | 0.034  | 0.017   | 0.050   | 0.032   | 0.160    | 0.000    | 0.066    |
| 3    | 21:41:54 | -0.044   | 0.024  | 0.100   | 0.008   | 0.051   | -0.113   | 0.000    | 0.038    |
| X    |          | -0.024   | 0.064  | 0.108   | 0.039   | 0.051   | -0.044   | 0.000    | 0.052    |
| σ    |          | 0.022    | 0.062  | 0.094   | 0.028   | 0.020   | 0.179    | 0.000    | 0.014    |
| %RSD |          | 91.200   | 95.790 | 87.510  | 71.420  | 38.510  | 406.100  | 0.000    | 26.250   |
| Run  | Time     | 89Y      | 95Mo   | 98Mo    | 103Rh   | 107Ag   | 109Ag    | 111Cd    | 114Cd    |
|      |          | ppb      | ppb    | ppb     | ppb     | ppb     | ppb      | ppb      | ppb      |
| 1    | 21:41:38 | 99.530%  | 0.718  | 0.577   | 95.319% | 0.007   | 0.012    | 0.031    | -0.006   |
| 2    | 21:41:46 | 101.480% | 0.692  | 0.717   | 96.629% | -0.013  | 0.007    | 0.031    | -0.006   |
| 3    | 21:41:54 | 102.522% | 0.608  | 0.539   | 96.070% | 0.001   | 0.001    | 0.031    | 0.004    |
| X    |          | 101.177% | 0.673  | 0.611   | 96.006% | -0.002  | 0.007    | 0.031    | -0.003   |
| σ    |          | 1.519%   | 0.057  | 0.093   | 0.657%  | 0.010   | 0.006    | 0.000    | 0.006    |
| %RSD |          | 1.501    | 8.512  | 15.310  | 0.685   | 532.900 | 90.210   | 0.638    | 209.000  |
| Run  | Time     | 115In    | 118Sn  | 121Sb   | 123Sb   | 135Ba   | 137Ba    | 159Tb    | 165Ho    |
|      |          | ppb      | ppb    | ppb     | ppb     | ppb     | ppb      | ppb      | ppb      |
| 1    | 21:41:38 | 98.116%  | -0.190 | 0.111   | -0.170  | 0.072   | -0.028   | 100.950% | 101.045% |
| 2    | 21:41:46 | 96.464%  | -0.240 | 0.010   | -0.079  | 0.127   | -0.011   | 101.781% | 102.935% |
| 3    | 21:41:54 | 98.447%  | -0.192 | 0.076   | -0.155  | 0.018   | 0.072    | 102.099% | 102.535% |
| X    |          | 97.676%  | -0.207 | 0.066   | -0.135  | 0.072   | 0.011    | 101.610% | 102.172% |
| σ    |          | 1.062%   | 0.028  | 0.052   | 0.049   | 0.055   | 0.054    | 0.593%   | 0.996%   |
| %RSD |          | 1.087    | 13.660 | 78.650  | 36.040  | 75.460  | 484.000  | 0.584    | 0.975    |
| Run  | Time     | 203Tl    | 205Tl  | 206Pb   | 207Pb   | 208Pb   | 209Bi    |          |          |
|      |          | ppb      | ppb    | ppb     | ppb     | ppb     | ppb      |          |          |
| 1    | 21:41:38 | 0.069    | 0.070  | -0.011  | 0.000   | 0.003   | 104.534% |          |          |
| 2    | 21:41:46 | 0.039    | 0.046  | -0.014  | -0.010  | 0.002   | 104.913% |          |          |
| 3    | 21:41:54 | 0.038    | 0.051  | 0.008   | -0.001  | 0.010   | 106.713% |          |          |
| X    |          | 0.049    | 0.056  | -0.005  | -0.003  | 0.005   | 105.387% |          |          |
| σ    |          | 0.018    | 0.012  | 0.012   | 0.005   | 0.004   | 1.164%   |          |          |
| %RSD |          | 36.580   | 22.180 | 221.600 | 161.900 | 91.660  | 1.105    |          |          |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be    | 10B    | 11B     | 13C     | 23Na    | 25Mg     | 26Mg    |
|------|----------|----------|--------|--------|---------|---------|---------|----------|---------|
|      |          | ppb      | ppb    | ppb    | ppb     | ppb     | ppb     | ppb      | ppb     |
| 1    | 21:46:44 | 113.311% | -0.037 | 10.460 | 9.779   | 0.000   | 7.140   | 0.722    | 0.531   |
| 2    | 21:46:52 | 113.365% | -0.037 | 9.257  | 9.334   | 0.000   | 6.806   | 0.353    | 0.356   |
| 3    | 21:47:00 | 115.141% | -0.033 | 9.995  | 9.516   | 0.000   | 7.204   | 0.069    | -0.225  |
| X    |          | 113.939% | -0.036 | 9.904  | 9.543   | 0.000   | 7.050   | 0.382    | 0.221   |
| σ    |          | 1.041%   | 0.002  | 0.607  | 0.224   | 0.000   | 0.214   | 0.328    | 0.396   |
| %RSD |          | 0.914    | 6.402  | 6.127  | 2.342   | 0.000   | 3.031   | 85.930   | 179.500 |
| Run  | Time     | 27Al     | 28Si   | 37Cl   | 39K     | 43Ca    | 44Ca    | 45Sc     | 47Ti    |
|      |          | ppb      | ppb    | ppb    | ppb     | ppb     | ppb     | ppb      | ppb     |
| 1    | 21:46:44 | -0.021   | 21.640 | 0.000  | 13.810  | 28.320  | 24.540  | 100.930% | 0.132   |
| 2    | 21:46:52 | -0.091   | 17.860 | 0.000  | 13.760  | 21.030  | 24.300  | 102.227% | 0.208   |
| 3    | 21:47:00 | 0.010    | 15.930 | 0.000  | 12.820  | 24.570  | 25.110  | 99.911%  | 0.102   |
| X    |          | -0.034   | 18.480 | 0.000  | 13.460  | 24.640  | 24.650  | 101.023% | 0.147   |
| σ    |          | 0.051    | 2.906  | 0.000  | 0.557   | 3.648   | 0.420   | 1.161%   | 0.054   |
| %RSD |          | 150.500  | 15.730 | 0.000  | 4.137   | 14.800  | 1.706   | 1.149    | 36.970  |
| Run  | Time     | 51V      | 52Cr   | 55Mn   | 56Fe    | 57Fe    | 59Co    | 60Ni     | 63Cu    |
|      |          | ppb      | ppb    | ppb    | ppb     | ppb     | ppb     | ppb      | ppb     |
| 1    | 21:46:44 | -0.196   | 0.805  | 0.230  | 17.100  | 19.240  | 0.025   | 0.171    | 0.082   |
| 2    | 21:46:52 | -1.605   | 0.844  | 0.236  | 14.520  | 17.060  | 0.021   | 0.141    | 0.027   |
| 3    | 21:47:00 | -0.529   | 0.787  | 0.232  | 12.580  | 11.600  | 0.018   | 0.150    | 0.049   |
| X    |          | -0.777   | 0.812  | 0.233  | 14.730  | 15.970  | 0.022   | 0.154    | 0.053   |
| σ    |          | 0.736    | 0.029  | 0.003  | 2.268   | 3.936   | 0.003   | 0.015    | 0.028   |
| %RSD |          | 94.770   | 3.589  | 1.396  | 15.390  | 24.650  | 15.850  | 10.020   | 52.300  |
| Run  | Time     | 65Cu     | 66Zn   | 68Zn   | 75As    | 78Se    | 82Se    | 83Kr     | 88Sr    |
|      |          | ppb      | ppb    | ppb    | ppb     | ppb     | ppb     | ppb      | ppb     |
| 1    | 21:46:44 | 0.046    | 3.422  | 3.843  | 0.280   | 0.115   | 0.310   | 0.000    | 0.048   |
| 2    | 21:46:52 | 0.036    | 3.265  | 2.766  | 0.317   | 0.087   | 1.258   | 0.000    | 0.063   |
| 3    | 21:47:00 | 0.044    | 2.636  | 3.468  | 0.297   | 0.112   | 1.423   | 0.000    | 0.040   |
| X    |          | 0.042    | 3.107  | 3.359  | 0.298   | 0.105   | 0.997   | 0.000    | 0.050   |
| σ    |          | 0.006    | 0.416  | 0.547  | 0.019   | 0.016   | 0.601   | 0.000    | 0.012   |
| %RSD |          | 13.110   | 13.390 | 16.270 | 6.317   | 14.980  | 60.280  | 0.000    | 23.370  |
| Run  | Time     | 89Y      | 95Mo   | 98Mo   | 103Rh   | 107Ag   | 109Ag   | 111Cd    | 114Cd   |
|      |          | ppb      | ppb    | ppb    | ppb     | ppb     | ppb     | ppb      | ppb     |
| 1    | 21:46:44 | 78.127%  | 0.559  | 0.618  | 78.723% | -0.016  | -0.006  | 0.010    | 0.016   |
| 2    | 21:46:52 | 82.155%  | 0.656  | 0.575  | 79.080% | -0.021  | -0.001  | -0.004   | -0.002  |
| 3    | 21:47:00 | 80.517%  | 0.715  | 0.579  | 80.172% | -0.004  | -0.013  | 0.010    | -0.008  |
| X    |          | 80.266%  | 0.644  | 0.591  | 79.325% | -0.014  | -0.007  | 0.005    | 0.002   |
| σ    |          | 2.025%   | 0.079  | 0.024  | 0.755%  | 0.009   | 0.006   | 0.008    | 0.013   |
| %RSD |          | 2.523    | 12.220 | 4.045  | 0.952   | 65.780  | 86.580  | 156.000  | 547.300 |
| Run  | Time     | 115In    | 118Sn  | 121Sb  | 123Sb   | 135Ba   | 137Ba   | 159Tb    | 165Ho   |
|      |          | ppb      | ppb    | ppb    | ppb     | ppb     | ppb     | ppb      | ppb     |
| 1    | 21:46:44 | 80.276%  | 0.808  | 0.065  | 0.016   | 0.215   | 0.468   | 89.402%  | 92.373% |
| 2    | 21:46:52 | 80.590%  | 0.857  | 0.064  | -0.101  | 0.277   | 0.248   | 90.119%  | 92.420% |
| 3    | 21:47:00 | 80.784%  | 0.713  | -0.006 | -0.025  | 0.023   | 0.403   | 91.079%  | 91.638% |
| X    |          | 80.550%  | 0.792  | 0.041  | -0.037  | 0.171   | 0.373   | 90.200%  | 92.144% |
| σ    |          | 0.256%   | 0.074  | 0.041  | 0.059   | 0.133   | 0.113   | 0.841%   | 0.439%  |
| %RSD |          | 0.318    | 9.281  | 99.390 | 161.900 | 77.360  | 30.280  | 0.933    | 0.476   |
| Run  | Time     | 203Tl    | 205Tl  | 206Pb  | 207Pb   | 208Pb   | 209Bi   |          |         |
|      |          | ppb      | ppb    | ppb    | ppb     | ppb     | ppb     |          |         |
| 1    | 21:46:44 | 0.042    | 0.057  | -0.017 | 0.000   | -0.002  | 97.315% |          |         |
| 2    | 21:46:52 | 0.043    | 0.066  | -0.011 | -0.014  | 0.004   | 98.994% |          |         |
| 3    | 21:47:00 | 0.060    | 0.063  | -0.014 | -0.000  | 0.012   | 98.323% |          |         |
| X    |          | 0.048    | 0.062  | -0.014 | -0.005  | 0.004   | 98.211% |          |         |
| σ    |          | 0.010    | 0.004  | 0.003  | 0.008   | 0.007   | 0.845%  |          |         |
| %RSD |          | 20.700   | 6.968  | 19.650 | 171.000 | 155.200 | 0.860   |          |         |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be       | 10B     | 11B       | 13C       | 23Na      | 25Mg     | 26Mg     |
|------|----------|----------|-----------|---------|-----------|-----------|-----------|----------|----------|
|      |          | ppb      | ppb       | ppb     | ppb       | ppb       | ppb       | ppb      | ppb      |
| 1    | 21:51:49 | 107.152% | -0.029    | 25.530  | 24.500    | 0.000     | 21510.000 | 8810.000 | 8350.000 |
| 2    | 21:51:57 | 104.072% | -0.028    | 27.250  | 26.020    | 0.000     | 22840.000 | 9143.000 | 9716.000 |
| 3    | 21:52:04 | 104.855% | -0.022    | 25.330  | 24.480    | 0.000     | 22520.000 | 8861.000 | 9476.000 |
| X    |          | 105.359% | -0.026    | 26.040  | 25.000    | 0.000     | 22290.000 | 8938.000 | 9180.000 |
| σ    |          | 1.601%   | 0.004     | 1.058   | 0.880     | 0.000     | 691.100   | 178.900  | 729.300  |
| %RSD |          | 1.519    | 15.450    | 4.064   | 3.519     | 0.000     | 3.100     | 2.002    | 7.945    |
| Run  | Time     | 27Al     | 28Si      | 37Cl    | 39K       | 43Ca      | 44Ca      | 45Sc     | 47Ti     |
|      |          | ppb      | ppb       | ppb     | ppb       | ppb       | ppb       | ppb      | ppb      |
| 1    | 21:51:49 | 15.340   | 10970.000 | 0.000   | 2718.000  | 42400.000 | 46980.000 | 105.017% | 3.694    |
| 2    | 21:51:57 | 17.400   | 11280.000 | 0.000   | 2851.000  | 47380.000 | 50010.000 | 97.044%  | 3.728    |
| 3    | 21:52:04 | 18.100   | 11740.000 | 0.000   | 2935.000  | 47850.000 | 52540.000 | 93.921%  | 4.179    |
| X    |          | 16.950   | 11330.000 | 0.000   | 2835.000  | 45880.000 | 49840.000 | 98.661%  | 3.867    |
| σ    |          | 1.435    | 388.300   | 0.000   | 109.400   | 3019.000  | 2783.000  | 5.722%   | 0.271    |
| %RSD |          | 8.469    | 3.427     | 0.000   | 3.859     | 6.581     | 5.583     | 5.799    | 7.006    |
| Run  | Time     | 51V      | 52Cr      | 55Mn    | 56Fe      | 57Fe      | 59Co      | 60Ni     | 63Cu     |
|      |          | ppb      | ppb       | ppb     | ppb       | ppb       | ppb       | ppb      | ppb      |
| 1    | 21:51:49 | -0.809   | 0.789     | 716.500 | 25380.000 | 23960.000 | 0.141     | 0.796    | 0.253    |
| 2    | 21:51:57 | 1.262    | 0.821     | 783.500 | 24980.000 | 24440.000 | 0.125     | 0.601    | 0.268    |
| 3    | 21:52:04 | -0.327   | 0.811     | 820.400 | 25480.000 | 25180.000 | 0.153     | 0.761    | 0.212    |
| X    |          | 0.042    | 0.807     | 773.500 | 25280.000 | 24530.000 | 0.139     | 0.720    | 0.244    |
| σ    |          | 1.084    | 0.016     | 52.650  | 267.000   | 616.000   | 0.014     | 0.104    | 0.029    |
| %RSD |          | 2556.000 | 2.015     | 6.807   | 1.056     | 2.511     | 10.150    | 14.450   | 11.730   |
| Run  | Time     | 65Cu     | 66Zn      | 68Zn    | 75As      | 78Se      | 82Se      | 83Kr     | 88Sr     |
|      |          | ppb      | ppb       | ppb     | ppb       | ppb       | ppb       | ppb      | ppb      |
| 1    | 21:51:49 | 0.424    | 15.440    | 13.900  | 8.562     | 0.093     | 1.512     | 0.000    | 200.100  |
| 2    | 21:51:57 | 0.367    | 15.930    | 15.790  | 8.780     | 0.019     | 2.066     | 0.000    | 199.000  |
| 3    | 21:52:04 | 0.479    | 15.790    | 15.990  | 8.193     | 0.043     | 2.080     | 0.000    | 189.200  |
| X    |          | 0.424    | 15.720    | 15.230  | 8.511     | 0.052     | 1.886     | 0.000    | 196.100  |
| σ    |          | 0.056    | 0.252     | 1.154   | 0.297     | 0.038     | 0.324     | 0.000    | 6.028    |
| %RSD |          | 13.170   | 1.602     | 7.581   | 3.487     | 73.330    | 17.170    | 0.000    | 3.074    |
| Run  | Time     | 89Y      | 95Mo      | 98Mo    | 103Rh     | 107Ag     | 109Ag     | 111Cd    | 114Cd    |
|      |          | ppb      | ppb       | ppb     | ppb       | ppb       | ppb       | ppb      | ppb      |
| 1    | 21:51:49 | 74.795%  | 1.081     | 0.948   | 70.076%   | -0.015    | -0.009    | 0.442    | 0.395    |
| 2    | 21:51:57 | 74.618%  | 1.009     | 1.008   | 66.954%   | -0.019    | -0.015    | 0.338    | 0.367    |
| 3    | 21:52:04 | 77.091%  | 1.134     | 0.977   | 68.339%   | -0.005    | -0.007    | 0.542    | 0.368    |
| X    |          | 75.501%  | 1.075     | 0.978   | 68.456%   | -0.013    | -0.010    | 0.441    | 0.377    |
| σ    |          | 1.379%   | 0.063     | 0.030   | 1.564%    | 0.008     | 0.004     | 0.102    | 0.016    |
| %RSD |          | 1.827    | 5.848     | 3.065   | 2.285     | 58.480    | 39.290    | 23.110   | 4.138    |
| Run  | Time     | 115In    | 118Sn     | 121Sb   | 123Sb     | 135Ba     | 137Ba     | 159Tb    | 165Ho    |
|      |          | ppb      | ppb       | ppb     | ppb       | ppb       | ppb       | ppb      | ppb      |
| 1    | 21:51:49 | 72.584%  | 0.105     | -0.015  | -0.179    | 438.800   | 440.000   | 84.609%  | 85.685%  |
| 2    | 21:51:57 | 71.755%  | 0.060     | -0.037  | -0.188    | 459.100   | 447.100   | 83.965%  | 85.521%  |
| 3    | 21:52:04 | 72.659%  | -0.004    | -0.046  | -0.105    | 448.800   | 449.300   | 84.550%  | 86.836%  |
| X    |          | 72.333%  | 0.054     | -0.033  | -0.157    | 448.900   | 445.500   | 84.375%  | 86.014%  |
| σ    |          | 0.501%   | 0.055     | 0.016   | 0.046     | 10.140    | 4.864     | 0.356%   | 0.716%   |
| %RSD |          | 0.693    | 102.800   | 47.860  | 29.190    | 2.259     | 1.092     | 0.422    | 0.833    |
| Run  | Time     | 203Tl    | 205Tl     | 206Pb   | 207Pb     | 208Pb     | 209Bi     |          |          |
|      |          | ppb      | ppb       | ppb     | ppb       | ppb       | ppb       |          |          |
| 1    | 21:51:49 | 0.029    | 0.022     | 0.171   | 0.102     | 0.144     | 80.616%   |          |          |
| 2    | 21:51:57 | 0.012    | 0.014     | 0.117   | 0.096     | 0.153     | 81.594%   |          |          |
| 3    | 21:52:04 | 0.009    | 0.026     | 0.197   | 0.112     | 0.154     | 81.779%   |          |          |
| X    |          | 0.017    | 0.021     | 0.162   | 0.104     | 0.150     | 81.330%   |          |          |
| σ    |          | 0.011    | 0.006     | 0.041   | 0.008     | 0.006     | 0.625%    |          |          |
| %RSD |          | 62.750   | 31.040    | 25.110  | 7.933     | 3.743     | 0.768     |          |          |



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User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be     | 10B    | 11B     | 13C      | 23Na     | 25Mg    | 26Mg    |
|------|----------|----------|---------|--------|---------|----------|----------|---------|---------|
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb      | ppb     | ppb     |
| 1    | 21:56:55 | 116.710% | -0.031  | 4.754  | 4.487   | 0.000    | 1453.000 | 203.700 | 202.400 |
| 2    | 21:57:03 | 110.511% | -0.032  | 4.818  | 4.601   | 0.000    | 1556.000 | 220.700 | 218.300 |
| 3    | 21:57:11 | 109.345% | -0.032  | 4.972  | 4.774   | 0.000    | 1476.000 | 222.200 | 218.800 |
| X    |          | 112.189% | -0.032  | 4.848  | 4.621   | 0.000    | 1495.000 | 215.500 | 213.100 |
| σ    |          | 3.959%   | 0.001   | 0.112  | 0.144   | 0.000    | 54.000   | 10.240  | 9.337   |
| %RSD |          | 3.528    | 2.062   | 2.314  | 3.125   | 0.000    | 3.613    | 4.751   | 4.381   |
| Run  | Time     | 27Al     | 28Si    | 37Cl   | 39K     | 43Ca     | 44Ca     | 45Sc    | 47Ti    |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb      | ppb     | ppb     |
| 1    | 21:56:55 | 10.340   | 530.800 | 0.000  | 625.500 | 4173.000 | 4036.000 | 99.020% | 0.425   |
| 2    | 21:57:03 | 11.690   | 516.500 | 0.000  | 600.300 | 4220.000 | 4131.000 | 96.896% | 0.457   |
| 3    | 21:57:11 | 10.670   | 544.800 | 0.000  | 631.600 | 4294.000 | 4249.000 | 92.451% | 0.321   |
| X    |          | 10.900   | 530.700 | 0.000  | 619.100 | 4229.000 | 4138.000 | 96.122% | 0.401   |
| σ    |          | 0.707    | 14.150  | 0.000  | 16.590  | 60.570   | 106.700  | 3.352%  | 0.071   |
| %RSD |          | 6.486    | 2.666   | 0.000  | 2.679   | 1.432    | 2.577    | 3.487   | 17.750  |
| Run  | Time     | 51V      | 52Cr    | 55Mn   | 56Fe    | 57Fe     | 59Co     | 60Ni    | 63Cu    |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb      | ppb     | ppb     |
| 1    | 21:56:55 | 1.427    | 0.878   | 1.534  | 42.600  | 61.230   | 0.028    | 0.388   | 4.104   |
| 2    | 21:57:03 | 0.634    | 0.989   | 1.608  | 44.690  | 63.650   | 0.031    | 0.376   | 3.998   |
| 3    | 21:57:11 | 0.763    | 0.962   | 1.714  | 39.350  | 59.550   | 0.039    | 0.430   | 4.025   |
| X    |          | 0.942    | 0.943   | 1.619  | 42.220  | 61.480   | 0.033    | 0.398   | 4.043   |
| σ    |          | 0.426    | 0.058   | 0.090  | 2.689   | 2.062    | 0.006    | 0.028   | 0.055   |
| %RSD |          | 45.190   | 6.156   | 5.575  | 6.370   | 3.353    | 17.620   | 7.123   | 1.364   |
| Run  | Time     | 65Cu     | 66Zn    | 68Zn   | 75As    | 78Se     | 82Se     | 83Kr    | 88Sr    |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb      | ppb     | ppb     |
| 1    | 21:56:55 | 4.009    | 36.320  | 37.480 | 0.687   | 0.042    | 1.238    | 0.000   | 56.900  |
| 2    | 21:57:03 | 4.198    | 36.530  | 38.120 | 0.776   | 0.218    | 0.086    | 0.000   | 57.540  |
| 3    | 21:57:11 | 4.397    | 38.570  | 36.190 | 0.848   | 0.169    | 1.940    | 0.000   | 57.900  |
| X    |          | 4.201    | 37.140  | 37.260 | 0.770   | 0.143    | 1.088    | 0.000   | 57.450  |
| σ    |          | 0.194    | 1.244   | 0.984  | 0.081   | 0.090    | 0.936    | 0.000   | 0.504   |
| %RSD |          | 4.622    | 3.349   | 2.640  | 10.500  | 63.310   | 86.010   | 0.000   | 0.878   |
| Run  | Time     | 89Y      | 95Mo    | 98Mo   | 103Rh   | 107Ag    | 109Ag    | 111Cd   | 114Cd   |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb      | ppb     | ppb     |
| 1    | 21:56:55 | 77.968%  | 0.511   | 0.605  | 74.024% | -0.015   | -0.013   | 0.148   | 0.083   |
| 2    | 21:57:03 | 76.570%  | 0.531   | 0.476  | 74.860% | -0.025   | -0.015   | 0.101   | 0.069   |
| 3    | 21:57:11 | 76.791%  | 0.593   | 0.509  | 73.419% | -0.022   | -0.010   | 0.162   | 0.025   |
| X    |          | 77.110%  | 0.545   | 0.530  | 74.101% | -0.021   | -0.013   | 0.137   | 0.059   |
| σ    |          | 0.752%   | 0.043   | 0.067  | 0.724%  | 0.005    | 0.003    | 0.032   | 0.030   |
| %RSD |          | 0.975    | 7.826   | 12.680 | 0.976   | 23.200   | 20.240   | 23.390  | 51.390  |
| Run  | Time     | 115In    | 118Sn   | 121Sb  | 123Sb   | 135Ba    | 137Ba    | 159Tb   | 165Ho   |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb      | ppb     | ppb     |
| 1    | 21:56:55 | 75.671%  | -0.258  | 0.193  | 0.032   | 12.000   | 12.060   | 86.991% | 87.253% |
| 2    | 21:57:03 | 76.640%  | -0.161  | 0.204  | 0.008   | 11.070   | 10.870   | 88.388% | 88.541% |
| 3    | 21:57:11 | 76.551%  | -0.300  | 0.190  | 0.039   | 11.310   | 11.420   | 86.542% | 89.091% |
| X    |          | 76.287%  | -0.240  | 0.196  | 0.026   | 11.460   | 11.450   | 87.307% | 88.295% |
| σ    |          | 0.535%   | 0.071   | 0.007  | 0.017   | 0.481    | 0.597    | 0.963%  | 0.943%  |
| %RSD |          | 0.702    | 29.730  | 3.579  | 62.630  | 4.195    | 5.215    | 1.103   | 1.068   |
| Run  | Time     | 203Tl    | 205Tl   | 206Pb  | 207Pb   | 208Pb    | 209Bi    |         |         |
|      |          | ppb      | ppb     | ppb    | ppb     | ppb      | ppb      |         |         |
| 1    | 21:56:55 | -0.004   | -0.003  | 0.444  | 0.402   | 0.409    | 94.051%  |         |         |
| 2    | 21:57:03 | -0.007   | -0.002  | 0.466  | 0.394   | 0.404    | 96.634%  |         |         |
| 3    | 21:57:11 | -0.016   | 0.008   | 0.410  | 0.352   | 0.415    | 94.477%  |         |         |
| X    |          | -0.009   | 0.001   | 0.440  | 0.383   | 0.409    | 95.054%  |         |         |
| σ    |          | 0.006    | 0.006   | 0.028  | 0.026   | 0.006    | 1.385%   |         |         |
| %RSD |          | 71.470   | 601.500 | 6.424  | 6.921   | 1.381    | 1.457    |         |         |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be       | 10B     | 11B      | 13C       | 23Na      | 25Mg     | 26Mg     |
|------|----------|----------|-----------|---------|----------|-----------|-----------|----------|----------|
|      |          | ppb      | ppb       | ppb     | ppb      | ppb       | ppb       | ppb      | ppb      |
| 1    | 22:02:01 | 108.774% | -0.033    | 34.060  | 35.150   | 0.000     | 13750.000 | 7761.000 | 7723.000 |
| 2    | 22:02:09 | 107.476% | -0.034    | 35.810  | 34.900   | 0.000     | 14650.000 | 8096.000 | 8863.000 |
| 3    | 22:02:16 | 109.480% | -0.036    | 34.180  | 33.430   | 0.000     | 14590.000 | 7852.000 | 8068.000 |
| X    |          | 108.577% | -0.034    | 34.690  | 34.490   | 0.000     | 14330.000 | 7903.000 | 8218.000 |
| σ    |          | 1.016%   | 0.002     | 0.977   | 0.926    | 0.000     | 499.100   | 173.200  | 584.400  |
| %RSD |          | 0.936    | 5.207     | 2.816   | 2.684    | 0.000     | 3.484     | 2.192    | 7.112    |
| Run  | Time     | 27Al     | 28Si      | 37Cl    | 39K      | 43Ca      | 44Ca      | 45Sc     | 47Ti     |
|      |          | ppb      | ppb       | ppb     | ppb      | ppb       | ppb       | ppb      | ppb      |
| 1    | 22:02:01 | 3.575    | 12480.000 | 0.000   | 2930.000 | 52890.000 | 54620.000 | 99.156%  | 3.341    |
| 2    | 22:02:09 | 3.619    | 11980.000 | 0.000   | 2847.000 | 53390.000 | 54930.000 | 94.982%  | 2.965    |
| 3    | 22:02:16 | 3.440    | 11920.000 | 0.000   | 2901.000 | 54100.000 | 57600.000 | 94.250%  | 3.581    |
| X    |          | 3.545    | 12120.000 | 0.000   | 2893.000 | 53460.000 | 55720.000 | 96.130%  | 3.296    |
| σ    |          | 0.094    | 308.400   | 0.000   | 42.330   | 604.900   | 1639.000  | 2.647%   | 0.311    |
| %RSD |          | 2.641    | 2.544     | 0.000   | 1.463    | 1.132     | 2.941     | 2.753    | 9.419    |
| Run  | Time     | 51V      | 52Cr      | 55Mn    | 56Fe     | 57Fe      | 59Co      | 60Ni     | 63Cu     |
|      |          | ppb      | ppb       | ppb     | ppb      | ppb       | ppb       | ppb      | ppb      |
| 1    | 22:02:01 | 0.615    | 2.456     | 669.500 | 8590.000 | 8338.000  | 0.277     | 1.909    | 0.195    |
| 2    | 22:02:09 | -1.187   | 2.560     | 698.100 | 8708.000 | 8493.000  | 0.272     | 1.902    | 0.196    |
| 3    | 22:02:16 | -0.962   | 2.505     | 700.600 | 8672.000 | 8384.000  | 0.253     | 2.292    | 0.234    |
| X    |          | -0.512   | 2.507     | 689.400 | 8657.000 | 8405.000  | 0.267     | 2.034    | 0.208    |
| σ    |          | 0.982    | 0.052     | 17.310  | 60.270   | 79.610    | 0.013     | 0.223    | 0.022    |
| %RSD |          | 191.900  | 2.078     | 2.510   | 0.696    | 0.947     | 4.714     | 10.960   | 10.670   |
| Run  | Time     | 65Cu     | 66Zn      | 68Zn    | 75As     | 78Se      | 82Se      | 83Kr     | 88Sr     |
|      |          | ppb      | ppb       | ppb     | ppb      | ppb       | ppb       | ppb      | ppb      |
| 1    | 22:02:01 | 0.342    | 4.855     | 3.733   | 12.930   | 0.121     | 1.535     | 0.000    | 215.500  |
| 2    | 22:02:09 | 0.363    | 4.713     | 4.113   | 12.500   | 0.094     | 1.298     | 0.000    | 204.100  |
| 3    | 22:02:16 | 0.358    | 4.822     | 4.168   | 12.970   | 0.046     | 1.486     | 0.000    | 215.600  |
| X    |          | 0.354    | 4.797     | 4.004   | 12.800   | 0.087     | 1.440     | 0.000    | 211.800  |
| σ    |          | 0.011    | 0.074     | 0.237   | 0.263    | 0.038     | 0.125     | 0.000    | 6.617    |
| %RSD |          | 3.201    | 1.553     | 5.919   | 2.052    | 43.880    | 8.687     | 0.000    | 3.125    |
| Run  | Time     | 89Y      | 95Mo      | 98Mo    | 103Rh    | 107Ag     | 109Ag     | 111Cd    | 114Cd    |
|      |          | ppb      | ppb       | ppb     | ppb      | ppb       | ppb       | ppb      | ppb      |
| 1    | 22:02:01 | 73.925%  | 1.105     | 1.232   | 68.991%  | -0.019    | -0.012    | 0.061    | 0.001    |
| 2    | 22:02:09 | 76.063%  | 1.103     | 1.207   | 69.140%  | -0.012    | 0.004     | -0.004   | 0.022    |
| 3    | 22:02:16 | 72.557%  | 1.152     | 1.218   | 66.745%  | -0.017    | -0.020    | 0.028    | 0.001    |
| X    |          | 74.182%  | 1.120     | 1.219   | 68.292%  | -0.016    | -0.009    | 0.028    | 0.008    |
| σ    |          | 1.767%   | 0.028     | 0.013   | 1.342%   | 0.004     | 0.012     | 0.032    | 0.012    |
| %RSD |          | 2.381    | 2.510     | 1.034   | 1.965    | 23.450    | 134.300   | 114.900  | 143.300  |
| Run  | Time     | 115In    | 118Sn     | 121Sb   | 123Sb    | 135Ba     | 137Ba     | 159Tb    | 165Ho    |
|      |          | ppb      | ppb       | ppb     | ppb      | ppb       | ppb       | ppb      | ppb      |
| 1    | 22:02:01 | 71.313%  | -0.291    | 0.010   | -0.026   | 376.900   | 376.800   | 83.707%  | 85.270%  |
| 2    | 22:02:09 | 70.831%  | -0.280    | 0.034   | -0.068   | 364.700   | 373.800   | 83.268%  | 86.678%  |
| 3    | 22:02:16 | 71.452%  | -0.276    | 0.002   | -0.058   | 368.400   | 372.700   | 82.249%  | 86.412%  |
| X    |          | 71.199%  | -0.282    | 0.015   | -0.051   | 370.000   | 374.400   | 83.075%  | 86.120%  |
| σ    |          | 0.325%   | 0.008     | 0.017   | 0.022    | 6.239     | 2.135     | 0.748%   | 0.748%   |
| %RSD |          | 0.457    | 2.820     | 109.200 | 43.250   | 1.686     | 0.570     | 0.900    | 0.868    |
| Run  | Time     | 203Tl    | 205Tl     | 206Pb   | 207Pb    | 208Pb     | 209Bi     |          |          |
|      |          | ppb      | ppb       | ppb     | ppb      | ppb       | ppb       |          |          |
| 1    | 22:02:01 | -0.010   | 0.004     | 0.268   | 0.120    | 0.202     | 82.277%   |          |          |
| 2    | 22:02:09 | -0.012   | 0.003     | 0.237   | 0.184    | 0.228     | 82.830%   |          |          |
| 3    | 22:02:16 | -0.007   | -0.009    | 0.214   | 0.228    | 0.231     | 83.249%   |          |          |
| X    |          | -0.010   | -0.000    | 0.240   | 0.177    | 0.220     | 82.785%   |          |          |
| σ    |          | 0.003    | 0.007     | 0.027   | 0.055    | 0.016     | 0.487%    |          |          |
| %RSD |          | 27.460   | 1632.000  | 11.280  | 30.710   | 7.170     | 0.589     |          |          |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be       | 10B    | 11B     | 13C       | 23Na      | 25Mg      | 26Mg      |
|------|----------|----------|-----------|--------|---------|-----------|-----------|-----------|-----------|
|      |          | ppb      | ppb       | ppb    | ppb     | ppb       | ppb       | ppb       | ppb       |
| 1    | 22:07:05 | 101.778% | -0.032    | 25.450 | 25.860  | 0.000     | 51660.000 | 14350.000 | 14150.000 |
| 2    | 22:07:13 | 98.937%  | -0.024    | 27.140 | 25.620  | 0.000     | 53880.000 | 14860.000 | 14470.000 |
| 3    | 22:07:21 | 101.291% | -0.033    | 25.910 | 24.510  | 0.000     | 55030.000 | 14730.000 | 14850.000 |
| X    |          | 100.668% | -0.030    | 26.170 | 25.330  | 0.000     | 53520.000 | 14650.000 | 14490.000 |
| σ    |          | 1.519%   | 0.005     | 0.876  | 0.722   | 0.000     | 1713.000  | 263.500   | 347.800   |
| %RSD |          | 1.509    | 15.300    | 3.347  | 2.848   | 0.000     | 3.201     | 1.799     | 2.401     |
| Run  | Time     | 27Al     | 28Si      | 37Cl   | 39K     | 43Ca      | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb      | ppb       | ppb    | ppb     | ppb       | ppb       | ppb       | ppb       |
| 1    | 22:07:05 | 115.900  | 14230.000 | 0.000  | 247.600 | 46450.000 | 50270.000 | 91.725%   | 4.766     |
| 2    | 22:07:13 | 112.300  | 15230.000 | 0.000  | 263.300 | 47690.000 | 50520.000 | 90.891%   | 4.720     |
| 3    | 22:07:21 | 121.700  | 14500.000 | 0.000  | 263.400 | 47850.000 | 52770.000 | 87.238%   | 4.891     |
| X    |          | 116.700  | 14650.000 | 0.000  | 258.100 | 47330.000 | 51190.000 | 89.952%   | 4.792     |
| σ    |          | 4.736    | 518.800   | 0.000  | 9.127   | 766.700   | 1376.000  | 2.386%    | 0.088     |
| %RSD |          | 4.060    | 3.540     | 0.000  | 3.536   | 1.620     | 2.689     | 2.653     | 1.844     |
| Run  | Time     | 51V      | 52Cr      | 55Mn   | 56Fe    | 57Fe      | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb      | ppb       | ppb    | ppb     | ppb       | ppb       | ppb       | ppb       |
| 1    | 22:07:05 | 5.159    | 1.386     | 1.255  | 92.840  | 345.600   | 0.085     | 0.382     | 2.727     |
| 2    | 22:07:13 | 4.217    | 1.361     | 1.197  | 88.870  | 329.600   | 0.096     | 0.366     | 2.868     |
| 3    | 22:07:21 | 6.749    | 1.532     | 1.267  | 91.520  | 354.400   | 0.098     | 0.398     | 2.923     |
| X    |          | 5.375    | 1.426     | 1.240  | 91.080  | 343.200   | 0.093     | 0.382     | 2.839     |
| σ    |          | 1.279    | 0.092     | 0.038  | 2.021   | 12.580    | 0.007     | 0.016     | 0.101     |
| %RSD |          | 23.800   | 6.440     | 3.055  | 2.219   | 3.666     | 7.534     | 4.150     | 3.563     |
| Run  | Time     | 65Cu     | 66Zn      | 68Zn   | 75As    | 78Se      | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb      | ppb       | ppb    | ppb     | ppb       | ppb       | ppb       | ppb       |
| 1    | 22:07:05 | 2.804    | 2.732     | 2.550  | 4.466   | 2.249     | 4.029     | 0.000     | 151.500   |
| 2    | 22:07:13 | 2.912    | 2.873     | 2.733  | 4.556   | 2.030     | 2.178     | 0.000     | 150.400   |
| 3    | 22:07:21 | 3.016    | 3.026     | 2.395  | 4.959   | 2.399     | 3.418     | 0.000     | 155.600   |
| X    |          | 2.910    | 2.877     | 2.559  | 4.660   | 2.226     | 3.208     | 0.000     | 152.500   |
| σ    |          | 0.106    | 0.147     | 0.169  | 0.262   | 0.185     | 0.943     | 0.000     | 2.729     |
| %RSD |          | 3.643    | 5.107     | 6.610  | 5.629   | 8.330     | 29.400    | 0.000     | 1.790     |
| Run  | Time     | 89Y      | 95Mo      | 98Mo   | 103Rh   | 107Ag     | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb      | ppb       | ppb    | ppb     | ppb       | ppb       | ppb       | ppb       |
| 1    | 22:07:05 | 78.172%  | 5.001     | 5.286  | 62.275% | -0.008    | -0.005    | 0.031     | 0.026     |
| 2    | 22:07:13 | 79.394%  | 5.341     | 5.478  | 62.846% | -0.019    | -0.011    | 0.013     | 0.011     |
| 3    | 22:07:21 | 77.162%  | 5.157     | 5.220  | 62.571% | -0.008    | -0.008    | 0.013     | 0.004     |
| X    |          | 78.243%  | 5.166     | 5.328  | 62.564% | -0.011    | -0.008    | 0.019     | 0.013     |
| σ    |          | 1.118%   | 0.170     | 0.134  | 0.286%  | 0.006     | 0.003     | 0.010     | 0.011     |
| %RSD |          | 1.429    | 3.298     | 2.515  | 0.457   | 55.880    | 37.220    | 53.350    | 85.210    |
| Run  | Time     | 115In    | 118Sn     | 121Sb  | 123Sb   | 135Ba     | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb      | ppb       | ppb    | ppb     | ppb       | ppb       | ppb       | ppb       |
| 1    | 22:07:05 | 66.298%  | -0.350    | 0.396  | 0.397   | 106.900   | 107.600   | 79.280%   | 82.553%   |
| 2    | 22:07:13 | 66.921%  | -0.337    | 0.417  | 0.139   | 106.200   | 110.100   | 79.176%   | 81.339%   |
| 3    | 22:07:21 | 66.359%  | -0.223    | 0.296  | 0.201   | 109.700   | 110.400   | 78.646%   | 81.468%   |
| X    |          | 66.526%  | -0.303    | 0.370  | 0.246   | 107.600   | 109.400   | 79.034%   | 81.787%   |
| σ    |          | 0.343%   | 0.070     | 0.065  | 0.135   | 1.857     | 1.569     | 0.340%    | 0.667%    |
| %RSD |          | 0.516    | 23.090    | 17.490 | 54.820  | 1.725     | 1.435     | 0.430     | 0.815     |
| Run  | Time     | 203Tl    | 205Tl     | 206Pb  | 207Pb   | 208Pb     | 209Bi     |           |           |
|      |          | ppb      | ppb       | ppb    | ppb     | ppb       | ppb       |           |           |
| 1    | 22:07:05 | 0.004    | 0.006     | 0.369  | 0.265   | 0.335     | 74.260%   |           |           |
| 2    | 22:07:13 | -0.008   | 0.002     | 0.354  | 0.300   | 0.334     | 75.688%   |           |           |
| 3    | 22:07:21 | -0.011   | 0.005     | 0.443  | 0.342   | 0.376     | 75.279%   |           |           |
| X    |          | -0.005   | 0.005     | 0.389  | 0.302   | 0.348     | 75.076%   |           |           |
| σ    |          | 0.008    | 0.002     | 0.048  | 0.039   | 0.024     | 0.735%    |           |           |
| %RSD |          | 147.600  | 46.380    | 12.250 | 12.800  | 6.841     | 0.979     |           |           |

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5/1/2015 10:13:02 PM

User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be      | 10B    | 11B     | 13C      | 23Na      | 25Mg     | 26Mg     |
|------|----------|----------|----------|--------|---------|----------|-----------|----------|----------|
|      |          | ppb      | ppb      | ppb    | ppb     | ppb      | ppb       | ppb      | ppb      |
| 1    | 22:12:10 | 113.576% | -0.025   | 5.970  | 5.723   | 0.000    | 10980.000 | 2942.000 | 3010.000 |
| 2    | 22:12:18 | 117.680% | -0.024   | 6.006  | 5.559   | 0.000    | 11400.000 | 2986.000 | 2950.000 |
| 3    | 22:12:26 | 115.758% | -0.020   | 5.533  | 5.423   | 0.000    | 11020.000 | 2946.000 | 2977.000 |
| X    |          | 115.672% | -0.023   | 5.836  | 5.568   | 0.000    | 11130.000 | 2958.000 | 2979.000 |
| σ    |          | 2.053%   | 0.003    | 0.264  | 0.150   | 0.000    | 233.200   | 24.500   | 30.230   |
| %RSD |          | 1.775    | 11.100   | 4.517  | 2.699   | 0.000    | 2.094     | 0.828    | 1.015    |
| Run  | Time     | 27Al     | 28Si     | 37Cl   | 39K     | 43Ca     | 44Ca      | 45Sc     | 47Ti     |
|      |          | ppb      | ppb      | ppb    | ppb     | ppb      | ppb       | ppb      | ppb      |
| 1    | 22:12:10 | 24.390   | 3016.000 | 0.000  | 53.160  | 9593.000 | 9672.000  | 111.239% | 0.939    |
| 2    | 22:12:18 | 22.360   | 2967.000 | 0.000  | 51.120  | 9573.000 | 9754.000  | 113.356% | 0.726    |
| 3    | 22:12:26 | 24.330   | 2843.000 | 0.000  | 48.880  | 9341.000 | 9387.000  | 111.653% | 0.793    |
| X    |          | 23.690   | 2942.000 | 0.000  | 51.050  | 9502.000 | 9604.000  | 112.083% | 0.820    |
| σ    |          | 1.151    | 88.850   | 0.000  | 2.137   | 140.100  | 192.800   | 1.122%   | 0.109    |
| %RSD |          | 4.858    | 3.020    | 0.000  | 4.187   | 1.474    | 2.007     | 1.001    | 13.290   |
| Run  | Time     | 51V      | 52Cr     | 55Mn   | 56Fe    | 57Fe     | 59Co      | 60Ni     | 63Cu     |
|      |          | ppb      | ppb      | ppb    | ppb     | ppb      | ppb       | ppb      | ppb      |
| 1    | 22:12:10 | 1.260    | 0.300    | 0.277  | 18.310  | 70.850   | 0.024     | 0.162    | 0.664    |
| 2    | 22:12:18 | 1.469    | 0.323    | 0.281  | 17.970  | 70.300   | 0.019     | 0.172    | 0.652    |
| 3    | 22:12:26 | 1.078    | 0.304    | 0.308  | 19.120  | 73.350   | 0.013     | 0.152    | 0.692    |
| X    |          | 1.269    | 0.309    | 0.289  | 18.470  | 71.500   | 0.018     | 0.162    | 0.669    |
| σ    |          | 0.196    | 0.012    | 0.017  | 0.591   | 1.628    | 0.006     | 0.010    | 0.020    |
| %RSD |          | 15.440   | 3.923    | 5.933  | 3.203   | 2.277    | 31.080    | 6.312    | 3.030    |
| Run  | Time     | 65Cu     | 66Zn     | 68Zn   | 75As    | 78Se     | 82Se      | 83Kr     | 88Sr     |
|      |          | ppb      | ppb      | ppb    | ppb     | ppb      | ppb       | ppb      | ppb      |
| 1    | 22:12:10 | 0.683    | 0.977    | 1.335  | 0.569   | 0.426    | 1.517     | 0.000    | 35.150   |
| 2    | 22:12:18 | 0.573    | 1.068    | 1.082  | 0.557   | 0.510    | 1.160     | 0.000    | 35.310   |
| 3    | 22:12:26 | 0.591    | 0.945    | 0.804  | 0.477   | 0.377    | 1.299     | 0.000    | 36.010   |
| X    |          | 0.616    | 0.997    | 1.074  | 0.535   | 0.438    | 1.325     | 0.000    | 35.490   |
| σ    |          | 0.059    | 0.064    | 0.266  | 0.050   | 0.067    | 0.180     | 0.000    | 0.458    |
| %RSD |          | 9.628    | 6.432    | 24.730 | 9.361   | 15.410   | 13.590    | 0.000    | 1.291    |
| Run  | Time     | 89Y      | 95Mo     | 98Mo   | 103Rh   | 107Ag    | 109Ag     | 111Cd    | 114Cd    |
|      |          | ppb      | ppb      | ppb    | ppb     | ppb      | ppb       | ppb      | ppb      |
| 1    | 22:12:10 | 82.685%  | 1.021    | 1.031  | 80.864% | -0.017   | -0.009    | -0.004   | -0.014   |
| 2    | 22:12:18 | 83.651%  | 1.151    | 1.097  | 81.890% | -0.017   | -0.009    | -0.004   | -0.009   |
| 3    | 22:12:26 | 83.570%  | 1.088    | 1.218  | 82.511% | -0.015   | -0.014    | 0.050    | -0.020   |
| X    |          | 83.302%  | 1.087    | 1.115  | 81.755% | -0.016   | -0.011    | 0.014    | -0.014   |
| σ    |          | 0.536%   | 0.065    | 0.095  | 0.832%  | 0.001    | 0.003     | 0.032    | 0.006    |
| %RSD |          | 0.643    | 5.995    | 8.526  | 1.018   | 7.206    | 24.740    | 225.900  | 39.430   |
| Run  | Time     | 115In    | 118Sn    | 121Sb  | 123Sb   | 135Ba    | 137Ba     | 159Tb    | 165Ho    |
|      |          | ppb      | ppb      | ppb    | ppb     | ppb      | ppb       | ppb      | ppb      |
| 1    | 22:12:10 | 85.308%  | -0.492   | -0.065 | -0.156  | 21.120   | 21.560    | 92.723%  | 94.959%  |
| 2    | 22:12:18 | 85.220%  | -0.472   | -0.019 | -0.101  | 22.380   | 20.850    | 93.831%  | 94.651%  |
| 3    | 22:12:26 | 84.219%  | -0.530   | -0.018 | -0.192  | 23.080   | 21.300    | 95.028%  | 96.394%  |
| X    |          | 84.916%  | -0.498   | -0.034 | -0.149  | 22.190   | 21.240    | 93.861%  | 95.335%  |
| σ    |          | 0.605%   | 0.029    | 0.027  | 0.046   | 0.995    | 0.361     | 1.153%   | 0.930%   |
| %RSD |          | 0.712    | 5.859    | 79.570 | 30.580  | 4.484    | 1.698     | 1.228    | 0.976    |
| Run  | Time     | 203Tl    | 205Tl    | 206Pb  | 207Pb   | 208Pb    | 209Bi     |          |          |
|      |          | ppb      | ppb      | ppb    | ppb     | ppb      | ppb       |          |          |
| 1    | 22:12:10 | -0.016   | -0.003   | 0.031  | 0.027   | 0.053    | 94.644%   |          |          |
| 2    | 22:12:18 | -0.009   | -0.014   | 0.081  | 0.076   | 0.079    | 95.015%   |          |          |
| 3    | 22:12:26 | -0.016   | -0.004   | 0.045  | 0.032   | 0.049    | 96.692%   |          |          |
| X    |          | -0.014   | -0.007   | 0.053  | 0.045   | 0.060    | 95.450%   |          |          |
| σ    |          | 0.004    | 0.006    | 0.026  | 0.027   | 0.016    | 1.091%    |          |          |
| %RSD |          | 29.980   | 83.480   | 49.160 | 60.830  | 26.500   | 1.143     |          |          |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be       | 10B      | 11B       | 13C        | 23Na       | 25Mg      | 26Mg      |
|------|----------|----------|-----------|----------|-----------|------------|------------|-----------|-----------|
|      |          | ppb      | ppb       | ppb      | ppb       | ppb        | ppb        | ppb       | ppb       |
| 1    | 22:17:15 | 96.391%  | 47.730    | 841.900  | 877.300   | 0.000      | 87160.000  | 54830.000 | 54020.000 |
| 2    | 22:17:22 | 95.685%  | 46.880    | 850.800  | 894.800   | 0.000      | 86930.000  | 55430.000 | 54690.000 |
| 3    | 22:17:30 | 94.293%  | 49.420    | 868.200  | 891.800   | 0.000      | 95080.000  | 60880.000 | 60960.000 |
| X    |          | 95.456%  | 48.010    | 853.600  | 888.000   | 0.000      | 89720.000  | 57050.000 | 56560.000 |
| σ    |          | 1.068%   | 1.293     | 13.420   | 9.379     | 0.000      | 4646.000   | 3333.000  | 3824.000  |
| %RSD |          | 1.119    | 2.694     | 1.572    | 1.056     | 0.000      | 5.178      | 5.843     | 6.762     |
| Run  | Time     | 27Al     | 28Si      | 37Cl     | 39K       | 43Ca       | 44Ca       | 45Sc      | 47Ti      |
|      |          | ppb      | ppb       | ppb      | ppb       | ppb        | ppb        | ppb       | ppb       |
| 1    | 22:17:15 | 1689.000 | 22660.000 | 0.000    | 52390.000 | 87950.000  | 97410.000  | 84.618%   | 852.200   |
| 2    | 22:17:22 | 1813.000 | 22560.000 | 0.000    | 53170.000 | 91580.000  | 99890.000  | 82.337%   | 889.100   |
| 3    | 22:17:30 | 2041.000 | 24520.000 | 0.000    | 63970.000 | 109300.000 | 112700.000 | 70.506%   | 1011.000  |
| X    |          | 1848.000 | 23250.000 | 0.000    | 56510.000 | 96270.000  | 103300.000 | 79.154%   | 917.500   |
| σ    |          | 178.600  | 1102.000  | 0.000    | 6474.000  | 11410.000  | 8206.000   | 7.576%    | 83.190    |
| %RSD |          | 9.668    | 4.739     | 0.000    | 11.460    | 11.850     | 7.941      | 9.571     | 9.067     |
| Run  | Time     | 51V      | 52Cr      | 55Mn     | 56Fe      | 57Fe       | 59Co       | 60Ni      | 63Cu      |
|      |          | ppb      | ppb       | ppb      | ppb       | ppb        | ppb        | ppb       | ppb       |
| 1    | 22:17:15 | 405.500  | 160.700   | 490.000  | 922.600   | 1327.000   | 414.900    | 406.700   | 215.000   |
| 2    | 22:17:22 | 408.100  | 160.500   | 505.100  | 909.200   | 1301.000   | 411.300    | 396.800   | 208.500   |
| 3    | 22:17:30 | 482.600  | 187.800   | 593.400  | 1010.000  | 1414.000   | 450.300    | 456.700   | 231.300   |
| X    |          | 432.100  | 169.700   | 529.500  | 947.300   | 1347.000   | 425.500    | 420.100   | 218.300   |
| σ    |          | 43.790   | 15.720    | 55.870   | 54.780    | 59.360     | 21.510     | 32.140    | 11.760    |
| %RSD |          | 10.130   | 9.262     | 10.550   | 5.783     | 4.405      | 5.055      | 7.652     | 5.388     |
| Run  | Time     | 65Cu     | 66Zn      | 68Zn     | 75As      | 78Se       | 82Se       | 83Kr      | 88Sr      |
|      |          | ppb      | ppb       | ppb      | ppb       | ppb        | ppb        | ppb       | ppb       |
| 1    | 22:17:15 | 222.700  | 463.600   | 472.900  | 47.590    | 12.170     | 11.380     | 0.000     | 1062.000  |
| 2    | 22:17:22 | 220.600  | 483.600   | 478.700  | 46.250    | 13.180     | 15.080     | 0.000     | 1077.000  |
| 3    | 22:17:30 | 234.900  | 508.200   | 517.100  | 47.740    | 13.240     | 13.920     | 0.000     | 1063.000  |
| X    |          | 226.100  | 485.100   | 489.600  | 47.190    | 12.870     | 13.460     | 0.000     | 1067.000  |
| σ    |          | 7.747    | 22.330    | 23.980   | 0.822     | 0.603      | 1.891      | 0.000     | 8.821     |
| %RSD |          | 3.427    | 4.603     | 4.898    | 1.742     | 4.684      | 14.050     | 0.000     | 0.827     |
| Run  | Time     | 89Y      | 95Mo      | 98Mo     | 103Rh     | 107Ag      | 109Ag      | 111Cd     | 114Cd     |
|      |          | ppb      | ppb       | ppb      | ppb       | ppb        | ppb        | ppb       | ppb       |
| 1    | 22:17:15 | 69.238%  | 1086.000  | 1145.000 | 55.294%   | 53.520     | 51.830     | 53.270    | 97.210    |
| 2    | 22:17:22 | 69.673%  | 1092.000  | 1139.000 | 56.172%   | 53.160     | 52.640     | 56.270    | 98.440    |
| 3    | 22:17:30 | 70.037%  | 1078.000  | 1145.000 | 56.472%   | 53.410     | 52.130     | 54.890    | 96.870    |
| X    |          | 69.650%  | 1085.000  | 1143.000 | 55.979%   | 53.360     | 52.200     | 54.810    | 97.500    |
| σ    |          | 0.400%   | 6.993     | 3.276    | 0.612%    | 0.186      | 0.410      | 1.500     | 0.826     |
| %RSD |          | 0.574    | 0.644     | 0.287    | 1.094     | 0.349      | 0.785      | 2.736     | 0.847     |
| Run  | Time     | 115In    | 118Sn     | 121Sb    | 123Sb     | 135Ba      | 137Ba      | 159Tb     | 165Ho     |
|      |          | ppb      | ppb       | ppb      | ppb       | ppb        | ppb        | ppb       | ppb       |
| 1    | 22:17:15 | 58.806%  | 2005.000  | 515.200  | 509.200   | 2002.000   | 2035.000   | 74.130%   | 76.582%   |
| 2    | 22:17:22 | 59.561%  | 2014.000  | 516.200  | 511.400   | 2025.000   | 2019.000   | 75.022%   | 76.908%   |
| 3    | 22:17:30 | 60.650%  | 2008.000  | 513.400  | 500.100   | 2022.000   | 2000.000   | 74.004%   | 76.793%   |
| X    |          | 59.672%  | 2009.000  | 514.900  | 506.900   | 2016.000   | 2018.000   | 74.385%   | 76.761%   |
| σ    |          | 0.927%   | 4.451     | 1.414    | 5.984     | 12.520     | 17.390     | 0.555%    | 0.165%    |
| %RSD |          | 1.553    | 0.222     | 0.275    | 1.180     | 0.621      | 0.862      | 0.746     | 0.215     |
| Run  | Time     | 203Tl    | 205Tl     | 206Pb    | 207Pb     | 208Pb      | 209Bi      |           |           |
|      |          | ppb      | ppb       | ppb      | ppb       | ppb        | ppb        |           |           |
| 1    | 22:17:15 | 49.170   | 49.500    | 20.640   | 21.220    | 20.860     | 65.662%    |           |           |
| 2    | 22:17:22 | 48.350   | 48.990    | 21.570   | 20.990    | 20.910     | 65.424%    |           |           |
| 3    | 22:17:30 | 50.220   | 49.140    | 21.290   | 20.270    | 21.030     | 65.721%    |           |           |
| X    |          | 49.250   | 49.210    | 21.170   | 20.820    | 20.930     | 65.602%    |           |           |
| σ    |          | 0.937    | 0.263     | 0.478    | 0.496     | 0.090      | 0.158%     |           |           |
| %RSD |          | 1.903    | 0.534     | 2.260    | 2.383     | 0.432      | 0.240      |           |           |

180-43364-D-6-C MSD

5/1/2015 10:23:16 PM

User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be       | 10B      | 11B       | 13C       | 23Na       | 25Mg      | 26Mg      |
|------|----------|----------|-----------|----------|-----------|-----------|------------|-----------|-----------|
|      |          | ppb      | ppb       | ppb      | ppb       | ppb       | ppb        | ppb       | ppb       |
| 1    | 22:22:23 | 92.991%  | 46.980    | 898.500  | 896.200   | 0.000     | 89430.000  | 56000.000 | 54690.000 |
| 2    | 22:22:30 | 87.149%  | 49.060    | 934.100  | 936.300   | 0.000     | 92440.000  | 60410.000 | 59960.000 |
| 3    | 22:22:38 | 86.441%  | 48.930    | 937.900  | 1003.000  | 0.000     | 96380.000  | 59350.000 | 58950.000 |
| X    |          | 88.861%  | 48.320    | 923.500  | 945.100   | 0.000     | 92750.000  | 58580.000 | 57870.000 |
| σ    |          | 3.595%   | 1.164     | 21.710   | 53.840    | 0.000     | 3488.000   | 2301.000  | 2796.000  |
| %RSD |          | 4.045    | 2.408     | 2.351    | 5.697     | 0.000     | 3.761      | 3.928     | 4.832     |
| Run  | Time     | 27Al     | 28Si      | 37Cl     | 39K       | 43Ca      | 44Ca       | 45Sc      | 47Ti      |
|      |          | ppb      | ppb       | ppb      | ppb       | ppb       | ppb        | ppb       | ppb       |
| 1    | 22:22:23 | 1805.000 | 21950.000 | 0.000    | 49600.000 | 83240.000 | 88920.000  | 86.676%   | 815.400   |
| 2    | 22:22:30 | 1981.000 | 24620.000 | 0.000    | 60120.000 | 97720.000 | 106200.000 | 74.382%   | 948.000   |
| 3    | 22:22:38 | 1894.000 | 23880.000 | 0.000    | 54080.000 | 90480.000 | 95660.000  | 80.887%   | 918.100   |
| X    |          | 1893.000 | 23480.000 | 0.000    | 54600.000 | 90480.000 | 96920.000  | 80.648%   | 893.900   |
| σ    |          | 87.580   | 1378.000  | 0.000    | 5278.000  | 7240.000  | 8696.000   | 6.150%    | 69.540    |
| %RSD |          | 4.626    | 5.867     | 0.000    | 9.667     | 8.002     | 8.973      | 7.626     | 7.780     |
| Run  | Time     | 51V      | 52Cr      | 55Mn     | 56Fe      | 57Fe      | 59Co       | 60Ni      | 63Cu      |
|      |          | ppb      | ppb       | ppb      | ppb       | ppb       | ppb        | ppb       | ppb       |
| 1    | 22:22:23 | 401.400  | 160.100   | 472.200  | 903.800   | 1310.000  | 402.900    | 409.100   | 216.000   |
| 2    | 22:22:30 | 447.100  | 172.700   | 540.600  | 1005.000  | 1482.000  | 453.200    | 444.300   | 231.600   |
| 3    | 22:22:38 | 421.000  | 161.300   | 504.500  | 943.800   | 1376.000  | 425.800    | 426.500   | 219.900   |
| X    |          | 423.200  | 164.700   | 505.800  | 950.800   | 1389.000  | 427.300    | 426.600   | 222.500   |
| σ    |          | 22.890   | 6.939     | 34.250   | 50.910    | 86.810    | 25.170     | 17.640    | 8.149     |
| %RSD |          | 5.409    | 4.213     | 6.771    | 5.354     | 6.248     | 5.890      | 4.135     | 3.662     |
| Run  | Time     | 65Cu     | 66Zn      | 68Zn     | 75As      | 78Se      | 82Se       | 83Kr      | 88Sr      |
|      |          | ppb      | ppb       | ppb      | ppb       | ppb       | ppb        | ppb       | ppb       |
| 1    | 22:22:23 | 218.300  | 473.500   | 469.600  | 45.690    | 12.810    | 14.320     | 0.000     | 1063.000  |
| 2    | 22:22:30 | 236.200  | 494.600   | 508.100  | 47.450    | 13.890    | 15.360     | 0.000     | 1057.000  |
| 3    | 22:22:38 | 222.700  | 476.900   | 486.200  | 45.720    | 13.530    | 14.060     | 0.000     | 1075.000  |
| X    |          | 225.800  | 481.700   | 488.000  | 46.290    | 13.410    | 14.580     | 0.000     | 1065.000  |
| σ    |          | 9.311    | 11.330    | 19.310   | 1.005     | 0.549     | 0.687      | 0.000     | 9.109     |
| %RSD |          | 4.124    | 2.352     | 3.956    | 2.171     | 4.097     | 4.710      | 0.000     | 0.856     |
| Run  | Time     | 89Y      | 95Mo      | 98Mo     | 103Rh     | 107Ag     | 109Ag      | 111Cd     | 114Cd     |
|      |          | ppb      | ppb       | ppb      | ppb       | ppb       | ppb        | ppb       | ppb       |
| 1    | 22:22:23 | 68.238%  | 1069.000  | 1103.000 | 55.910%   | 52.130    | 51.030     | 51.520    | 95.170    |
| 2    | 22:22:30 | 69.708%  | 1057.000  | 1133.000 | 56.184%   | 51.750    | 51.610     | 53.900    | 95.120    |
| 3    | 22:22:38 | 69.588%  | 1082.000  | 1154.000 | 56.017%   | 51.290    | 50.650     | 53.210    | 92.680    |
| X    |          | 69.178%  | 1069.000  | 1130.000 | 56.037%   | 51.720    | 51.090     | 52.880    | 94.320    |
| σ    |          | 0.816%   | 12.530    | 25.620   | 0.138%    | 0.422     | 0.487      | 1.227     | 1.427     |
| %RSD |          | 1.180    | 1.172     | 2.267    | 0.246     | 0.817     | 0.954      | 2.320     | 1.513     |
| Run  | Time     | 115In    | 118Sn     | 121Sb    | 123Sb     | 135Ba     | 137Ba      | 159Tb     | 165Ho     |
|      |          | ppb      | ppb       | ppb      | ppb       | ppb       | ppb        | ppb       | ppb       |
| 1    | 22:22:23 | 61.056%  | 1927.000  | 498.500  | 493.000   | 1925.000  | 1952.000   | 73.314%   | 76.032%   |
| 2    | 22:22:30 | 59.212%  | 1995.000  | 516.700  | 501.600   | 2024.000  | 2009.000   | 72.687%   | 75.305%   |
| 3    | 22:22:38 | 59.961%  | 1970.000  | 511.200  | 504.500   | 1990.000  | 1999.000   | 73.694%   | 75.662%   |
| X    |          | 60.076%  | 1964.000  | 508.800  | 499.700   | 1979.000  | 1987.000   | 73.232%   | 75.666%   |
| σ    |          | 0.927%   | 34.560    | 9.359    | 5.989     | 49.970    | 30.330     | 0.508%    | 0.364%    |
| %RSD |          | 1.544    | 1.760     | 1.839    | 1.199     | 2.525     | 1.527      | 0.694     | 0.480     |
| Run  | Time     | 203Tl    | 205Tl     | 206Pb    | 207Pb     | 208Pb     | 209Bi      |           |           |
|      |          | ppb      | ppb       | ppb      | ppb       | ppb       | ppb        |           |           |
| 1    | 22:22:23 | 49.080   | 48.490    | 20.860   | 20.790    | 20.570    | 63.621%    |           |           |
| 2    | 22:22:30 | 48.460   | 48.650    | 20.660   | 20.490    | 20.500    | 64.116%    |           |           |
| 3    | 22:22:38 | 48.020   | 48.160    | 20.720   | 19.910    | 20.440    | 64.824%    |           |           |
| X    |          | 48.520   | 48.430    | 20.750   | 20.400    | 20.500    | 64.187%    |           |           |
| σ    |          | 0.531    | 0.252     | 0.102    | 0.448     | 0.069     | 0.605%     |           |           |
| %RSD |          | 1.094    | 0.520     | 0.494    | 2.195     | 0.337     | 0.942      |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be       | 10B     | 11B      | 13C       | 23Na      | 25Mg     | 26Mg     |
|------|----------|----------|-----------|---------|----------|-----------|-----------|----------|----------|
|      |          | ppb      | ppb       | ppb     | ppb      | ppb       | ppb       | ppb      | ppb      |
| 1    | 22:27:30 | 105.121% | -0.019    | 39.900  | 40.220   | 0.000     | 14280.000 | 7815.000 | 7760.000 |
| 2    | 22:27:38 | 103.754% | -0.017    | 39.480  | 39.230   | 0.000     | 13990.000 | 8069.000 | 8312.000 |
| 3    | 22:27:46 | 99.801%  | -0.025    | 40.720  | 40.280   | 0.000     | 14930.000 | 8446.000 | 8263.000 |
| X    |          | 102.892% | -0.020    | 40.030  | 39.910   | 0.000     | 14400.000 | 8110.000 | 8111.000 |
| σ    |          | 2.763%   | 0.004     | 0.631   | 0.591    | 0.000     | 480.900   | 317.400  | 305.500  |
| %RSD |          | 2.685    | 20.900    | 1.576   | 1.481    | 0.000     | 3.340     | 3.914    | 3.766    |
| Run  | Time     | 27Al     | 28Si      | 37Cl    | 39K      | 43Ca      | 44Ca      | 45Sc     | 47Ti     |
|      |          | ppb      | ppb       | ppb     | ppb      | ppb       | ppb       | ppb      | ppb      |
| 1    | 22:27:30 | 2.420    | 11940.000 | 0.000   | 2935.000 | 50950.000 | 53910.000 | 92.963%  | 4.091    |
| 2    | 22:27:38 | 2.715    | 11740.000 | 0.000   | 2837.000 | 51750.000 | 55660.000 | 91.650%  | 4.144    |
| 3    | 22:27:46 | 2.405    | 12480.000 | 0.000   | 3009.000 | 54220.000 | 58410.000 | 86.474%  | 4.168    |
| X    |          | 2.513    | 12050.000 | 0.000   | 2927.000 | 52310.000 | 55990.000 | 90.362%  | 4.134    |
| σ    |          | 0.175    | 383.100   | 0.000   | 86.600   | 1700.000  | 2270.000  | 3.431%   | 0.039    |
| %RSD |          | 6.954    | 3.178     | 0.000   | 2.959    | 3.250     | 4.054     | 3.796    | 0.952    |
| Run  | Time     | 51V      | 52Cr      | 55Mn    | 56Fe     | 57Fe      | 59Co      | 60Ni     | 63Cu     |
|      |          | ppb      | ppb       | ppb     | ppb      | ppb       | ppb       | ppb      | ppb      |
| 1    | 22:27:30 | -0.141   | 2.608     | 665.600 | 9055.000 | 8563.000  | 0.300     | 2.158    | 0.345    |
| 2    | 22:27:38 | -0.055   | 2.633     | 672.200 | 8691.000 | 8365.000  | 0.295     | 1.837    | 0.315    |
| 3    | 22:27:46 | -0.121   | 2.690     | 715.700 | 8662.000 | 8618.000  | 0.262     | 2.161    | 0.254    |
| X    |          | -0.106   | 2.644     | 684.500 | 8803.000 | 8516.000  | 0.286     | 2.052    | 0.305    |
| σ    |          | 0.045    | 0.042     | 27.210  | 219.100  | 133.300   | 0.020     | 0.186    | 0.046    |
| %RSD |          | 42.730   | 1.596     | 3.976   | 2.489    | 1.565     | 7.139     | 9.079    | 15.170   |
| Run  | Time     | 65Cu     | 66Zn      | 68Zn    | 75As     | 78Se      | 82Se      | 83Kr     | 88Sr     |
|      |          | ppb      | ppb       | ppb     | ppb      | ppb       | ppb       | ppb      | ppb      |
| 1    | 22:27:30 | 0.416    | 6.144     | 7.256   | 13.230   | 0.102     | 1.059     | 0.000    | 214.400  |
| 2    | 22:27:38 | 0.387    | 7.285     | 6.311   | 12.990   | 0.099     | 2.362     | 0.000    | 206.500  |
| 3    | 22:27:46 | 0.504    | 6.637     | 7.439   | 13.440   | 0.075     | 2.086     | 0.000    | 213.700  |
| X    |          | 0.436    | 6.689     | 7.002   | 13.220   | 0.092     | 1.835     | 0.000    | 211.500  |
| σ    |          | 0.061    | 0.572     | 0.606   | 0.225    | 0.015     | 0.687     | 0.000    | 4.375    |
| %RSD |          | 13.970   | 8.557     | 8.648   | 1.700    | 16.050    | 37.410    | 0.000    | 2.068    |
| Run  | Time     | 89Y      | 95Mo      | 98Mo    | 103Rh    | 107Ag     | 109Ag     | 111Cd    | 114Cd    |
|      |          | ppb      | ppb       | ppb     | ppb      | ppb       | ppb       | ppb      | ppb      |
| 1    | 22:27:30 | 69.811%  | 5.960     | 5.860   | 64.745%  | -0.022    | -0.011    | 0.013    | 0.115    |
| 2    | 22:27:38 | 71.981%  | 5.179     | 4.824   | 65.429%  | -0.003    | -0.014    | 0.064    | 0.067    |
| 3    | 22:27:46 | 70.677%  | 4.281     | 4.241   | 64.528%  | -0.016    | -0.020    | -0.004   | 0.046    |
| X    |          | 70.823%  | 5.140     | 4.975   | 64.901%  | -0.014    | -0.015    | 0.024    | 0.076    |
| σ    |          | 1.092%   | 0.840     | 0.820   | 0.470%   | 0.009     | 0.004     | 0.035    | 0.036    |
| %RSD |          | 1.542    | 16.350    | 16.490  | 0.724    | 68.520    | 28.460    | 147.200  | 46.890   |
| Run  | Time     | 115In    | 118Sn     | 121Sb   | 123Sb    | 135Ba     | 137Ba     | 159Tb    | 165Ho    |
|      |          | ppb      | ppb       | ppb     | ppb      | ppb       | ppb       | ppb      | ppb      |
| 1    | 22:27:30 | 68.764%  | 3.756     | 0.128   | 0.017    | 378.000   | 367.800   | 80.790%  | 83.186%  |
| 2    | 22:27:38 | 68.107%  | 3.102     | 0.057   | -0.105   | 370.500   | 384.100   | 80.523%  | 83.296%  |
| 3    | 22:27:46 | 67.618%  | 2.229     | 0.042   | -0.058   | 370.700   | 381.300   | 79.694%  | 81.190%  |
| X    |          | 68.163%  | 3.029     | 0.076   | -0.049   | 373.100   | 377.700   | 80.336%  | 82.557%  |
| σ    |          | 0.575%   | 0.766     | 0.046   | 0.061    | 4.265     | 8.701     | 0.571%   | 1.186%   |
| %RSD |          | 0.844    | 25.290    | 60.700  | 125.900  | 1.143     | 2.303     | 0.711    | 1.436    |
| Run  | Time     | 203Tl    | 205Tl     | 206Pb   | 207Pb    | 208Pb     | 209Bi     |          |          |
|      |          | ppb      | ppb       | ppb     | ppb      | ppb       | ppb       |          |          |
| 1    | 22:27:30 | 0.144    | 0.153     | 0.241   | 0.245    | 0.237     | 78.458%   |          |          |
| 2    | 22:27:38 | 0.111    | 0.131     | 0.234   | 0.245    | 0.239     | 79.491%   |          |          |
| 3    | 22:27:46 | 0.098    | 0.102     | 0.281   | 0.217    | 0.226     | 79.256%   |          |          |
| X    |          | 0.118    | 0.129     | 0.252   | 0.235    | 0.234     | 79.068%   |          |          |
| σ    |          | 0.024    | 0.025     | 0.025   | 0.017    | 0.007     | 0.542%    |          |          |
| %RSD |          | 20.110   | 19.660    | 9.909   | 7.007    | 2.958     | 0.685     |          |          |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be      | 10B      | 11B       | 13C       | 23Na      | 25Mg      | 26Mg      |
|------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 22:32:38 | 96.801%  | 98.800   | 93.260   | 95.560    | 0.000     | 55580.000 | 56270.000 | 54690.000 |
| 2    | 22:32:46 | 87.001%  | 111.800  | 107.400  | 102.600   | 0.000     | 58070.000 | 57730.000 | 58260.000 |
| 3    | 22:32:54 | 94.412%  | 101.500  | 97.740   | 94.460    | 0.000     | 57730.000 | 59190.000 | 57560.000 |
| X    |          | 92.738%  | 104.020% | 99.461%  | 97.541%   | 0.000     | 114.260%  | 115.459%  | 113.676%  |
| σ    |          | 5.110%   | n/a      | n/a      | n/a       | 0.000     | n/a       | n/a       | n/a       |
| %RSD |          | 5.510    | 6.587    | 7.259    | 4.533     | 0.000     | 2.363     | 2.525     | 3.327     |
| Run  | Time     | 27Al     | 28Si     | 37Cl     | 39K       | 43Ca      | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 22:32:38 | 528.200  | 5776.000 | 0.000    | 56080.000 | 50710.000 | 55050.000 | 106.734%  | 98.810    |
| 2    | 22:32:46 | 554.000  | 6098.000 | 0.000    | 58060.000 | 50680.000 | 55200.000 | 103.298%  | 106.000   |
| 3    | 22:32:54 | 530.900  | 5978.000 | 0.000    | 59070.000 | 54360.000 | 58000.000 | 100.174%  | 104.400   |
| X    |          | 107.543% | 119.012% | 0.000    | 115.470%  | 103.830%  | 112.169%  | 103.402%  | 103.070%  |
| σ    |          | n/a      | n/a      | 0.000    | n/a       | n/a       | n/a       | 3.281%    | n/a       |
| %RSD |          | 2.642    | 2.735    | 0.000    | 2.634     | 4.083     | 2.969     | 3.173     | 3.657     |
| Run  | Time     | 51V      | 52Cr     | 55Mn     | 56Fe      | 57Fe      | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 22:32:38 | 87.160   | 89.160   | 525.100  | 23630.000 | 22500.000 | 91.020    | 94.190    | 96.460    |
| 2    | 22:32:46 | 88.510   | 90.980   | 552.800  | 24380.000 | 23280.000 | 93.090    | 96.890    | 100.600   |
| 3    | 22:32:54 | 90.490   | 93.180   | 550.500  | 24650.000 | 24120.000 | 95.150    | 97.740    | 103.600   |
| X    |          | 88.723%  | 91.108%  | 108.557% | 96.882%   | 93.193%   | 93.085%   | 96.270%   | 100.248%  |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | n/a       | n/a       | n/a       |
| %RSD |          | 1.885    | 2.208    | 2.836    | 2.186     | 3.459     | 2.223     | 1.927     | 3.601     |
| Run  | Time     | 65Cu     | 66Zn     | 68Zn     | 75As      | 78Se      | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 22:32:38 | 95.210   | 100.700  | 102.600  | 100.800   | 102.200   | 106.500   | 0.000     | 96.080    |
| 2    | 22:32:46 | 98.760   | 104.200  | 103.900  | 102.500   | 104.300   | 101.600   | 0.000     | 93.830    |
| 3    | 22:32:54 | 105.900  | 107.200  | 109.600  | 105.300   | 106.500   | 112.800   | 0.000     | 97.660    |
| X    |          | 99.945%  | 104.050% | 105.351% | 102.889%  | 104.337%  | 106.977%  | 0.000     | 95.857%   |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | n/a       | 0.000     | n/a       |
| %RSD |          | 5.433    | 3.094    | 3.587    | 2.223     | 2.050     | 5.246     | 0.000     | 2.006     |
| Run  | Time     | 89Y      | 95Mo     | 98Mo     | 103Rh     | 107Ag     | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 22:32:38 | 91.532%  | 101.900  | 107.700  | 77.729%   | 102.600   | 103.900   | 105.700   | 109.100   |
| 2    | 22:32:46 | 93.561%  | 103.200  | 106.000  | 78.965%   | 102.600   | 101.100   | 102.800   | 106.700   |
| 3    | 22:32:54 | 89.647%  | 108.600  | 110.300  | 78.135%   | 105.500   | 104.800   | 103.600   | 109.400   |
| X    |          | 91.580%  | 104.583% | 108.008% | 78.276%   | 103.560%  | 103.279%  | 104.036%  | 108.405%  |
| σ    |          | 1.958%   | n/a      | n/a      | 0.630%    | n/a       | n/a       | n/a       | n/a       |
| %RSD |          | 2.138    | 3.398    | 2.021    | 0.805     | 1.608     | 1.878     | 1.454     | 1.338     |
| Run  | Time     | 115In    | 118Sn    | 121Sb    | 123Sb     | 135Ba     | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 22:32:38 | 81.532%  | 97.070   | 101.000  | 99.880    | 97.510    | 101.400   | 89.177%   | 90.002%   |
| 2    | 22:32:46 | 83.191%  | 96.540   | 99.990   | 98.700    | 95.900    | 100.200   | 90.943%   | 91.381%   |
| 3    | 22:32:54 | 84.512%  | 97.050   | 100.400  | 99.770    | 97.390    | 99.620    | 91.753%   | 92.868%   |
| X    |          | 83.078%  | 96.888%  | 100.438% | 99.446%   | 96.935%   | 100.414%  | 90.624%   | 91.417%   |
| σ    |          | 1.493%   | n/a      | n/a      | n/a       | n/a       | n/a       | 1.317%    | 1.433%    |
| %RSD |          | 1.797    | 0.310    | 0.492    | 0.655     | 0.925     | 0.886     | 1.454     | 1.568     |
| Run  | Time     | 203Tl    | 205Tl    | 206Pb    | 207Pb     | 208Pb     | 209Bi     |           |           |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       |           |           |
| 1    | 22:32:38 | 96.200   | 97.040   | 99.110   | 99.640    | 99.630    | 77.257%   |           |           |
| 2    | 22:32:46 | 95.730   | 96.790   | 100.500  | 97.930    | 98.960    | 77.991%   |           |           |
| 3    | 22:32:54 | 97.930   | 98.550   | 100.100  | 98.400    | 99.090    | 78.215%   |           |           |
| X    |          | 96.620%  | 97.460%  | 99.914%  | 98.660%   | 99.227%   | 77.821%   |           |           |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | 0.501%    |           |           |
| %RSD |          | 1.201    | 0.976    | 0.722    | 0.895     | 0.358     | 0.644     |           |           |



CCB6 5/1/2015 10:42:38 PM QC Status: PASS (Initial: PASS)

User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be     | 10B     | 11B     | 13C    | 23Na     | 25Mg     | 26Mg    |
|------|----------|----------|---------|---------|---------|--------|----------|----------|---------|
|      |          | ppb      | ppb     | ppb     | ppb     | ppb    | ppb      | ppb      | ppb     |
| 1    | 22:41:46 | 109.719% | 0.001   | 1.465   | 1.389   | 0.000  | 17.160   | 15.380   | 15.380  |
| 2    | 22:41:54 | 107.198% | 0.004   | 1.409   | 1.404   | 0.000  | 15.670   | 15.360   | 15.760  |
| 3    | 22:42:01 | 107.251% | -0.002  | 1.196   | 1.247   | 0.000  | 17.770   | 15.720   | 14.760  |
| X    |          | 108.056% | 0.001   | 1.357   | 1.347   | 0.000  | 16.870   | 15.490   | 15.300  |
| σ    |          | 1.440%   | 0.003   | 0.142   | 0.087   | 0.000  | 1.080    | 0.202    | 0.501   |
| %RSD |          | 1.333    | 323.200 | 10.460  | 6.442   | 0.000  | 6.405    | 1.303    | 3.275   |
| Run  | Time     | 27Al     | 28Si    | 37Cl    | 39K     | 43Ca   | 44Ca     | 45Sc     | 47Ti    |
|      |          | ppb      | ppb     | ppb     | ppb     | ppb    | ppb      | ppb      | ppb     |
| 1    | 22:41:46 | 3.891    | 17.110  | 0.000   | 20.210  | 18.520 | 19.530   | 116.791% | 0.092   |
| 2    | 22:41:54 | 3.689    | 13.040  | 0.000   | 20.270  | 14.480 | 19.030   | 117.676% | 0.125   |
| 3    | 22:42:01 | 4.009    | 9.979   | 0.000   | 18.770  | 19.230 | 15.640   | 116.786% | 0.050   |
| X    |          | 3.863    | 13.370  | 0.000   | 19.750  | 17.410 | 18.070   | 117.084% | 0.089   |
| σ    |          | 0.162    | 3.576   | 0.000   | 0.849   | 2.561  | 2.115    | 0.512%   | 0.038   |
| %RSD |          | 4.188    | 26.730  | 0.000   | 4.296   | 14.710 | 11.710   | 0.438    | 42.490  |
| Run  | Time     | 51V      | 52Cr    | 55Mn    | 56Fe    | 57Fe   | 59Co     | 60Ni     | 63Cu    |
|      |          | ppb      | ppb     | ppb     | ppb     | ppb    | ppb      | ppb      | ppb     |
| 1    | 22:41:46 | 0.072    | 0.034   | 0.368   | 18.110  | 19.240 | 0.045    | 0.055    | 0.008   |
| 2    | 22:41:54 | 0.062    | 0.027   | 0.300   | 16.500  | 14.180 | 0.051    | 0.039    | -0.007  |
| 3    | 22:42:01 | 0.070    | 0.058   | 0.323   | 17.500  | 16.900 | 0.055    | 0.075    | -0.035  |
| X    |          | 0.068    | 0.040   | 0.330   | 17.370  | 16.780 | 0.050    | 0.056    | -0.011  |
| σ    |          | 0.005    | 0.016   | 0.035   | 0.814   | 2.532  | 0.005    | 0.018    | 0.021   |
| %RSD |          | 7.640    | 41.440  | 10.540  | 4.685   | 15.090 | 10.330   | 32.760   | 189.900 |
| Run  | Time     | 65Cu     | 66Zn    | 68Zn    | 75As    | 78Se   | 82Se     | 83Kr     | 88Sr    |
|      |          | ppb      | ppb     | ppb     | ppb     | ppb    | ppb      | ppb      | ppb     |
| 1    | 22:41:46 | 0.022    | 0.045   | 0.084   | 0.060   | 0.109  | 0.172    | 0.000    | 0.076   |
| 2    | 22:41:54 | -0.040   | 0.105   | 0.099   | 0.054   | 0.110  | 0.671    | 0.000    | 0.084   |
| 3    | 22:42:01 | -0.047   | 0.114   | 0.084   | 0.040   | 0.070  | 0.275    | 0.000    | 0.088   |
| X    |          | -0.022   | 0.088   | 0.089   | 0.051   | 0.096  | 0.372    | 0.000    | 0.083   |
| σ    |          | 0.038    | 0.038   | 0.009   | 0.010   | 0.022  | 0.264    | 0.000    | 0.006   |
| %RSD |          | 174.900  | 43.070  | 9.738   | 19.320  | 23.320 | 70.780   | 0.000    | 7.668   |
| Run  | Time     | 89Y      | 95Mo    | 98Mo    | 103Rh   | 107Ag  | 109Ag    | 111Cd    | 114Cd   |
|      |          | ppb      | ppb     | ppb     | ppb     | ppb    | ppb      | ppb      | ppb     |
| 1    | 22:41:46 | 101.022% | 0.679   | 0.678   | 93.612% | 0.016  | 0.007    | 0.068    | 0.005   |
| 2    | 22:41:54 | 99.670%  | 0.583   | 0.583   | 97.361% | 0.015  | 0.003    | 0.043    | 0.005   |
| 3    | 22:42:01 | 100.883% | 0.517   | 0.685   | 96.940% | 0.006  | 0.002    | 0.031    | 0.008   |
| X    |          | 100.525% | 0.593   | 0.649   | 95.971% | 0.013  | 0.004    | 0.047    | 0.006   |
| σ    |          | 0.744%   | 0.081   | 0.057   | 2.054%  | 0.006  | 0.003    | 0.019    | 0.002   |
| %RSD |          | 0.740    | 13.730  | 8.748   | 2.140   | 45.410 | 65.390   | 40.070   | 37.410  |
| Run  | Time     | 115In    | 118Sn   | 121Sb   | 123Sb   | 135Ba  | 137Ba    | 159Tb    | 165Ho   |
|      |          | ppb      | ppb     | ppb     | ppb     | ppb    | ppb      | ppb      | ppb     |
| 1    | 22:41:46 | 95.650%  | -0.045  | 0.029   | -0.127  | 0.156  | 0.126    | 100.121% | 99.665% |
| 2    | 22:41:54 | 95.223%  | -0.131  | 0.041   | -0.052  | 0.185  | 0.076    | 99.026%  | 98.297% |
| 3    | 22:42:01 | 99.085%  | -0.246  | 0.098   | -0.083  | 0.100  | 0.107    | 99.229%  | 98.607% |
| X    |          | 96.653%  | -0.141  | 0.056   | -0.087  | 0.147  | 0.103    | 99.459%  | 98.856% |
| σ    |          | 2.117%   | 0.101   | 0.037   | 0.038   | 0.044  | 0.026    | 0.583%   | 0.717%  |
| %RSD |          | 2.190    | 71.630  | 66.170  | 43.390  | 29.680 | 24.820   | 0.586    | 0.725   |
| Run  | Time     | 203Tl    | 205Tl   | 206Pb   | 207Pb   | 208Pb  | 209Bi    |          |         |
|      |          | ppb      | ppb     | ppb     | ppb     | ppb    | ppb      |          |         |
| 1    | 22:41:46 | 0.081    | 0.064   | -0.012  | 0.005   | 0.007  | 101.157% |          |         |
| 2    | 22:41:54 | 0.065    | 0.079   | -0.004  | -0.009  | 0.008  | 101.828% |          |         |
| 3    | 22:42:01 | 0.090    | 0.060   | 0.007   | -0.006  | 0.008  | 103.851% |          |         |
| X    |          | 0.079    | 0.068   | -0.003  | -0.003  | 0.008  | 102.279% |          |         |
| σ    |          | 0.012    | 0.010   | 0.010   | 0.007   | 0.000  | 1.403%   |          |         |
| %RSD |          | 15.810   | 14.380  | 324.300 | 228.700 | 6.369  | 1.371    |          |         |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li       | 9Be      | 10B      | 11B        | 13C        | 23Na      | 25Mg      | 26Mg      |
|------|----------|-----------|----------|----------|------------|------------|-----------|-----------|-----------|
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 22:46:54 | 111.418%  | 7.056    | 25.540   | 23.650     | 0.000      | 1731.000  | 22160.000 | 21930.000 |
| 2    | 22:47:01 | 112.952%  | 6.882    | 23.010   | 22.170     | 0.000      | 1769.000  | 22910.000 | 23250.000 |
| 3    | 22:47:09 | 112.671%  | 7.073    | 24.290   | 22.140     | 0.000      | 1799.000  | 23560.000 | 22830.000 |
| X    |          | 112.347%  | 7.004    | 24.280   | 22.650     | 0.000      | 1766.000  | 22880.000 | 22670.000 |
| σ    |          | 0.817%    | 0.105    | 1.262    | 0.861      | 0.000      | 33.870    | 701.500   | 676.500   |
| %RSD |          | 0.727     | 1.504    | 5.197    | 3.802      | 0.000      | 1.918     | 3.066     | 2.984     |
| Run  | Time     | 27Al      | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 22:46:54 | 74480.000 | 2510.000 | 0.000    | 9057.000   | 23500.000  | 24680.000 | 109.003%  | 1656.000  |
| 2    | 22:47:01 | 76740.000 | 2609.000 | 0.000    | 9377.000   | 24940.000  | 26160.000 | 105.249%  | 1719.000  |
| 3    | 22:47:09 | 74080.000 | 2611.000 | 0.000    | 9509.000   | 25480.000  | 26240.000 | 102.655%  | 1740.000  |
| X    |          | 75100.000 | 2576.000 | 0.000    | 9314.000   | 24640.000  | 25690.000 | 105.636%  | 1705.000  |
| σ    |          | 1435.000  | 57.800   | 0.000    | 232.300    | 1024.000   | 875.000   | 3.192%    | 43.520    |
| %RSD |          | 1.910     | 2.244    | 0.000    | 2.494      | 4.156      | 3.406     | 3.021     | 2.552     |
| Run  | Time     | 51V       | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 22:46:54 | 219.900   | 212.800  | 2133.000 | 119500.000 | 113000.000 | 80.020    | 149.500   | 284.700   |
| 2    | 22:47:01 | 225.900   | 217.400  | 2272.000 | 124500.000 | 119000.000 | 84.510    | 158.500   | 284.700   |
| 3    | 22:47:09 | 237.400   | 231.400  | 2327.000 | 128600.000 | 125400.000 | 86.980    | 155.300   | 303.400   |
| X    |          | 227.700   | 220.600  | 2244.000 | 124200.000 | 119100.000 | 83.840    | 154.400   | 290.900   |
| σ    |          | 8.910     | 9.693    | 99.980   | 4594.000   | 6181.000   | 3.531     | 4.528     | 10.810    |
| %RSD |          | 3.912     | 4.395    | 4.456    | 3.699      | 5.188      | 4.212     | 2.932     | 3.715     |
| Run  | Time     | 65Cu      | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 22:46:54 | 272.700   | 809.600  | 796.400  | 17.180     | 2.815      | 6.507     | 0.000     | 50.610    |
| 2    | 22:47:01 | 284.000   | 831.900  | 816.300  | 18.670     | 3.489      | 6.022     | 0.000     | 51.860    |
| 3    | 22:47:09 | 286.100   | 840.100  | 846.200  | 18.510     | 2.879      | 6.277     | 0.000     | 50.280    |
| X    |          | 281.000   | 827.200  | 819.600  | 18.120     | 3.061      | 6.269     | 0.000     | 50.920    |
| σ    |          | 7.211     | 15.750   | 25.050   | 0.816      | 0.372      | 0.242     | 0.000     | 0.835     |
| %RSD |          | 2.567     | 1.904    | 3.056    | 4.504      | 12.150     | 3.869     | 0.000     | 1.639     |
| Run  | Time     | 89Y       | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 22:46:54 | 202.710%  | 7.966    | 9.724    | 67.486%    | 2.048      | 2.058     | 4.210     | 5.814     |
| 2    | 22:47:01 | 206.233%  | 7.743    | 9.661    | 67.897%    | 2.344      | 2.183     | 4.674     | 5.649     |
| 3    | 22:47:09 | 205.893%  | 7.912    | 9.685    | 68.721%    | 2.276      | 2.007     | 4.438     | 5.713     |
| X    |          | 204.945%  | 7.874    | 9.690    | 68.035%    | 2.223      | 2.082     | 4.441     | 5.725     |
| σ    |          | 1.943%    | 0.117    | 0.032    | 0.629%     | 0.155      | 0.091     | 0.232     | 0.083     |
| %RSD |          | 0.948     | 1.482    | 0.329    | 0.925      | 6.964      | 4.351     | 5.228     | 1.447     |
| Run  | Time     | 115In     | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 22:46:54 | 76.586%   | 55.060   | 4.474    | 3.986      | 632.300    | 628.600   | 98.805%   | 101.089%  |
| 2    | 22:47:01 | 74.061%   | 57.040   | 4.641    | 4.108      | 662.600    | 660.600   | 100.792%  | 100.986%  |
| 3    | 22:47:09 | 75.951%   | 55.340   | 4.460    | 4.350      | 644.200    | 656.400   | 101.300%  | 103.325%  |
| X    |          | 75.533%   | 55.810   | 4.525    | 4.148      | 646.400    | 648.500   | 100.299%  | 101.800%  |
| σ    |          | 1.314%    | 1.070    | 0.101    | 0.185      | 15.270     | 17.390    | 1.318%    | 1.322%    |
| %RSD |          | 1.739     | 1.918    | 2.225    | 4.454      | 2.363      | 2.681     | 1.315     | 1.298     |
| Run  | Time     | 203Tl     | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi     |           |           |
|      |          | ppb       | ppb      | ppb      | ppb        | ppb        | ppb       |           |           |
| 1    | 22:46:54 | 1.657     | 1.789    | 438.300  | 410.000    | 427.200    | 74.133%   |           |           |
| 2    | 22:47:01 | 1.716     | 1.667    | 440.000  | 405.400    | 428.200    | 75.071%   |           |           |
| 3    | 22:47:09 | 1.657     | 1.741    | 441.000  | 407.500    | 429.900    | 75.665%   |           |           |
| X    |          | 1.676     | 1.732    | 439.800  | 407.600    | 428.400    | 74.956%   |           |           |
| σ    |          | 0.034     | 0.061    | 1.353    | 2.322      | 1.377      | 0.773%    |           |           |
| %RSD |          | 2.036     | 3.538    | 0.308    | 0.570      | 0.321      | 1.031     |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li       | 9Be      | 10B      | 11B       | 13C       | 23Na      | 25Mg      | 26Mg      |
|------|----------|-----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
|      |          | ppb       | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 22:52:00 | 115.737%  | 3.867    | 40.930   | 39.510    | 0.000     | 1711.000  | 36450.000 | 36850.000 |
| 2    | 22:52:08 | 114.630%  | 3.797    | 40.400   | 38.170    | 0.000     | 1623.000  | 35760.000 | 35870.000 |
| 3    | 22:52:15 | 116.514%  | 3.804    | 38.500   | 36.650    | 0.000     | 1652.000  | 36350.000 | 36820.000 |
| X    |          | 115.627%  | 3.822    | 39.940   | 38.110    | 0.000     | 1662.000  | 36190.000 | 36510.000 |
| σ    |          | 0.947%    | 0.038    | 1.276    | 1.428     | 0.000     | 44.690    | 373.400   | 559.200   |
| %RSD |          | 0.819     | 1.004    | 3.194    | 3.748     | 0.000     | 2.689     | 1.032     | 1.531     |
| Run  | Time     | 27Al      | 28Si     | 37Cl     | 39K       | 43Ca      | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb       | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 22:52:00 | 35180.000 | 3481.000 | 0.000    | 4644.000  | 47170.000 | 51190.000 | 108.173%  | 1453.000  |
| 2    | 22:52:08 | 31870.000 | 3352.000 | 0.000    | 4931.000  | 50110.000 | 52070.000 | 106.929%  | 1597.000  |
| 3    | 22:52:15 | 35000.000 | 3479.000 | 0.000    | 4830.000  | 49200.000 | 50670.000 | 106.536%  | 1614.000  |
| X    |          | 34020.000 | 3437.000 | 0.000    | 4802.000  | 48830.000 | 51310.000 | 107.212%  | 1555.000  |
| σ    |          | 1862.000  | 73.770   | 0.000    | 145.300   | 1505.000  | 703.200   | 0.854%    | 88.090    |
| %RSD |          | 5.473     | 2.146    | 0.000    | 3.025     | 3.082     | 1.371     | 0.797     | 5.667     |
| Run  | Time     | 51V       | 52Cr     | 55Mn     | 56Fe      | 57Fe      | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb       | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 22:52:00 | 157.500   | 268.000  | 1916.000 | 87830.000 | 84540.000 | 108.100   | 274.700   | 1238.000  |
| 2    | 22:52:08 | 152.500   | 269.000  | 1963.000 | 92020.000 | 90380.000 | 110.100   | 281.000   | 1214.000  |
| 3    | 22:52:15 | 160.600   | 274.700  | 2024.000 | 94650.000 | 91730.000 | 113.400   | 289.000   | 1273.000  |
| X    |          | 156.900   | 270.600  | 1968.000 | 91500.000 | 88880.000 | 110.500   | 281.500   | 1241.000  |
| σ    |          | 4.098     | 3.624    | 54.370   | 3438.000  | 3824.000  | 2.685     | 7.152     | 29.940    |
| %RSD |          | 2.612     | 1.340    | 2.763    | 3.757     | 4.302     | 2.429     | 2.540     | 2.412     |
| Run  | Time     | 65Cu      | 66Zn     | 68Zn     | 75As      | 78Se      | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb       | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 22:52:00 | 1192.000  | 2393.000 | 2416.000 | 24.140    | 3.419     | 4.870     | 0.000     | 140.900   |
| 2    | 22:52:08 | 1157.000  | 2341.000 | 2377.000 | 23.550    | 3.570     | 4.936     | 0.000     | 138.500   |
| 3    | 22:52:15 | 1214.000  | 2429.000 | 2401.000 | 24.170    | 3.340     | 0.952     | 0.000     | 143.700   |
| X    |          | 1188.000  | 2388.000 | 2398.000 | 23.950    | 3.443     | 3.586     | 0.000     | 141.000   |
| σ    |          | 28.810    | 44.150   | 19.770   | 0.351     | 0.117     | 2.282     | 0.000     | 2.613     |
| %RSD |          | 2.425     | 1.849    | 0.824    | 1.467     | 3.396     | 63.630    | 0.000     | 1.852     |
| Run  | Time     | 89Y       | 95Mo     | 98Mo     | 103Rh     | 107Ag     | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb       | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 22:52:00 | 131.962%  | 10.200   | 11.590   | 68.585%   | 148.000   | 144.500   | 9.264     | 14.440    |
| 2    | 22:52:08 | 136.530%  | 9.993    | 11.260   | 69.409%   | 145.600   | 143.500   | 10.280    | 15.350    |
| 3    | 22:52:15 | 133.650%  | 11.130   | 11.880   | 68.383%   | 146.700   | 147.900   | 10.390    | 14.210    |
| X    |          | 134.047%  | 10.440   | 11.580   | 68.792%   | 146.800   | 145.300   | 9.979     | 14.670    |
| σ    |          | 2.310%    | 0.607    | 0.307    | 0.544%    | 1.204     | 2.315     | 0.622     | 0.603     |
| %RSD |          | 1.723     | 5.817    | 2.649    | 0.790     | 0.821     | 1.593     | 6.228     | 4.107     |
| Run  | Time     | 115In     | 118Sn    | 121Sb    | 123Sb     | 135Ba     | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb       | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 22:52:00 | 74.541%   | 204.100  | 16.260   | 16.380    | 1648.000  | 1646.000  | 91.910%   | 95.085%   |
| 2    | 22:52:08 | 74.680%   | 212.800  | 17.680   | 15.920    | 1632.000  | 1661.000  | 92.374%   | 94.831%   |
| 3    | 22:52:15 | 77.085%   | 204.900  | 16.840   | 16.240    | 1611.000  | 1612.000  | 92.941%   | 96.015%   |
| X    |          | 75.435%   | 207.300  | 16.930   | 16.180    | 1631.000  | 1640.000  | 92.408%   | 95.310%   |
| σ    |          | 1.430%    | 4.821    | 0.714    | 0.235     | 18.590    | 25.020    | 0.516%    | 0.624%    |
| %RSD |          | 1.896     | 2.326    | 4.219    | 1.456     | 1.140     | 1.526     | 0.559     | 0.654     |
| Run  | Time     | 203Tl     | 205Tl    | 206Pb    | 207Pb     | 208Pb     | 209Bi     |           |           |
|      |          | ppb       | ppb      | ppb      | ppb       | ppb       | ppb       |           |           |
| 1    | 22:52:00 | 1.705     | 1.768    | 4432.000 | 4104.000  | 4265.000  | 82.049%   |           |           |
| 2    | 22:52:08 | 1.820     | 1.719    | 4404.000 | 4127.000  | 4256.000  | 83.413%   |           |           |
| 3    | 22:52:15 | 1.732     | 1.806    | 4374.000 | 4091.000  | 4231.000  | 83.731%   |           |           |
| X    |          | 1.752     | 1.764    | 4403.000 | 4107.000  | 4251.000  | 83.064%   |           |           |
| σ    |          | 0.060     | 0.044    | 28.950   | 18.230    | 18.000    | 0.894%    |           |           |
| %RSD |          | 3.444     | 2.474    | 0.657    | 0.444     | 0.423     | 1.076     |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li        | 9Be      | 10B      | 11B        | 13C        | 23Na      | 25Mg      | 26Mg      |
|------|----------|------------|----------|----------|------------|------------|-----------|-----------|-----------|
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 22:57:03 | 73.961%    | 9.364    | 371.500  | 354.200    | 0.000      | 83430.000 | 87640.000 | 85010.000 |
| 2    | 22:57:11 | 78.246%    | 8.896    | 327.400  | 324.500    | 0.000      | 84150.000 | 86360.000 | 86230.000 |
| 3    | 22:57:19 | 66.841%    | 10.120   | 390.500  | 375.400    | 0.000      | 93550.000 | 98200.000 | 95920.000 |
| X    |          | 73.016%    | 9.459    | 363.100  | 351.400    | 0.000      | 87040.000 | 90730.000 | 89050.000 |
| σ    |          | 5.761%     | 0.616    | 32.380   | 25.590     | 0.000      | 5649.000  | 6502.000  | 5976.000  |
| %RSD |          | 7.890      | 6.514    | 8.916    | 7.282      | 0.000      | 6.490     | 7.166     | 6.711     |
| Run  | Time     | 27Al       | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 22:57:03 | 163800.000 | 2486.000 | 0.000    | 45260.000  | 52870.000  | 56630.000 | 101.156%  | 8688.000  |
| 2    | 22:57:11 | 165900.000 | 2376.000 | 0.000    | 45860.000  | 55930.000  | 59410.000 | 96.280%   | 9288.000  |
| 3    | 22:57:19 | 184500.000 | 2636.000 | 0.000    | 47330.000  | 56840.000  | 58770.000 | 93.765%   | 9408.000  |
| X    |          | 171400.000 | 2499.000 | 0.000    | 46150.000  | 55220.000  | 58270.000 | 97.067%   | 9128.000  |
| σ    |          | 11360.000  | 130.600  | 0.000    | 1066.000   | 2077.000   | 1458.000  | 3.758%    | 385.900   |
| %RSD |          | 6.629      | 5.225    | 0.000    | 2.311      | 3.761      | 2.502     | 3.871     | 4.227     |
| Run  | Time     | 51V        | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 22:57:03 | 424.500    | 473.900  | 3054.000 | 224000.000 | 219000.000 | 59.220    | 167.200   | 212.400   |
| 2    | 22:57:11 | 433.600    | 496.700  | 3185.000 | 233400.000 | 224900.000 | 60.720    | 169.100   | 215.900   |
| 3    | 22:57:19 | 465.300    | 508.600  | 3275.000 | 236200.000 | 225000.000 | 61.260    | 174.600   | 221.800   |
| X    |          | 441.100    | 493.100  | 3171.000 | 231200.000 | 223000.000 | 60.400    | 170.300   | 216.700   |
| σ    |          | 21.430     | 17.610   | 110.800  | 6348.000   | 3431.000   | 1.056     | 3.840     | 4.750     |
| %RSD |          | 4.858      | 3.572    | 3.494    | 2.746      | 1.539      | 1.749     | 2.254     | 2.192     |
| Run  | Time     | 65Cu       | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 22:57:03 | 210.600    | 707.200  | 694.200  | 73.620     | 5.096      | 10.290    | 0.000     | 199.600   |
| 2    | 22:57:11 | 215.800    | 718.800  | 712.900  | 74.970     | 4.997      | 6.286     | 0.000     | 197.400   |
| 3    | 22:57:19 | 219.800    | 727.300  | 714.300  | 74.760     | 5.186      | 8.076     | 0.000     | 198.400   |
| X    |          | 215.400    | 717.800  | 707.100  | 74.450     | 5.093      | 8.216     | 0.000     | 198.500   |
| σ    |          | 4.592      | 10.080   | 11.220   | 0.728      | 0.095      | 2.004     | 0.000     | 1.092     |
| %RSD |          | 2.132      | 1.405    | 1.586    | 0.978      | 1.859      | 24.390    | 0.000     | 0.550     |
| Run  | Time     | 89Y        | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 22:57:03 | 163.278%   | 17.860   | 21.780   | 49.741%    | 8.446      | 7.905     | 5.230     | 7.345     |
| 2    | 22:57:11 | 163.378%   | 17.640   | 22.210   | 49.014%    | 8.357      | 8.034     | 5.916     | 7.681     |
| 3    | 22:57:19 | 168.046%   | 17.720   | 21.490   | 50.515%    | 7.964      | 8.041     | 5.937     | 7.399     |
| X    |          | 164.901%   | 17.740   | 21.830   | 49.757%    | 8.255      | 7.994     | 5.695     | 7.475     |
| σ    |          | 2.725%     | 0.115    | 0.364    | 0.750%     | 0.256      | 0.077     | 0.402     | 0.180     |
| %RSD |          | 1.652      | 0.647    | 1.670    | 1.508      | 3.104      | 0.958     | 7.062     | 2.414     |
| Run  | Time     | 115In      | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 22:57:03 | 57.823%    | 88.040   | 1.341    | 1.324      | 509.500    | 502.300   | 79.851%   | 80.632%   |
| 2    | 22:57:11 | 58.357%    | 84.090   | 1.244    | 1.569      | 509.300    | 511.400   | 79.878%   | 81.346%   |
| 3    | 22:57:19 | 58.939%    | 87.780   | 1.407    | 1.488      | 514.600    | 506.700   | 80.540%   | 82.614%   |
| X    |          | 58.373%    | 86.640   | 1.331    | 1.461      | 511.100    | 506.800   | 80.090%   | 81.531%   |
| σ    |          | 0.558%     | 2.207    | 0.082    | 0.125      | 3.044      | 4.571     | 0.390%    | 1.004%    |
| %RSD |          | 0.956      | 2.547    | 6.146    | 8.548      | 0.596      | 0.902     | 0.487     | 1.231     |
| Run  | Time     | 203Tl      | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi     |           |           |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       |           |           |
| 1    | 22:57:03 | 3.662      | 3.344    | 643.800  | 590.800    | 623.500    | 52.116%   |           |           |
| 2    | 22:57:11 | 3.302      | 3.378    | 638.000  | 585.700    | 620.600    | 53.064%   |           |           |
| 3    | 22:57:19 | 3.395      | 3.359    | 638.200  | 584.300    | 617.000    | 53.862%   |           |           |
| X    |          | 3.453      | 3.360    | 640.000  | 586.900    | 620.400    | 53.014%   |           |           |
| σ    |          | 0.187      | 0.017    | 3.346    | 3.431      | 3.269      | 0.874%    |           |           |
| %RSD |          | 5.416      | 0.513    | 0.523    | 0.585      | 0.527      | 1.649     |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li        | 9Be      | 10B      | 11B        | 13C        | 23Na      | 25Mg      | 26Mg      |
|------|----------|------------|----------|----------|------------|------------|-----------|-----------|-----------|
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 23:02:05 | 74.119%    | 8.913    | 353.700  | 335.200    | 0.000      | 89460.000 | 90690.000 | 87830.000 |
| 2    | 23:02:15 | 72.715%    | 8.953    | 343.900  | 341.800    | 0.000      | 91760.000 | 91850.000 | 91680.000 |
| 3    | 23:02:23 | 68.889%    | 9.757    | 365.500  | 356.000    | 0.000      | 94350.000 | 96080.000 | 94060.000 |
| X    |          | 71.908%    | 9.208    | 354.400  | 344.300    | 0.000      | 91860.000 | 92870.000 | 91190.000 |
| σ    |          | 2.707%     | 0.476    | 10.830   | 10.630     | 0.000      | 2445.000  | 2838.000  | 3143.000  |
| %RSD |          | 3.764      | 5.173    | 3.057    | 3.088      | 0.000      | 2.662     | 3.056     | 3.446     |
| Run  | Time     | 27Al       | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 23:02:05 | 169700.000 | 1845.000 | 0.000    | 43670.000  | 46870.000  | 50150.000 | 98.656%   | 8523.000  |
| 2    | 23:02:15 | 177800.000 | 1923.000 | 0.000    | 46020.000  | 50890.000  | 51130.000 | 93.629%   | 8783.000  |
| 3    | 23:02:23 | 177800.000 | 1976.000 | 0.000    | 45740.000  | 48130.000  | 51620.000 | 96.387%   | 8819.000  |
| X    |          | 175100.000 | 1914.000 | 0.000    | 45140.000  | 48630.000  | 50960.000 | 96.224%   | 8708.000  |
| σ    |          | 4637.000   | 66.150   | 0.000    | 1280.000   | 2058.000   | 748.900   | 2.517%    | 161.900   |
| %RSD |          | 2.648      | 3.456    | 0.000    | 2.836      | 4.233      | 1.469     | 2.616     | 1.859     |
| Run  | Time     | 51V        | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 23:02:05 | 426.800    | 477.800  | 3091.000 | 226100.000 | 222700.000 | 60.310    | 170.500   | 215.300   |
| 2    | 23:02:15 | 446.200    | 495.900  | 3246.000 | 239300.000 | 231600.000 | 62.390    | 176.000   | 225.400   |
| 3    | 23:02:23 | 451.200    | 486.900  | 3274.000 | 230800.000 | 226500.000 | 61.540    | 171.800   | 222.800   |
| X    |          | 441.400    | 486.900  | 3204.000 | 232000.000 | 226900.000 | 61.420    | 172.800   | 221.200   |
| σ    |          | 12.880     | 9.029    | 98.650   | 6678.000   | 4456.000   | 1.048     | 2.853     | 5.235     |
| %RSD |          | 2.918      | 1.854    | 3.079    | 2.878      | 1.964      | 1.706     | 1.651     | 2.367     |
| Run  | Time     | 65Cu       | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 23:02:05 | 215.100    | 724.900  | 703.500  | 72.280     | 4.493      | 10.740    | 0.000     | 210.900   |
| 2    | 23:02:15 | 225.400    | 755.900  | 749.900  | 74.720     | 4.923      | 10.170    | 0.000     | 211.900   |
| 3    | 23:02:23 | 219.900    | 728.300  | 708.700  | 73.420     | 4.572      | 8.521     | 0.000     | 207.500   |
| X    |          | 220.100    | 736.400  | 720.700  | 73.480     | 4.663      | 9.811     | 0.000     | 210.100   |
| σ    |          | 5.170      | 17.030   | 25.390   | 1.220      | 0.229      | 1.152     | 0.000     | 2.306     |
| %RSD |          | 2.348      | 2.312    | 3.523    | 1.660      | 4.912      | 11.740    | 0.000     | 1.097     |
| Run  | Time     | 89Y        | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 23:02:05 | 158.680%   | 18.260   | 22.770   | 49.855%    | 7.687      | 7.766     | 5.954     | 7.762     |
| 2    | 23:02:15 | 158.491%   | 17.930   | 22.250   | 49.788%    | 7.738      | 7.965     | 6.141     | 7.116     |
| 3    | 23:02:23 | 163.566%   | 17.670   | 21.820   | 50.767%    | 7.843      | 7.411     | 5.485     | 7.332     |
| X    |          | 160.246%   | 17.950   | 22.280   | 50.137%    | 7.756      | 7.714     | 5.860     | 7.404     |
| σ    |          | 2.877%     | 0.294    | 0.480    | 0.547%     | 0.080      | 0.281     | 0.338     | 0.329     |
| %RSD |          | 1.796      | 1.640    | 2.154    | 1.091      | 1.027      | 3.640     | 5.769     | 4.446     |
| Run  | Time     | 115In      | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 23:02:05 | 58.482%    | 80.190   | 1.355    | 1.298      | 505.100    | 493.400   | 79.133%   | 79.345%   |
| 2    | 23:02:15 | 58.203%    | 78.350   | 1.304    | 1.200      | 511.000    | 509.000   | 79.632%   | 81.523%   |
| 3    | 23:02:23 | 58.103%    | 79.280   | 1.163    | 1.133      | 507.100    | 509.800   | 81.087%   | 81.454%   |
| X    |          | 58.263%    | 79.280   | 1.274    | 1.210      | 507.800    | 504.100   | 79.951%   | 80.774%   |
| σ    |          | 0.197%     | 0.919    | 0.099    | 0.083      | 3.013      | 9.243     | 1.015%    | 1.238%    |
| %RSD |          | 0.338      | 1.159    | 7.802    | 6.836      | 0.593      | 1.834     | 1.270     | 1.533     |
| Run  | Time     | 203Tl      | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi     |           |           |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       |           |           |
| 1    | 23:02:05 | 3.408      | 3.260    | 623.900  | 567.300    | 602.700    | 51.808%   |           |           |
| 2    | 23:02:15 | 3.375      | 3.285    | 620.600  | 565.600    | 600.200    | 53.046%   |           |           |
| 3    | 23:02:23 | 3.252      | 3.307    | 621.100  | 568.600    | 601.200    | 54.030%   |           |           |
| X    |          | 3.345      | 3.284    | 621.800  | 567.100    | 601.300    | 52.961%   |           |           |
| σ    |          | 0.082      | 0.023    | 1.758    | 1.504      | 1.267      | 1.114%    |           |           |
| %RSD |          | 2.458      | 0.712    | 0.283    | 0.265      | 0.211      | 2.103     |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li        | 9Be      | 10B      | 11B        | 13C        | 23Na       | 25Mg      | 26Mg      |
|------|----------|------------|----------|----------|------------|------------|------------|-----------|-----------|
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 23:07:10 | 88.140%    | 6.227    | 292.500  | 293.500    | 0.000      | 113400.000 | 72490.000 | 74220.000 |
| 2    | 23:07:18 | 80.992%    | 6.791    | 324.200  | 314.100    | 0.000      | 119400.000 | 80200.000 | 81100.000 |
| 3    | 23:07:26 | 84.376%    | 6.334    | 293.800  | 288.200    | 0.000      | 120600.000 | 80960.000 | 80050.000 |
| X    |          | 84.503%    | 6.451    | 303.500  | 298.600    | 0.000      | 117800.000 | 77880.000 | 78460.000 |
| σ    |          | 3.576%     | 0.299    | 17.920   | 13.700     | 0.000      | 3867.000   | 4687.000  | 3703.000  |
| %RSD |          | 4.232      | 4.637    | 5.903    | 4.588      | 0.000      | 3.282      | 6.019     | 4.719     |
| Run  | Time     | 27Al       | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca       | 45Sc      | 47Ti      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 23:07:10 | 129900.000 | 1968.000 | 0.000    | 39770.000  | 42500.000  | 45580.000  | 97.414%   | 7442.000  |
| 2    | 23:07:18 | 142700.000 | 2100.000 | 0.000    | 42460.000  | 45370.000  | 48220.000  | 93.218%   | 7510.000  |
| 3    | 23:07:26 | 138400.000 | 1951.000 | 0.000    | 42710.000  | 45550.000  | 47890.000  | 88.981%   | 7718.000  |
| X    |          | 137000.000 | 2006.000 | 0.000    | 41650.000  | 44480.000  | 47230.000  | 93.204%   | 7556.000  |
| σ    |          | 6499.000   | 81.280   | 0.000    | 1627.000   | 1711.000   | 1437.000   | 4.217%    | 143.700   |
| %RSD |          | 4.743      | 4.052    | 0.000    | 3.907      | 3.847      | 3.042      | 4.524     | 1.902     |
| Run  | Time     | 51V        | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co       | 60Ni      | 63Cu      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 23:07:10 | 325.100    | 376.000  | 2355.000 | 191900.000 | 185800.000 | 49.620     | 138.300   | 176.200   |
| 2    | 23:07:18 | 358.800    | 392.700  | 2410.000 | 199200.000 | 189000.000 | 51.420     | 142.400   | 182.300   |
| 3    | 23:07:26 | 358.200    | 395.000  | 2523.000 | 203300.000 | 195600.000 | 53.150     | 147.300   | 187.600   |
| X    |          | 347.400    | 387.900  | 2429.000 | 198200.000 | 190200.000 | 51.390     | 142.700   | 182.000   |
| σ    |          | 19.310     | 10.350   | 85.660   | 5764.000   | 5012.000   | 1.766      | 4.523     | 5.662     |
| %RSD |          | 5.559      | 2.668    | 3.526    | 2.909      | 2.636      | 3.436      | 3.170     | 3.110     |
| Run  | Time     | 65Cu       | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se       | 83Kr      | 88Sr      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 23:07:10 | 178.500    | 561.100  | 559.100  | 56.820     | 4.239      | 8.609      | 0.000     | 183.600   |
| 2    | 23:07:18 | 181.500    | 581.700  | 577.800  | 58.590     | 4.210      | 8.519      | 0.000     | 189.900   |
| 3    | 23:07:26 | 185.000    | 608.500  | 599.800  | 58.190     | 4.350      | 10.190     | 0.000     | 187.300   |
| X    |          | 181.600    | 583.800  | 578.900  | 57.870     | 4.267      | 9.106      | 0.000     | 187.000   |
| σ    |          | 3.232      | 23.770   | 20.400   | 0.927      | 0.074      | 0.940      | 0.000     | 3.174     |
| %RSD |          | 1.779      | 4.072    | 3.524    | 1.602      | 1.729      | 10.320     | 0.000     | 1.698     |
| Run  | Time     | 89Y        | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag      | 111Cd     | 114Cd     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 23:07:10 | 140.526%   | 17.770   | 20.890   | 48.483%    | 4.900      | 4.756      | 4.201     | 5.420     |
| 2    | 23:07:18 | 143.476%   | 17.400   | 21.210   | 48.902%    | 5.046      | 4.940      | 3.982     | 5.307     |
| 3    | 23:07:26 | 143.944%   | 17.360   | 20.880   | 50.395%    | 4.634      | 5.084      | 4.687     | 5.477     |
| X    |          | 142.649%   | 17.510   | 20.990   | 49.260%    | 4.860      | 4.927      | 4.290     | 5.401     |
| σ    |          | 1.853%     | 0.224    | 0.186    | 1.005%     | 0.209      | 0.164      | 0.361     | 0.087     |
| %RSD |          | 1.299      | 1.281    | 0.884    | 2.040      | 4.299      | 3.337      | 8.417     | 1.609     |
| Run  | Time     | 115In      | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba      | 159Tb     | 165Ho     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 23:07:10 | 57.027%    | 64.600   | 0.809    | 0.532      | 398.400    | 395.400    | 77.211%   | 79.062%   |
| 2    | 23:07:18 | 56.897%    | 68.740   | 0.800    | 0.585      | 400.800    | 406.300    | 78.325%   | 79.214%   |
| 3    | 23:07:26 | 57.811%    | 66.550   | 0.814    | 0.533      | 394.000    | 400.500    | 78.800%   | 81.181%   |
| X    |          | 57.245%    | 66.630   | 0.808    | 0.550      | 397.800    | 400.700    | 78.112%   | 79.819%   |
| σ    |          | 0.495%     | 2.071    | 0.007    | 0.030      | 3.462      | 5.454      | 0.815%    | 1.182%    |
| %RSD |          | 0.864      | 3.108    | 0.911    | 5.478      | 0.871      | 1.361      | 1.044     | 1.481     |
| Run  | Time     | 203Tl      | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi      |           |           |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        |           |           |
| 1    | 23:07:10 | 3.055      | 2.962    | 414.200  | 376.900    | 400.900    | 51.792%    |           |           |
| 2    | 23:07:18 | 2.809      | 2.895    | 419.200  | 380.700    | 401.700    | 52.432%    |           |           |
| 3    | 23:07:26 | 2.722      | 2.961    | 414.700  | 375.200    | 400.100    | 53.003%    |           |           |
| X    |          | 2.862      | 2.939    | 416.000  | 377.600    | 400.900    | 52.409%    |           |           |
| σ    |          | 0.173      | 0.038    | 2.766    | 2.797      | 0.793      | 0.606%     |           |           |
| %RSD |          | 6.037      | 1.298    | 0.665    | 0.741      | 0.198      | 1.156      |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li        | 9Be      | 10B      | 11B        | 13C        | 23Na      | 25Mg      | 26Mg      |
|------|----------|------------|----------|----------|------------|------------|-----------|-----------|-----------|
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 23:12:15 | 81.943%    | 7.578    | 313.100  | 296.700    | 0.000      | 81740.000 | 86320.000 | 84130.000 |
| 2    | 23:12:23 | 72.640%    | 8.396    | 348.900  | 338.900    | 0.000      | 91260.000 | 96810.000 | 95290.000 |
| 3    | 23:12:30 | 83.744%    | 7.417    | 302.600  | 282.800    | 0.000      | 82860.000 | 89640.000 | 90760.000 |
| X    |          | 79.442%    | 7.797    | 321.500  | 306.100    | 0.000      | 85290.000 | 90930.000 | 90060.000 |
| σ    |          | 5.959%     | 0.525    | 24.300   | 29.230     | 0.000      | 5200.000  | 5363.000  | 5612.000  |
| %RSD |          | 7.501      | 6.733    | 7.558    | 9.547      | 0.000      | 6.097     | 5.899     | 6.231     |
| Run  | Time     | 27Al       | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 23:12:15 | 146200.000 | 1614.000 | 0.000    | 40480.000  | 61490.000  | 66670.000 | 99.671%   | 8144.000  |
| 2    | 23:12:23 | 162300.000 | 1842.000 | 0.000    | 43280.000  | 62960.000  | 68890.000 | 94.234%   | 8244.000  |
| 3    | 23:12:30 | 152700.000 | 1600.000 | 0.000    | 42440.000  | 62820.000  | 67780.000 | 92.152%   | 8600.000  |
| X    |          | 153800.000 | 1685.000 | 0.000    | 42070.000  | 62430.000  | 67780.000 | 95.353%   | 8329.000  |
| σ    |          | 8065.000   | 135.800  | 0.000    | 1437.000   | 809.600    | 1106.000  | 3.882%    | 240.000   |
| %RSD |          | 5.245      | 8.061    | 0.000    | 3.416      | 1.297      | 1.631     | 4.072     | 2.881     |
| Run  | Time     | 51V        | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 23:12:15 | 398.500    | 438.200  | 3421.000 | 220700.000 | 215100.000 | 57.730    | 157.900   | 198.300   |
| 2    | 23:12:23 | 417.600    | 461.700  | 3503.000 | 227800.000 | 224200.000 | 60.550    | 170.200   | 209.600   |
| 3    | 23:12:30 | 424.100    | 466.300  | 3641.000 | 230300.000 | 226800.000 | 63.090    | 171.200   | 215.900   |
| X    |          | 413.400    | 455.400  | 3522.000 | 226300.000 | 222000.000 | 60.460    | 166.400   | 207.900   |
| σ    |          | 13.300     | 15.080   | 111.400  | 4988.000   | 6157.000   | 2.682     | 7.369     | 8.913     |
| %RSD |          | 3.217      | 3.312    | 3.164    | 2.205      | 2.773      | 4.436     | 4.428     | 4.286     |
| Run  | Time     | 65Cu       | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 23:12:15 | 200.500    | 671.500  | 649.400  | 66.930     | 4.942      | 7.984     | 0.000     | 155.800   |
| 2    | 23:12:23 | 210.700    | 702.500  | 687.000  | 67.630     | 5.209      | 11.730    | 0.000     | 160.800   |
| 3    | 23:12:30 | 210.000    | 718.700  | 707.400  | 70.280     | 4.557      | 6.532     | 0.000     | 163.100   |
| X    |          | 207.100    | 697.600  | 681.300  | 68.280     | 4.903      | 8.749     | 0.000     | 159.900   |
| σ    |          | 5.680      | 24.000   | 29.400   | 1.766      | 0.328      | 2.684     | 0.000     | 3.707     |
| %RSD |          | 2.742      | 3.441    | 4.315    | 2.587      | 6.689      | 30.670    | 0.000     | 2.318     |
| Run  | Time     | 89Y        | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 23:12:15 | 156.553%   | 16.540   | 20.770   | 48.639%    | 7.253      | 7.325     | 6.033     | 7.605     |
| 2    | 23:12:23 | 154.982%   | 16.910   | 20.970   | 48.504%    | 7.524      | 6.974     | 6.052     | 7.466     |
| 3    | 23:12:30 | 153.916%   | 16.460   | 20.950   | 48.450%    | 7.509      | 7.653     | 6.434     | 7.708     |
| X    |          | 155.150%   | 16.640   | 20.900   | 48.531%    | 7.428      | 7.318     | 6.173     | 7.593     |
| σ    |          | 1.327%     | 0.239    | 0.115    | 0.097%     | 0.152      | 0.340     | 0.226     | 0.121     |
| %RSD |          | 0.855      | 1.439    | 0.549    | 0.200      | 2.049      | 4.642     | 3.666     | 1.599     |
| Run  | Time     | 115In      | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 23:12:15 | 56.203%    | 78.510   | 1.433    | 1.091      | 487.300    | 473.900   | 77.120%   | 78.816%   |
| 2    | 23:12:23 | 56.005%    | 77.240   | 1.483    | 1.291      | 479.700    | 474.400   | 78.898%   | 79.298%   |
| 3    | 23:12:30 | 57.294%    | 79.390   | 1.165    | 1.275      | 469.500    | 465.000   | 78.454%   | 80.602%   |
| X    |          | 56.501%    | 78.380   | 1.360    | 1.219      | 478.800    | 471.100   | 78.157%   | 79.572%   |
| σ    |          | 0.694%     | 1.080    | 0.171    | 0.112      | 8.937      | 5.301     | 0.925%    | 0.924%    |
| %RSD |          | 1.229      | 1.377    | 12.550   | 9.142      | 1.867      | 1.125     | 1.184     | 1.161     |
| Run  | Time     | 203Tl      | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi     |           |           |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       |           |           |
| 1    | 23:12:15 | 2.909      | 3.092    | 618.400  | 561.500    | 596.000    | 50.248%   |           |           |
| 2    | 23:12:23 | 2.901      | 3.029    | 616.800  | 567.500    | 595.800    | 50.761%   |           |           |
| 3    | 23:12:30 | 2.988      | 3.005    | 614.900  | 566.600    | 595.000    | 51.559%   |           |           |
| X    |          | 2.933      | 3.042    | 616.700  | 565.200    | 595.600    | 50.856%   |           |           |
| σ    |          | 0.048      | 0.045    | 1.756    | 3.263      | 0.541      | 0.661%    |           |           |
| %RSD |          | 1.638      | 1.485    | 0.285    | 0.577      | 0.091      | 1.299     |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li        | 9Be      | 10B      | 11B        | 13C        | 23Na       | 25Mg      | 26Mg      |
|------|----------|------------|----------|----------|------------|------------|------------|-----------|-----------|
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 23:17:21 | 70.160%    | 8.795    | 366.700  | 360.800    | 0.000      | 105600.000 | 96160.000 | 95370.000 |
| 2    | 23:17:29 | 70.152%    | 9.171    | 370.700  | 370.400    | 0.000      | 108900.000 | 97810.000 | 97200.000 |
| 3    | 23:17:36 | 79.252%    | 8.134    | 335.900  | 325.900    | 0.000      | 99840.000  | 89500.000 | 90660.000 |
| X    |          | 73.188%    | 8.700    | 357.800  | 352.400    | 0.000      | 104800.000 | 94490.000 | 94410.000 |
| σ    |          | 5.252%     | 0.525    | 19.070   | 23.430     | 0.000      | 4581.000   | 4403.000  | 3375.000  |
| %RSD |          | 7.176      | 6.036    | 5.331    | 6.650      | 0.000      | 4.372      | 4.660     | 3.575     |
| Run  | Time     | 27Al       | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca       | 45Sc      | 47Ti      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 23:17:21 | 170000.000 | 1837.000 | 0.000    | 43030.000  | 51630.000  | 57810.000  | 96.762%   | 8544.000  |
| 2    | 23:17:29 | 177200.000 | 1862.000 | 0.000    | 46970.000  | 53880.000  | 56250.000  | 92.593%   | 8577.000  |
| 3    | 23:17:36 | 162500.000 | 1757.000 | 0.000    | 46210.000  | 53360.000  | 57550.000  | 92.826%   | 8797.000  |
| X    |          | 169900.000 | 1819.000 | 0.000    | 45400.000  | 52960.000  | 57200.000  | 94.060%   | 8639.000  |
| σ    |          | 7332.000   | 54.740   | 0.000    | 2090.000   | 1180.000   | 832.900    | 2.343%    | 137.400   |
| %RSD |          | 4.316      | 3.009    | 0.000    | 4.603      | 2.227      | 1.456      | 2.491     | 1.590     |
| Run  | Time     | 51V        | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co       | 60Ni      | 63Cu      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 23:17:21 | 397.900    | 428.200  | 3016.000 | 221200.000 | 214400.000 | 59.460     | 166.800   | 203.300   |
| 2    | 23:17:29 | 418.300    | 460.000  | 3124.000 | 228700.000 | 219700.000 | 59.420     | 168.800   | 208.500   |
| 3    | 23:17:36 | 422.800    | 457.500  | 3172.000 | 224300.000 | 219100.000 | 62.910     | 174.700   | 207.300   |
| X    |          | 413.000    | 448.600  | 3104.000 | 224700.000 | 217800.000 | 60.600     | 170.100   | 206.400   |
| σ    |          | 13.260     | 17.670   | 79.700   | 3750.000   | 2891.000   | 2.001      | 4.093     | 2.726     |
| %RSD |          | 3.212      | 3.939    | 2.568    | 1.669      | 1.328      | 3.302      | 2.406     | 1.321     |
| Run  | Time     | 65Cu       | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se       | 83Kr      | 88Sr      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 23:17:21 | 197.200    | 695.400  | 675.900  | 69.760     | 4.981      | 11.620     | 0.000     | 186.800   |
| 2    | 23:17:29 | 202.500    | 712.800  | 688.800  | 70.300     | 4.775      | 10.520     | 0.000     | 187.000   |
| 3    | 23:17:36 | 204.900    | 721.200  | 708.100  | 71.380     | 4.396      | 8.566      | 0.000     | 186.200   |
| X    |          | 201.500    | 709.800  | 691.000  | 70.480     | 4.717      | 10.240     | 0.000     | 186.700   |
| σ    |          | 3.974      | 13.130   | 16.190   | 0.823      | 0.296      | 1.546      | 0.000     | 0.429     |
| %RSD |          | 1.972      | 1.849    | 2.342    | 1.167      | 6.283      | 15.100     | 0.000     | 0.230     |
| Run  | Time     | 89Y        | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag      | 111Cd     | 114Cd     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 23:17:21 | 154.325%   | 17.580   | 21.510   | 46.807%    | 6.697      | 6.787      | 5.657     | 7.353     |
| 2    | 23:17:29 | 156.372%   | 17.320   | 22.040   | 47.285%    | 6.759      | 6.647      | 5.810     | 6.930     |
| 3    | 23:17:36 | 156.220%   | 18.070   | 21.820   | 48.258%    | 6.524      | 7.191      | 5.165     | 7.114     |
| X    |          | 155.639%   | 17.660   | 21.790   | 47.450%    | 6.660      | 6.875      | 5.544     | 7.132     |
| σ    |          | 1.140%     | 0.385    | 0.267    | 0.739%     | 0.122      | 0.283      | 0.337     | 0.212     |
| %RSD |          | 0.733      | 2.182    | 1.225    | 1.558      | 1.825      | 4.115      | 6.073     | 2.974     |
| Run  | Time     | 115In      | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba      | 159Tb     | 165Ho     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 23:17:21 | 55.623%    | 75.600   | 1.244    | 0.944      | 477.400    | 479.700    | 75.927%   | 77.360%   |
| 2    | 23:17:29 | 55.950%    | 77.500   | 1.096    | 0.959      | 476.600    | 476.100    | 78.563%   | 78.651%   |
| 3    | 23:17:36 | 56.286%    | 77.540   | 1.045    | 0.811      | 481.600    | 467.900    | 75.661%   | 78.847%   |
| X    |          | 55.953%    | 76.880   | 1.128    | 0.904      | 478.500    | 474.600    | 76.717%   | 78.286%   |
| σ    |          | 0.331%     | 1.108    | 0.103    | 0.081      | 2.663      | 6.011      | 1.604%    | 0.808%    |
| %RSD |          | 0.592      | 1.442    | 9.150    | 8.964      | 0.556      | 1.267      | 2.091     | 1.032     |
| Run  | Time     | 203Tl      | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi      |           |           |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        |           |           |
| 1    | 23:17:21 | 3.365      | 3.395    | 533.000  | 483.000    | 512.600    | 49.255%    |           |           |
| 2    | 23:17:29 | 3.494      | 3.281    | 531.700  | 483.900    | 511.800    | 50.246%    |           |           |
| 3    | 23:17:36 | 3.476      | 3.281    | 532.500  | 489.000    | 513.900    | 50.650%    |           |           |
| X    |          | 3.445      | 3.319    | 532.400  | 485.300    | 512.800    | 50.050%    |           |           |
| σ    |          | 0.070      | 0.066    | 0.667    | 3.240      | 1.076      | 0.718%     |           |           |
| %RSD |          | 2.031      | 1.989    | 0.125    | 0.668      | 0.210      | 1.435      |           |           |



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User Pre-dilution: 1.000

| Run  | Time     | 6Li        | 9Be      | 10B      | 11B        | 13C        | 23Na       | 25Mg       | 26Mg       |
|------|----------|------------|----------|----------|------------|------------|------------|------------|------------|
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb        | ppb        |
| 1    | 23:22:27 | 68.686%    | 9.760    | 446.600  | 443.900    | 0.000      | 100200.000 | 106000.000 | 103500.000 |
| 2    | 23:22:35 | 81.201%    | 8.392    | 368.200  | 380.500    | 0.000      | 89660.000  | 95010.000  | 95180.000  |
| 3    | 23:22:42 | 70.370%    | 9.768    | 438.900  | 430.300    | 0.000      | 100600.000 | 103400.000 | 102200.000 |
| X    |          | 73.419%    | 9.307    | 417.900  | 418.200    | 0.000      | 96820.000  | 101500.000 | 100300.000 |
| σ    |          | 6.792%     | 0.793    | 43.230   | 33.360     | 0.000      | 6201.000   | 5749.000   | 4480.000   |
| %RSD |          | 9.251      | 8.516    | 10.340   | 7.977      | 0.000      | 6.404      | 5.665      | 4.467      |
| Run  | Time     | 27Al       | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca       | 45Sc       | 47Ti       |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb        | ppb        |
| 1    | 23:22:27 | 185800.000 | 1831.000 | 0.000    | 48670.000  | 57660.000  | 63960.000  | 97.798%    | 9014.000   |
| 2    | 23:22:35 | 174600.000 | 1755.000 | 0.000    | 50060.000  | 63140.000  | 65870.000  | 95.683%    | 9089.000   |
| 3    | 23:22:42 | 182500.000 | 1869.000 | 0.000    | 51430.000  | 61590.000  | 65040.000  | 97.076%    | 9349.000   |
| X    |          | 181000.000 | 1818.000 | 0.000    | 50050.000  | 60800.000  | 64960.000  | 96.852%    | 9151.000   |
| σ    |          | 5770.000   | 57.840   | 0.000    | 1380.000   | 2823.000   | 956.500    | 1.075%     | 175.900    |
| %RSD |          | 3.188      | 3.181    | 0.000    | 2.756      | 4.644      | 1.473      | 1.110      | 1.922      |
| Run  | Time     | 51V        | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co       | 60Ni       | 63Cu       |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb        | ppb        |
| 1    | 23:22:27 | 443.500    | 486.300  | 3141.000 | 227700.000 | 219800.000 | 59.610     | 169.000    | 214.000    |
| 2    | 23:22:35 | 444.700    | 481.100  | 3262.000 | 231800.000 | 220600.000 | 60.480     | 173.400    | 219.700    |
| 3    | 23:22:42 | 428.900    | 481.800  | 3316.000 | 229500.000 | 227300.000 | 61.220     | 171.200    | 218.700    |
| X    |          | 439.100    | 483.100  | 3240.000 | 229700.000 | 222600.000 | 60.440     | 171.200    | 217.400    |
| σ    |          | 8.790      | 2.862    | 89.320   | 2096.000   | 4156.000   | 0.807      | 2.166      | 3.029      |
| %RSD |          | 2.002      | 0.593    | 2.757    | 0.913      | 1.867      | 1.336      | 1.265      | 1.393      |
| Run  | Time     | 65Cu       | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se       | 83Kr       | 88Sr       |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb        | ppb        |
| 1    | 23:22:27 | 213.600    | 669.400  | 677.900  | 65.610     | 4.512      | 10.730     | 0.000      | 195.100    |
| 2    | 23:22:35 | 218.000    | 688.000  | 675.700  | 67.800     | 4.640      | 10.010     | 0.000      | 196.400    |
| 3    | 23:22:42 | 212.400    | 674.700  | 665.000  | 66.450     | 4.392      | 10.260     | 0.000      | 193.500    |
| X    |          | 214.700    | 677.400  | 672.900  | 66.620     | 4.514      | 10.330     | 0.000      | 195.000    |
| σ    |          | 2.953      | 9.590    | 6.884    | 1.107      | 0.124      | 0.367      | 0.000      | 1.451      |
| %RSD |          | 1.376      | 1.416    | 1.023    | 1.661      | 2.746      | 3.549      | 0.000      | 0.744      |
| Run  | Time     | 89Y        | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag      | 111Cd      | 114Cd      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb        | ppb        |
| 1    | 23:22:27 | 154.443%   | 19.980   | 23.330   | 46.263%    | 7.270      | 6.729      | 5.666      | 6.826      |
| 2    | 23:22:35 | 155.848%   | 18.890   | 23.830   | 46.197%    | 7.458      | 7.173      | 5.578      | 6.562      |
| 3    | 23:22:42 | 159.188%   | 19.370   | 24.300   | 47.536%    | 7.513      | 6.943      | 5.355      | 7.361      |
| X    |          | 156.493%   | 19.410   | 23.820   | 46.666%    | 7.414      | 6.949      | 5.533      | 6.916      |
| σ    |          | 2.437%     | 0.543    | 0.487    | 0.755%     | 0.127      | 0.222      | 0.160      | 0.407      |
| %RSD |          | 1.557      | 2.798    | 2.046    | 1.617      | 1.717      | 3.198      | 2.898      | 5.884      |
| Run  | Time     | 115In      | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba      | 159Tb      | 165Ho      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb        | ppb        |
| 1    | 23:22:27 | 54.489%    | 80.200   | 1.240    | 1.228      | 510.700    | 513.000    | 75.521%    | 76.801%    |
| 2    | 23:22:35 | 55.926%    | 80.280   | 0.963    | 0.815      | 507.700    | 514.100    | 76.646%    | 78.358%    |
| 3    | 23:22:42 | 55.760%    | 81.700   | 1.032    | 1.018      | 522.100    | 522.000    | 77.843%    | 78.481%    |
| X    |          | 55.392%    | 80.730   | 1.078    | 1.020      | 513.500    | 516.400    | 76.670%    | 77.880%    |
| σ    |          | 0.786%     | 0.842    | 0.144    | 0.206      | 7.578      | 4.937      | 1.161%     | 0.937%     |
| %RSD |          | 1.419      | 1.043    | 13.400   | 20.240     | 1.476      | 0.956      | 1.514      | 1.203      |
| Run  | Time     | 203Tl      | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi      |            |            |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        |            |            |
| 1    | 23:22:27 | 3.480      | 3.539    | 587.400  | 540.300    | 571.100    | 49.126%    |            |            |
| 2    | 23:22:35 | 3.710      | 3.458    | 595.300  | 539.800    | 573.100    | 50.016%    |            |            |
| 3    | 23:22:42 | 3.535      | 3.439    | 588.100  | 537.900    | 571.000    | 50.620%    |            |            |
| X    |          | 3.575      | 3.479    | 590.300  | 539.300    | 571.700    | 49.921%    |            |            |
| σ    |          | 0.121      | 0.053    | 4.389    | 1.291      | 1.153      | 0.752%     |            |            |
| %RSD |          | 3.372      | 1.518    | 0.744    | 0.239      | 0.202      | 1.506      |            |            |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li        | 9Be      | 10B      | 11B        | 13C        | 23Na      | 25Mg      | 26Mg      |
|------|----------|------------|----------|----------|------------|------------|-----------|-----------|-----------|
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 23:27:32 | 82.022%    | 7.779    | 310.700  | 309.200    | 0.000      | 95460.000 | 83980.000 | 84290.000 |
| 2    | 23:27:39 | 82.932%    | 7.703    | 309.800  | 302.100    | 0.000      | 97120.000 | 85320.000 | 84900.000 |
| 3    | 23:27:47 | 82.232%    | 7.563    | 307.000  | 307.900    | 0.000      | 99690.000 | 86650.000 | 85450.000 |
| X    |          | 82.395%    | 7.682    | 309.200  | 306.400    | 0.000      | 97420.000 | 85320.000 | 84880.000 |
| σ    |          | 0.477%     | 0.110    | 1.925    | 3.753      | 0.000      | 2129.000  | 1334.000  | 580.700   |
| %RSD |          | 0.579      | 1.426    | 0.623    | 1.225      | 0.000      | 2.185     | 1.563     | 0.684     |
| Run  | Time     | 27Al       | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 23:27:32 | 154700.000 | 1588.000 | 0.000    | 43270.000  | 43540.000  | 47400.000 | 99.803%   | 8345.000  |
| 2    | 23:27:39 | 159100.000 | 1617.000 | 0.000    | 43530.000  | 44860.000  | 48510.000 | 99.976%   | 8526.000  |
| 3    | 23:27:47 | 168200.000 | 1636.000 | 0.000    | 45900.000  | 47560.000  | 48620.000 | 95.839%   | 8864.000  |
| X    |          | 160700.000 | 1614.000 | 0.000    | 44230.000  | 45320.000  | 48180.000 | 98.539%   | 8578.000  |
| σ    |          | 6890.000   | 24.310   | 0.000    | 1452.000   | 2052.000   | 673.900   | 2.340%    | 263.300   |
| %RSD |          | 4.288      | 1.506    | 0.000    | 3.283      | 4.527      | 1.399     | 2.375     | 3.070     |
| Run  | Time     | 51V        | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 23:27:32 | 409.200    | 452.900  | 2948.000 | 220200.000 | 212600.000 | 55.280    | 158.000   | 212.600   |
| 2    | 23:27:39 | 422.500    | 471.400  | 2920.000 | 216900.000 | 211100.000 | 55.090    | 157.200   | 217.700   |
| 3    | 23:27:47 | 435.600    | 486.800  | 3025.000 | 229300.000 | 219300.000 | 58.430    | 167.000   | 215.400   |
| X    |          | 422.400    | 470.400  | 2964.000 | 222100.000 | 214300.000 | 56.270    | 160.700   | 215.200   |
| σ    |          | 13.190     | 16.970   | 54.550   | 6431.000   | 4382.000   | 1.876     | 5.458     | 2.540     |
| %RSD |          | 3.121      | 3.609    | 1.840    | 2.895      | 2.045      | 3.334     | 3.396     | 1.180     |
| Run  | Time     | 65Cu       | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 23:27:32 | 211.300    | 660.000  | 650.900  | 73.800     | 5.464      | 9.527     | 0.000     | 198.300   |
| 2    | 23:27:39 | 217.300    | 677.500  | 666.900  | 73.650     | 4.817      | 10.490    | 0.000     | 200.300   |
| 3    | 23:27:47 | 216.700    | 678.300  | 656.100  | 74.240     | 4.741      | 9.908     | 0.000     | 196.800   |
| X    |          | 215.100    | 671.900  | 658.000  | 73.900     | 5.007      | 9.976     | 0.000     | 198.400   |
| σ    |          | 3.331      | 10.310   | 8.175    | 0.307      | 0.397      | 0.486     | 0.000     | 1.751     |
| %RSD |          | 1.549      | 1.535    | 1.243    | 0.415      | 7.933      | 4.875     | 0.000     | 0.883     |
| Run  | Time     | 89Y        | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 23:27:32 | 151.074%   | 18.270   | 21.840   | 48.185%    | 7.615      | 7.648     | 4.593     | 7.029     |
| 2    | 23:27:39 | 150.252%   | 18.430   | 22.250   | 49.212%    | 7.735      | 7.466     | 4.951     | 6.862     |
| 3    | 23:27:47 | 158.927%   | 17.920   | 22.910   | 49.807%    | 7.484      | 7.426     | 5.568     | 6.865     |
| X    |          | 153.418%   | 18.210   | 22.330   | 49.068%    | 7.611      | 7.513     | 5.037     | 6.919     |
| σ    |          | 4.789%     | 0.262    | 0.541    | 0.821%     | 0.126      | 0.118     | 0.493     | 0.095     |
| %RSD |          | 3.122      | 1.440    | 2.423    | 1.673      | 1.652      | 1.575     | 9.792     | 1.379     |
| Run  | Time     | 115In      | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 23:27:32 | 54.975%    | 80.510   | 1.612    | 1.334      | 486.300    | 494.900   | 77.533%   | 78.814%   |
| 2    | 23:27:39 | 56.795%    | 81.580   | 1.358    | 1.222      | 496.700    | 489.600   | 78.092%   | 78.809%   |
| 3    | 23:27:47 | 57.711%    | 80.140   | 1.364    | 1.199      | 483.700    | 489.000   | 78.847%   | 79.718%   |
| X    |          | 56.494%    | 80.740   | 1.445    | 1.252      | 488.900    | 491.200   | 78.157%   | 79.114%   |
| σ    |          | 1.393%     | 0.748    | 0.144    | 0.072      | 6.865      | 3.211     | 0.660%    | 0.523%    |
| %RSD |          | 2.465      | 0.926    | 10.010   | 5.767      | 1.404      | 0.654     | 0.844     | 0.661     |
| Run  | Time     | 203Tl      | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi     |           |           |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       |           |           |
| 1    | 23:27:32 | 3.180      | 3.225    | 603.700  | 553.800    | 586.000    | 50.607%   |           |           |
| 2    | 23:27:39 | 3.038      | 3.213    | 606.700  | 557.300    | 586.200    | 51.358%   |           |           |
| 3    | 23:27:47 | 3.450      | 3.412    | 603.000  | 548.400    | 581.300    | 52.027%   |           |           |
| X    |          | 3.223      | 3.283    | 604.500  | 553.200    | 584.500    | 51.331%   |           |           |
| σ    |          | 0.209      | 0.112    | 1.966    | 4.503      | 2.793      | 0.711%    |           |           |
| %RSD |          | 6.497      | 3.399    | 0.325    | 0.814      | 0.478      | 1.384     |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li        | 9Be      | 10B      | 11B        | 13C        | 23Na      | 25Mg      | 26Mg      |
|------|----------|------------|----------|----------|------------|------------|-----------|-----------|-----------|
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 23:32:38 | 87.247%    | 7.470    | 273.000  | 270.400    | 0.000      | 76570.000 | 77580.000 | 75770.000 |
| 2    | 23:32:46 | 85.192%    | 7.657    | 266.000  | 261.000    | 0.000      | 78820.000 | 79300.000 | 78570.000 |
| 3    | 23:32:53 | 83.495%    | 7.743    | 284.200  | 275.500    | 0.000      | 81710.000 | 81170.000 | 80600.000 |
| X    |          | 85.311%    | 7.623    | 274.400  | 269.000    | 0.000      | 79040.000 | 79350.000 | 78310.000 |
| σ    |          | 1.879%     | 0.140    | 9.216    | 7.358      | 0.000      | 2574.000  | 1795.000  | 2429.000  |
| %RSD |          | 2.203      | 1.831    | 3.359    | 2.736      | 0.000      | 3.257     | 2.262     | 3.102     |
| Run  | Time     | 27Al       | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 23:32:38 | 154700.000 | 1947.000 | 0.000    | 41200.000  | 37500.000  | 39730.000 | 104.060%  | 8295.000  |
| 2    | 23:32:46 | 158500.000 | 2040.000 | 0.000    | 43980.000  | 39610.000  | 40830.000 | 101.432%  | 8645.000  |
| 3    | 23:32:53 | 162300.000 | 1965.000 | 0.000    | 44140.000  | 39300.000  | 40520.000 | 99.304%   | 8577.000  |
| X    |          | 158500.000 | 1984.000 | 0.000    | 43110.000  | 38800.000  | 40360.000 | 101.598%  | 8506.000  |
| σ    |          | 3800.000   | 49.290   | 0.000    | 1649.000   | 1140.000   | 571.000   | 2.382%    | 185.700   |
| %RSD |          | 2.397      | 2.484    | 0.000    | 3.826      | 2.938      | 1.415     | 2.345     | 2.184     |
| Run  | Time     | 51V        | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 23:32:38 | 398.800    | 434.500  | 2518.000 | 207400.000 | 197200.000 | 53.070    | 153.300   | 204.100   |
| 2    | 23:32:46 | 401.700    | 446.200  | 2573.000 | 207600.000 | 201500.000 | 54.430    | 155.700   | 206.500   |
| 3    | 23:32:53 | 415.800    | 454.100  | 2585.000 | 207200.000 | 205500.000 | 55.010    | 156.500   | 209.400   |
| X    |          | 405.400    | 444.900  | 2558.000 | 207400.000 | 201400.000 | 54.170    | 155.200   | 206.600   |
| σ    |          | 9.091      | 9.833    | 35.550   | 187.700    | 4154.000   | 0.996     | 1.655     | 2.647     |
| %RSD |          | 2.242      | 2.210    | 1.389    | 0.090      | 2.062      | 1.839     | 1.066     | 1.281     |
| Run  | Time     | 65Cu       | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 23:32:38 | 202.900    | 638.400  | 627.900  | 66.310     | 4.379      | 9.559     | 0.000     | 182.100   |
| 2    | 23:32:46 | 200.800    | 635.500  | 618.000  | 67.760     | 5.256      | 10.650    | 0.000     | 180.400   |
| 3    | 23:32:53 | 207.100    | 641.200  | 639.700  | 66.790     | 5.091      | 7.533     | 0.000     | 177.600   |
| X    |          | 203.600    | 638.400  | 628.500  | 66.950     | 4.909      | 9.248     | 0.000     | 180.000   |
| σ    |          | 3.188      | 2.838    | 10.890   | 0.738      | 0.466      | 1.583     | 0.000     | 2.259     |
| %RSD |          | 1.566      | 0.445    | 1.733    | 1.102      | 9.495      | 17.110    | 0.000     | 1.255     |
| Run  | Time     | 89Y        | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 23:32:38 | 154.208%   | 18.090   | 22.850   | 50.122%    | 7.214      | 6.853     | 4.885     | 6.536     |
| 2    | 23:32:46 | 156.865%   | 17.540   | 22.170   | 50.704%    | 7.002      | 6.647     | 4.884     | 5.925     |
| 3    | 23:32:53 | 160.961%   | 17.970   | 21.680   | 50.105%    | 7.408      | 6.985     | 4.346     | 5.946     |
| X    |          | 157.345%   | 17.870   | 22.230   | 50.310%    | 7.208      | 6.828     | 4.705     | 6.135     |
| σ    |          | 3.402%     | 0.290    | 0.590    | 0.341%     | 0.203      | 0.170     | 0.311     | 0.347     |
| %RSD |          | 2.162      | 1.621    | 2.653    | 0.678      | 2.813      | 2.495     | 6.604     | 5.653     |
| Run  | Time     | 115In      | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       | ppb       | ppb       |
| 1    | 23:32:38 | 57.005%    | 76.630   | 1.286    | 1.204      | 467.400    | 479.600   | 78.189%   | 79.949%   |
| 2    | 23:32:46 | 57.420%    | 77.130   | 1.314    | 1.546      | 466.800    | 477.800   | 79.000%   | 79.436%   |
| 3    | 23:32:53 | 58.623%    | 76.240   | 1.191    | 1.368      | 471.300    | 479.500   | 80.383%   | 81.567%   |
| X    |          | 57.683%    | 76.660   | 1.264    | 1.373      | 468.500    | 479.000   | 79.191%   | 80.317%   |
| σ    |          | 0.840%     | 0.449    | 0.064    | 0.171      | 2.475      | 0.993     | 1.110%    | 1.112%    |
| %RSD |          | 1.457      | 0.586    | 5.076    | 12.470     | 0.528      | 0.207     | 1.401     | 1.384     |
| Run  | Time     | 203Tl      | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi     |           |           |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb       |           |           |
| 1    | 23:32:38 | 2.778      | 2.911    | 569.200  | 526.100    | 553.900    | 50.757%   |           |           |
| 2    | 23:32:46 | 2.995      | 2.875    | 570.300  | 520.200    | 555.000    | 51.423%   |           |           |
| 3    | 23:32:53 | 3.185      | 2.991    | 575.500  | 523.700    | 554.000    | 52.109%   |           |           |
| X    |          | 2.986      | 2.925    | 571.700  | 523.300    | 554.300    | 51.429%   |           |           |
| σ    |          | 0.204      | 0.059    | 3.363    | 2.967      | 0.619      | 0.676%    |           |           |
| %RSD |          | 6.822      | 2.025    | 0.588    | 0.567      | 0.112      | 1.314     |           |           |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be      | 10B      | 11B       | 13C       | 23Na      | 25Mg      | 26Mg      |
|------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 23:42:50 | 133.227% | 72.640   | 68.780   | 67.440    | 0.000     | 47730.000 | 49400.000 | 50470.000 |
| 2    | 23:42:58 | 132.129% | 74.820   | 71.910   | 67.370    | 0.000     | 44960.000 | 50620.000 | 48620.000 |
| 3    | 23:43:06 | 132.051% | 74.990   | 70.330   | 66.830    | 0.000     | 50080.000 | 50340.000 | 51480.000 |
| X    |          | 132.469% | 74.150%  | 70.337%  | 67.214%   | 0.000     | 95.173%   | 100.237%  | 100.374%  |
| σ    |          | 0.657%   | n/a      | n/a      | n/a       | 0.000     | n/a       | n/a       | n/a       |
| %RSD |          | 0.496    | 1.769    | 2.224    | 0.493     | 0.000     | 5.385     | 1.279     | 2.893     |
| Run  | Time     | 27Al     | 28Si     | 37Cl     | 39K       | 43Ca      | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 23:42:50 | 492.400  | 5327.000 | 0.000    | 59660.000 | 52110.000 | 57740.000 | 100.872%  | 109.300   |
| 2    | 23:42:58 | 552.200  | 5185.000 | 0.000    | 58220.000 | 53730.000 | 59530.000 | 99.202%   | 113.300   |
| 3    | 23:43:06 | 589.300  | 5453.000 | 0.000    | 60510.000 | 55400.000 | 60700.000 | 96.517%   | 114.300   |
| X    |          | 108.927% | 106.431% | 0.000    | 118.932%  | 107.487%  | 118.642%  | 98.864%   | 112.293%  |
| σ    |          | n/a      | n/a      | 0.000    | n/a       | n/a       | n/a       | 2.197%    | n/a       |
| %RSD |          | 8.979    | 2.517    | 0.000    | 1.949     | 3.064     | 2.513     | 2.222     | 2.374     |
| Run  | Time     | 51V      | 52Cr     | 55Mn     | 56Fe      | 57Fe      | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 23:42:50 | 89.330   | 89.820   | 548.400  | 24700.000 | 23300.000 | 92.910    | 97.190    | 101.200   |
| 2    | 23:42:58 | 90.260   | 92.380   | 558.100  | 24730.000 | 23190.000 | 92.850    | 97.400    | 102.200   |
| 3    | 23:43:06 | 90.350   | 92.560   | 602.300  | 25500.000 | 24940.000 | 98.850    | 103.200   | 104.300   |
| X    |          | 89.978%  | 91.591%  | 113.920% | 99.910%   | 95.236%   | 94.871%   | 99.253%   | 102.541%  |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | n/a       | n/a       | n/a       |
| %RSD |          | 0.628    | 1.673    | 5.050    | 1.810     | 4.120     | 3.636     | 3.415     | 1.545     |
| Run  | Time     | 65Cu     | 66Zn     | 68Zn     | 75As      | 78Se      | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 23:42:50 | 102.400  | 107.200  | 105.600  | 105.800   | 107.400   | 106.300   | 0.000     | 99.340    |
| 2    | 23:42:58 | 99.600   | 105.800  | 107.900  | 104.800   | 105.300   | 104.700   | 0.000     | 95.090    |
| 3    | 23:43:06 | 103.600  | 112.100  | 111.600  | 107.400   | 105.800   | 111.400   | 0.000     | 97.070    |
| X    |          | 101.881% | 108.360% | 108.404% | 105.984%  | 106.162%  | 107.487%  | 0.000     | 97.166%   |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | n/a       | 0.000     | n/a       |
| %RSD |          | 2.028    | 3.022    | 2.802    | 1.261     | 1.028     | 3.242     | 0.000     | 2.187     |
| Run  | Time     | 89Y      | 95Mo     | 98Mo     | 103Rh     | 107Ag     | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 23:42:50 | 82.478%  | 107.200  | 109.400  | 71.080%   | 102.700   | 103.500   | 105.900   | 107.400   |
| 2    | 23:42:58 | 85.224%  | 106.800  | 107.800  | 72.630%   | 102.500   | 101.300   | 101.400   | 107.000   |
| 3    | 23:43:06 | 85.769%  | 107.600  | 109.700  | 72.761%   | 104.000   | 103.400   | 105.500   | 106.000   |
| X    |          | 84.490%  | 107.181% | 108.967% | 72.157%   | 103.064%  | 102.726%  | 104.268%  | 106.802%  |
| σ    |          | 1.764%   | n/a      | n/a      | 0.935%    | n/a       | n/a       | n/a       | n/a       |
| %RSD |          | 2.088    | 0.379    | 0.927    | 1.296     | 0.803     | 1.190     | 2.396     | 0.650     |
| Run  | Time     | 115In    | 118Sn    | 121Sb    | 123Sb     | 135Ba     | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 23:42:50 | 76.341%  | 95.890   | 100.400  | 99.510    | 97.160    | 98.770    | 84.994%   | 84.951%   |
| 2    | 23:42:58 | 76.788%  | 98.890   | 102.100  | 100.700   | 98.030    | 104.100   | 86.737%   | 88.043%   |
| 3    | 23:43:06 | 78.804%  | 96.900   | 99.490   | 101.500   | 98.860    | 101.200   | 86.839%   | 88.895%   |
| X    |          | 77.311%  | 97.225%  | 100.663% | 100.566%  | 98.017%   | 101.371%  | 86.190%   | 87.296%   |
| σ    |          | 1.312%   | n/a      | n/a      | n/a       | n/a       | n/a       | 1.037%    | 2.075%    |
| %RSD |          | 1.697    | 1.569    | 1.328    | 0.981     | 0.868     | 2.649     | 1.203     | 2.377     |
| Run  | Time     | 203Tl    | 205Tl    | 206Pb    | 207Pb     | 208Pb     | 209Bi     |           |           |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       |           |           |
| 1    | 23:42:50 | 95.170   | 93.750   | 97.750   | 97.600    | 97.350    | 73.818%   |           |           |
| 2    | 23:42:58 | 93.730   | 94.240   | 96.500   | 96.350    | 96.360    | 73.997%   |           |           |
| 3    | 23:43:06 | 94.040   | 94.580   | 97.340   | 97.320    | 97.850    | 75.218%   |           |           |
| X    |          | 94.311%  | 94.189%  | 97.198%  | 97.087%   | 97.187%   | 74.344%   |           |           |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | 0.762%    |           |           |
| %RSD |          | 0.801    | 0.439    | 0.653    | 0.675     | 0.782     | 1.025     |           |           |

CCB7 5/1/2015 11:52:47 PM QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be     | 10B     | 11B     | 13C    | 23Na    | 25Mg     | 26Mg    |
|------|----------|----------|---------|---------|---------|--------|---------|----------|---------|
|      |          | ppb      | ppb     | ppb     | ppb     | ppb    | ppb     | ppb      | ppb     |
| 1    | 23:51:55 | 114.935% | 0.002   | 1.267   | 1.232   | 0.000  | 22.950  | 20.650   | 20.810  |
| 2    | 23:52:03 | 114.895% | -0.007  | 1.153   | 1.114   | 0.000  | 24.940  | 21.510   | 22.700  |
| 3    | 23:52:11 | 110.246% | 0.003   | 1.136   | 1.098   | 0.000  | 29.070  | 25.280   | 24.820  |
| X    |          | 113.359% | -0.001  | 1.185   | 1.148   | 0.000  | 25.650  | 22.480   | 22.780  |
| σ    |          | 2.696%   | 0.005   | 0.071   | 0.073   | 0.000  | 3.120   | 2.462    | 2.003   |
| %RSD |          | 2.378    | 704.400 | 6.003   | 6.402   | 0.000  | 12.160  | 10.950   | 8.793   |
| Run  | Time     | 27Al     | 28Si    | 37Cl    | 39K     | 43Ca   | 44Ca    | 45Sc     | 47Ti    |
|      |          | ppb      | ppb     | ppb     | ppb     | ppb    | ppb     | ppb      | ppb     |
| 1    | 23:51:55 | 6.540    | 18.810  | 0.000   | 24.770  | 23.850 | 25.640  | 119.242% | 0.503   |
| 2    | 23:52:03 | 6.899    | 15.700  | 0.000   | 25.250  | 20.710 | 23.180  | 117.950% | 0.659   |
| 3    | 23:52:11 | 7.880    | 12.020  | 0.000   | 26.150  | 23.460 | 23.300  | 111.450% | 0.602   |
| X    |          | 7.106    | 15.510  | 0.000   | 25.390  | 22.670 | 24.040  | 116.214% | 0.588   |
| σ    |          | 0.694    | 3.397   | 0.000   | 0.700   | 1.713  | 1.385   | 4.176%   | 0.079   |
| %RSD |          | 9.764    | 21.900  | 0.000   | 2.759   | 7.558  | 5.764   | 3.593    | 13.440  |
| Run  | Time     | 51V      | 52Cr    | 55Mn    | 56Fe    | 57Fe   | 59Co    | 60Ni     | 63Cu    |
|      |          | ppb      | ppb     | ppb     | ppb     | ppb    | ppb     | ppb      | ppb     |
| 1    | 23:51:55 | 0.028    | 0.060   | 0.513   | 26.090  | 23.820 | 0.067   | 0.072    | -0.022  |
| 2    | 23:52:03 | 0.043    | 0.055   | 0.473   | 25.510  | 22.630 | 0.051   | 0.072    | 0.030   |
| 3    | 23:52:11 | 0.097    | 0.079   | 0.444   | 29.250  | 29.910 | 0.066   | 0.038    | 0.009   |
| X    |          | 0.056    | 0.064   | 0.477   | 26.950  | 25.450 | 0.061   | 0.061    | 0.006   |
| σ    |          | 0.036    | 0.013   | 0.035   | 2.014   | 3.903  | 0.009   | 0.020    | 0.026   |
| %RSD |          | 65.380   | 19.690  | 7.295   | 7.471   | 15.340 | 15.130  | 32.170   | 459.100 |
| Run  | Time     | 65Cu     | 66Zn    | 68Zn    | 75As    | 78Se   | 82Se    | 83Kr     | 88Sr    |
|      |          | ppb      | ppb     | ppb     | ppb     | ppb    | ppb     | ppb      | ppb     |
| 1    | 23:51:55 | -0.009   | 0.213   | 0.019   | 0.070   | -0.007 | 0.050   | 0.000    | 0.106   |
| 2    | 23:52:03 | 0.051    | 0.052   | 0.219   | 0.090   | 0.113  | 0.337   | 0.000    | 0.090   |
| 3    | 23:52:11 | 0.026    | 0.279   | 0.270   | 0.055   | 0.094  | 0.170   | 0.000    | 0.131   |
| X    |          | 0.023    | 0.181   | 0.169   | 0.072   | 0.067  | 0.186   | 0.000    | 0.109   |
| σ    |          | 0.030    | 0.117   | 0.133   | 0.018   | 0.064  | 0.144   | 0.000    | 0.020   |
| %RSD |          | 132.200  | 64.460  | 78.530  | 24.700  | 96.270 | 77.740  | 0.000    | 18.720  |
| Run  | Time     | 89Y      | 95Mo    | 98Mo    | 103Rh   | 107Ag  | 109Ag   | 111Cd    | 114Cd   |
|      |          | ppb      | ppb     | ppb     | ppb     | ppb    | ppb     | ppb      | ppb     |
| 1    | 23:51:55 | 95.744%  | 0.325   | 0.360   | 90.593% | 0.029  | 0.008   | 0.045    | 0.053   |
| 2    | 23:52:03 | 96.633%  | 0.381   | 0.330   | 91.687% | 0.032  | 0.028   | 0.008    | 0.041   |
| 3    | 23:52:11 | 97.022%  | 0.367   | 0.272   | 91.417% | 0.020  | 0.027   | -0.004   | 0.032   |
| X    |          | 96.466%  | 0.358   | 0.321   | 91.232% | 0.027  | 0.021   | 0.016    | 0.042   |
| σ    |          | 0.655%   | 0.029   | 0.045   | 0.570%  | 0.007  | 0.011   | 0.026    | 0.010   |
| %RSD |          | 0.679    | 8.086   | 13.890  | 0.625   | 24.020 | 52.870  | 158.700  | 24.150  |
| Run  | Time     | 115In    | 118Sn   | 121Sb   | 123Sb   | 135Ba  | 137Ba   | 159Tb    | 165Ho   |
|      |          | ppb      | ppb     | ppb     | ppb     | ppb    | ppb     | ppb      | ppb     |
| 1    | 23:51:55 | 92.670%  | -0.451  | 0.010   | -0.223  | 0.020  | 0.132   | 96.337%  | 98.157% |
| 2    | 23:52:03 | 94.376%  | -0.402  | -0.022  | -0.107  | 0.048  | 0.060   | 95.599%  | 96.255% |
| 3    | 23:52:11 | 91.393%  | -0.423  | 0.042   | -0.120  | 0.048  | 0.114   | 97.366%  | 95.308% |
| X    |          | 92.813%  | -0.425  | 0.010   | -0.150  | 0.038  | 0.102   | 96.434%  | 96.573% |
| σ    |          | 1.497%   | 0.025   | 0.032   | 0.064   | 0.016  | 0.037   | 0.887%   | 1.451%  |
| %RSD |          | 1.613    | 5.819   | 332.800 | 42.440  | 42.670 | 36.500  | 0.920    | 1.502   |
| Run  | Time     | 203Tl    | 205Tl   | 206Pb   | 207Pb   | 208Pb  | 209Bi   |          |         |
|      |          | ppb      | ppb     | ppb     | ppb     | ppb    | ppb     |          |         |
| 1    | 23:51:55 | 0.077    | 0.059   | 0.037   | 0.015   | 0.027  | 95.675% |          |         |
| 2    | 23:52:03 | 0.064    | 0.051   | 0.007   | 0.017   | 0.027  | 97.626% |          |         |
| 3    | 23:52:11 | 0.060    | 0.059   | 0.041   | 0.035   | 0.042  | 97.822% |          |         |
| X    |          | 0.067    | 0.056   | 0.028   | 0.022   | 0.032  | 97.041% |          |         |
| σ    |          | 0.009    | 0.005   | 0.018   | 0.011   | 0.008  | 1.187%  |          |         |
| %RSD |          | 13.610   | 8.139   | 64.280  | 48.150  | 26.340 | 1.223   |          |         |

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User Pre-dilution: 1.000

| Run  | Time     | 6Li        | 9Be      | 10B      | 11B        | 13C        | 23Na       | 25Mg      | 26Mg      |
|------|----------|------------|----------|----------|------------|------------|------------|-----------|-----------|
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 23:57:01 | 87.609%    | 6.503    | 318.100  | 321.000    | 0.000      | 104900.000 | 81710.000 | 78540.000 |
| 2    | 23:57:09 | 89.307%    | 6.398    | 297.000  | 302.000    | 0.000      | 102600.000 | 77910.000 | 76720.000 |
| 3    | 23:57:16 | 89.761%    | 6.308    | 314.700  | 308.400    | 0.000      | 105800.000 | 80900.000 | 79520.000 |
| X    |          | 88.892%    | 6.403    | 309.900  | 310.500    | 0.000      | 104400.000 | 80170.000 | 78260.000 |
| σ    |          | 1.134%     | 0.098    | 11.280   | 9.700      | 0.000      | 1656.000   | 1997.000  | 1417.000  |
| %RSD |          | 1.276      | 1.523    | 3.641    | 3.124      | 0.000      | 1.586      | 2.491     | 1.811     |
| Run  | Time     | 27Al       | 28Si     | 37Cl     | 39K        | 43Ca       | 44Ca       | 45Sc      | 47Ti      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 23:57:01 | 129400.000 | 1480.000 | 0.000    | 38910.000  | 51040.000  | 55670.000  | 110.793%  | 7166.000  |
| 2    | 23:57:09 | 137300.000 | 1436.000 | 0.000    | 38540.000  | 53200.000  | 56900.000  | 108.379%  | 7172.000  |
| 3    | 23:57:16 | 134900.000 | 1424.000 | 0.000    | 40020.000  | 53850.000  | 58440.000  | 104.591%  | 7359.000  |
| X    |          | 133900.000 | 1447.000 | 0.000    | 39160.000  | 52700.000  | 57000.000  | 107.921%  | 7233.000  |
| σ    |          | 4072.000   | 29.570   | 0.000    | 768.500    | 1470.000   | 1388.000   | 3.126%    | 109.700   |
| %RSD |          | 3.041      | 2.044    | 0.000    | 1.963      | 2.789      | 2.435      | 2.897     | 1.517     |
| Run  | Time     | 51V        | 52Cr     | 55Mn     | 56Fe       | 57Fe       | 59Co       | 60Ni      | 63Cu      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 23:57:01 | 324.600    | 356.000  | 2493.000 | 177200.000 | 175100.000 | 48.990     | 139.600   | 163.200   |
| 2    | 23:57:09 | 337.600    | 360.200  | 2497.000 | 181500.000 | 175100.000 | 48.610     | 137.100   | 161.800   |
| 3    | 23:57:16 | 337.800    | 366.000  | 2618.000 | 185000.000 | 182300.000 | 49.490     | 143.700   | 163.800   |
| X    |          | 333.300    | 360.700  | 2536.000 | 181200.000 | 177500.000 | 49.030     | 140.100   | 163.000   |
| σ    |          | 7.541      | 5.022    | 71.060   | 3921.000   | 4136.000   | 0.440      | 3.301     | 1.009     |
| %RSD |          | 2.262      | 1.392    | 2.802    | 2.163      | 2.330      | 0.897      | 2.355     | 0.619     |
| Run  | Time     | 65Cu       | 66Zn     | 68Zn     | 75As       | 78Se       | 82Se       | 83Kr      | 88Sr      |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 23:57:01 | 160.200    | 533.500  | 523.700  | 59.060     | 4.153      | 11.240     | 0.000     | 194.300   |
| 2    | 23:57:09 | 160.100    | 546.200  | 533.700  | 58.940     | 4.081      | 13.400     | 0.000     | 193.200   |
| 3    | 23:57:16 | 161.300    | 547.900  | 547.600  | 58.990     | 4.435      | 9.577      | 0.000     | 191.500   |
| X    |          | 160.500    | 542.500  | 535.000  | 58.990     | 4.223      | 11.400     | 0.000     | 193.000   |
| σ    |          | 0.680      | 7.854    | 12.020   | 0.061      | 0.187      | 1.915      | 0.000     | 1.401     |
| %RSD |          | 0.424      | 1.448    | 2.246    | 0.103      | 4.434      | 16.790     | 0.000     | 0.726     |
| Run  | Time     | 89Y        | 95Mo     | 98Mo     | 103Rh      | 107Ag      | 109Ag      | 111Cd     | 114Cd     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 23:57:01 | 150.068%   | 16.020   | 19.010   | 54.251%    | 4.746      | 4.760      | 3.979     | 5.446     |
| 2    | 23:57:09 | 155.548%   | 16.070   | 18.950   | 54.121%    | 4.730      | 4.838      | 3.869     | 5.072     |
| 3    | 23:57:16 | 156.984%   | 15.180   | 18.630   | 54.966%    | 4.670      | 4.568      | 4.472     | 4.942     |
| X    |          | 154.200%   | 15.750   | 18.860   | 54.446%    | 4.715      | 4.722      | 4.107     | 5.153     |
| σ    |          | 3.649%     | 0.499    | 0.208    | 0.455%     | 0.040      | 0.139      | 0.321     | 0.262     |
| %RSD |          | 2.367      | 3.165    | 1.102    | 0.836      | 0.849      | 2.947      | 7.816     | 5.078     |
| Run  | Time     | 115In      | 118Sn    | 121Sb    | 123Sb      | 135Ba      | 137Ba      | 159Tb     | 165Ho     |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        | ppb       | ppb       |
| 1    | 23:57:01 | 61.960%    | 64.620   | 0.806    | 0.859      | 403.800    | 399.100    | 82.923%   | 83.753%   |
| 2    | 23:57:09 | 62.866%    | 65.740   | 0.827    | 0.722      | 410.200    | 407.000    | 84.276%   | 84.396%   |
| 3    | 23:57:16 | 63.387%    | 63.150   | 0.750    | 0.976      | 398.800    | 400.100    | 84.736%   | 86.064%   |
| X    |          | 62.738%    | 64.500   | 0.794    | 0.852      | 404.300    | 402.100    | 83.978%   | 84.738%   |
| σ    |          | 0.722%     | 1.297    | 0.040    | 0.127      | 5.710      | 4.293      | 0.942%    | 1.192%    |
| %RSD |          | 1.151      | 2.011    | 4.984    | 14.930     | 1.412      | 1.068      | 1.122     | 1.407     |
| Run  | Time     | 203Tl      | 205Tl    | 206Pb    | 207Pb      | 208Pb      | 209Bi      |           |           |
|      |          | ppb        | ppb      | ppb      | ppb        | ppb        | ppb        |           |           |
| 1    | 23:57:01 | 2.753      | 2.627    | 400.900  | 367.800    | 388.700    | 54.815%    |           |           |
| 2    | 23:57:09 | 2.670      | 2.594    | 403.900  | 365.600    | 387.800    | 56.272%    |           |           |
| 3    | 23:57:16 | 2.594      | 2.490    | 398.400  | 365.400    | 386.200    | 56.807%    |           |           |
| X    |          | 2.672      | 2.570    | 401.100  | 366.200    | 387.600    | 55.964%    |           |           |
| σ    |          | 0.080      | 0.072    | 2.770    | 1.345      | 1.259      | 1.031%     |           |           |
| %RSD |          | 2.978      | 2.785    | 0.691    | 0.367      | 0.325      | 1.842      |           |           |

CRI 1525173 5/2/2015 12:13:13 AM QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be      | 10B      | 11B      | 13C      | 23Na     | 25Mg     | 26Mg     |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
|      |          | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      |
| 1    | 00:12:21 | 152.894% | 0.835    | 16.040   | 15.430   | 0.000    | 443.800  | 416.600  | 408.500  |
| 2    | 00:12:29 | 148.401% | 0.793    | 16.400   | 15.210   | 0.000    | 462.100  | 424.000  | 446.700  |
| 3    | 00:12:37 | 152.163% | 0.766    | 15.590   | 15.080   | 0.000    | 422.400  | 422.700  | 426.700  |
| X    |          | 151.153% | 79.825%  | 320.150% | 304.780% | 0.000    | 553.435% | 421.066% | 427.304% |
| σ    |          | 2.411%   | n/a      | n/a      | n/a      | 0.000    | n/a      | n/a      | n/a      |
| %RSD |          | 1.595    | 4.332    | 2.519    | 1.161    | 0.000    | 4.493    | 0.938    | 4.468    |
| Run  | Time     | 27Al     | 28Si     | 37Cl     | 39K      | 43Ca     | 44Ca     | 45Sc     | 47Ti     |
|      |          | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      |
| 1    | 00:12:21 | 34.760   | 475.100  | 0.000    | 464.400  | 409.300  | 411.300  | 155.734% | 4.492    |
| 2    | 00:12:29 | 39.250   | 450.600  | 0.000    | 468.200  | 425.600  | 405.900  | 152.055% | 4.465    |
| 3    | 00:12:37 | 40.380   | 434.600  | 0.000    | 463.300  | 414.000  | 436.200  | 150.188% | 5.078    |
| X    |          | 127.093% | 90.689%  | 0.000    | 465.313% | 416.340% | 417.812% | 152.659% | 93.570%  |
| σ    |          | n/a      | n/a      | 0.000    | n/a      | n/a      | n/a      | 2.822%   | n/a      |
| %RSD |          | 7.796    | 4.504    | 0.000    | 0.546    | 2.017    | 3.875    | 1.849    | 7.396    |
| Run  | Time     | 51V      | 52Cr     | 55Mn     | 56Fe     | 57Fe     | 59Co     | 60Ni     | 63Cu     |
|      |          | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      |
| 1    | 00:12:21 | 0.742    | 1.471    | 4.281    | 62.830   | 69.960   | 0.446    | 0.955    | 2.138    |
| 2    | 00:12:29 | 0.689    | 1.540    | 4.332    | 70.400   | 67.890   | 0.392    | 0.856    | 2.181    |
| 3    | 00:12:37 | 0.781    | 1.565    | 4.431    | 73.350   | 68.570   | 0.426    | 0.895    | 2.017    |
| X    |          | 73.763%  | 76.272%  | 86.960%  | 137.718% | 137.616% | 84.317%  | 90.192%  | 105.603% |
| σ    |          | n/a      | n/a      | n/a      | n/a      | n/a      | n/a      | n/a      | n/a      |
| %RSD |          | 6.275    | 3.196    | 1.750    | 7.886    | 1.532    | 6.510    | 5.496    | 4.023    |
| Run  | Time     | 65Cu     | 66Zn     | 68Zn     | 75As     | 78Se     | 82Se     | 83Kr     | 88Sr     |
|      |          | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      |
| 1    | 00:12:21 | 2.274    | 5.394    | 5.757    | 1.069    | 5.657    | 7.039    | 0.000    | 5.009    |
| 2    | 00:12:29 | 2.080    | 5.910    | 5.706    | 1.023    | 6.016    | 6.910    | 0.000    | 4.892    |
| 3    | 00:12:37 | 1.958    | 6.144    | 5.744    | 0.959    | 5.336    | 6.115    | 0.000    | 4.712    |
| X    |          | 105.195% | 116.317% | 114.714% | 101.693% | 113.394% | 133.758% | 0.000    | 97.421%  |
| σ    |          | n/a      | n/a      | n/a      | n/a      | n/a      | n/a      | 0.000    | n/a      |
| %RSD |          | 7.586    | 6.599    | 0.464    | 5.435    | 5.999    | 7.475    | 0.000    | 3.074    |
| Run  | Time     | 89Y      | 95Mo     | 98Mo     | 103Rh    | 107Ag    | 109Ag    | 111Cd    | 114Cd    |
|      |          | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      |
| 1    | 00:12:21 | 93.331%  | 4.702    | 4.947    | 93.125%  | 1.064    | 1.082    | 1.067    | 1.215    |
| 2    | 00:12:29 | 96.540%  | 5.350    | 4.882    | 92.787%  | 1.192    | 1.154    | 1.165    | 1.227    |
| 3    | 00:12:37 | 97.172%  | 5.017    | 4.744    | 93.272%  | 1.191    | 1.213    | 0.857    | 1.305    |
| X    |          | 95.681%  | 100.464% | 97.152%  | 93.062%  | 114.892% | 114.958% | 102.951% | 124.924% |
| σ    |          | 2.059%   | n/a      | n/a      | 0.249%   | n/a      | n/a      | n/a      | n/a      |
| %RSD |          | 2.152    | 6.452    | 2.135    | 0.267    | 6.389    | 5.721    | 15.250   | 3.923    |
| Run  | Time     | 115In    | 118Sn    | 121Sb    | 123Sb    | 135Ba    | 137Ba    | 159Tb    | 165Ho    |
|      |          | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      |
| 1    | 00:12:21 | 97.671%  | 3.923    | 1.877    | 1.848    | 9.848    | 9.622    | 97.779%  | 98.892%  |
| 2    | 00:12:29 | 94.515%  | 3.835    | 1.959    | 1.923    | 9.331    | 10.490   | 99.680%  | 101.840% |
| 3    | 00:12:37 | 96.765%  | 3.994    | 1.954    | 2.078    | 10.090   | 9.812    | 103.321% | 102.143% |
| X    |          | 96.317%  | 78.348%  | 96.487%  | 97.473%  | 97.565%  | 99.736%  | 100.260% | 100.958% |
| σ    |          | 1.625%   | n/a      | n/a      | n/a      | n/a      | n/a      | 2.816%   | 1.796%   |
| %RSD |          | 1.687    | 2.041    | 2.390    | 6.013    | 3.977    | 4.558    | 2.809    | 1.779    |
| Run  | Time     | 203Tl    | 205Tl    | 206Pb    | 207Pb    | 208Pb    | 209Bi    |          |          |
|      |          | ppb      | ppb      | ppb      | ppb      | ppb      | ppb      |          |          |
| 1    | 00:12:21 | 0.796    | 0.791    | 1.008    | 0.818    | 0.875    | 100.252% |          |          |
| 2    | 00:12:29 | 0.805    | 0.790    | 0.783    | 0.842    | 0.848    | 102.972% |          |          |
| 3    | 00:12:37 | 0.859    | 0.840    | 0.931    | 1.004    | 0.952    | 102.942% |          |          |
| X    |          | 81.981%  | 80.693%  | 90.743%  | 88.813%  | 89.170%  | 102.055% |          |          |
| σ    |          | n/a      | n/a      | n/a      | n/a      | n/a      | 1.561%   |          |          |
| %RSD |          | 4.160    | 3.552    | 12.640   | 11.390   | 6.061    | 1.530    |          |          |

CCV 1533080 5/2/2015 12:18:19 AM QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be      | 10B      | 11B       | 13C       | 23Na      | 25Mg      | 26Mg      |
|------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 00:17:27 | 105.355% | 97.500   | 92.220   | 92.080    | 0.000     | 54980.000 | 55070.000 | 54260.000 |
| 2    | 00:17:35 | 93.659%  | 113.400  | 103.700  | 101.300   | 0.000     | 57730.000 | 58590.000 | 58620.000 |
| 3    | 00:17:43 | 104.528% | 103.100  | 95.100   | 91.740    | 0.000     | 55210.000 | 56180.000 | 55860.000 |
| X    |          | 101.181% | 104.643% | 97.024%  | 95.027%   | 0.000     | 111.944%  | 113.222%  | 112.494%  |
| σ    |          | 6.527%   | n/a      | n/a      | n/a       | 0.000     | n/a       | n/a       | n/a       |
| %RSD |          | 6.451    | 7.691    | 6.183    | 5.685     | 0.000     | 2.730     | 3.174     | 3.926     |
| Run  | Time     | 27Al     | 28Si     | 37Cl     | 39K       | 43Ca      | 44Ca      | 45Sc      | 47Ti      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 00:17:27 | 509.000  | 5901.000 | 0.000    | 54940.000 | 47860.000 | 53140.000 | 118.169%  | 94.300    |
| 2    | 00:17:35 | 553.900  | 6168.000 | 0.000    | 53860.000 | 48010.000 | 53440.000 | 116.439%  | 97.650    |
| 3    | 00:17:43 | 522.900  | 5900.000 | 0.000    | 54310.000 | 50180.000 | 55760.000 | 116.963%  | 103.000   |
| X    |          | 105.717% | 119.794% | 0.000    | 108.737%  | 97.371%   | 108.235%  | 117.190%  | 98.312%   |
| σ    |          | n/a      | n/a      | 0.000    | n/a       | n/a       | n/a       | 0.887%    | n/a       |
| %RSD |          | 4.355    | 2.575    | 0.000    | 0.994     | 2.668     | 2.651     | 0.757     | 4.452     |
| Run  | Time     | 51V      | 52Cr     | 55Mn     | 56Fe      | 57Fe      | 59Co      | 60Ni      | 63Cu      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 00:17:27 | 82.550   | 83.610   | 505.300  | 23060.000 | 22300.000 | 86.190    | 87.930    | 92.290    |
| 2    | 00:17:35 | 83.060   | 83.550   | 517.400  | 23060.000 | 22570.000 | 89.340    | 92.750    | 95.660    |
| 3    | 00:17:43 | 83.810   | 86.320   | 546.900  | 22310.000 | 22190.000 | 86.690    | 91.040    | 94.150    |
| X    |          | 83.140%  | 84.493%  | 104.634% | 91.231%   | 89.432%   | 87.406%   | 90.572%   | 94.033%   |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | n/a       | n/a       | n/a       |
| %RSD |          | 0.763    | 1.870    | 4.091    | 1.906     | 0.875     | 1.932     | 2.702     | 1.794     |
| Run  | Time     | 65Cu     | 66Zn     | 68Zn     | 75As      | 78Se      | 82Se      | 83Kr      | 88Sr      |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 00:17:27 | 91.260   | 96.730   | 98.880   | 98.740    | 98.560    | 105.300   | 0.000     | 92.180    |
| 2    | 00:17:35 | 96.420   | 99.070   | 100.500  | 100.600   | 101.600   | 111.100   | 0.000     | 94.980    |
| 3    | 00:17:43 | 95.170   | 100.200  | 101.100  | 99.500    | 103.200   | 107.700   | 0.000     | 94.540    |
| X    |          | 94.283%  | 98.674%  | 100.153% | 99.601%   | 101.094%  | 108.005%  | 0.000     | 93.900%   |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | n/a       | 0.000     | n/a       |
| %RSD |          | 2.857    | 1.802    | 1.148    | 0.920     | 2.308     | 2.698     | 0.000     | 1.606     |
| Run  | Time     | 89Y      | 95Mo     | 98Mo     | 103Rh     | 107Ag     | 109Ag     | 111Cd     | 114Cd     |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 00:17:27 | 96.505%  | 103.300  | 105.100  | 80.765%   | 99.800    | 99.950    | 103.000   | 105.100   |
| 2    | 00:17:35 | 94.112%  | 104.300  | 108.900  | 79.616%   | 103.200   | 102.000   | 104.800   | 109.400   |
| 3    | 00:17:43 | 95.804%  | 103.200  | 110.100  | 80.129%   | 101.700   | 104.100   | 105.000   | 105.800   |
| X    |          | 95.474%  | 103.596% | 108.053% | 80.170%   | 101.552%  | 102.029%  | 104.261%  | 106.779%  |
| σ    |          | 1.230%   | n/a      | n/a      | 0.575%    | n/a       | n/a       | n/a       | n/a       |
| %RSD |          | 1.289    | 0.605    | 2.404    | 0.718     | 1.667     | 2.034     | 1.067     | 2.188     |
| Run  | Time     | 115In    | 118Sn    | 121Sb    | 123Sb     | 135Ba     | 137Ba     | 159Tb     | 165Ho     |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       | ppb       | ppb       |
| 1    | 00:17:27 | 84.349%  | 97.030   | 100.100  | 103.200   | 101.300   | 98.340    | 91.303%   | 91.440%   |
| 2    | 00:17:35 | 85.611%  | 99.120   | 101.300  | 100.700   | 102.500   | 97.490    | 91.833%   | 92.251%   |
| 3    | 00:17:43 | 85.090%  | 98.490   | 102.300  | 102.000   | 99.410    | 102.000   | 92.123%   | 93.395%   |
| X    |          | 85.017%  | 98.213%  | 101.241% | 101.980%  | 101.045%  | 99.271%   | 91.753%   | 92.362%   |
| σ    |          | 0.634%   | n/a      | n/a      | n/a       | n/a       | n/a       | 0.416%    | 0.982%    |
| %RSD |          | 0.746    | 1.092    | 1.088    | 1.233     | 1.524     | 2.405     | 0.453     | 1.063     |
| Run  | Time     | 203Tl    | 205Tl    | 206Pb    | 207Pb     | 208Pb     | 209Bi     |           |           |
|      |          | ppb      | ppb      | ppb      | ppb       | ppb       | ppb       |           |           |
| 1    | 00:17:27 | 91.660   | 91.240   | 93.260   | 94.660    | 93.570    | 80.063%   |           |           |
| 2    | 00:17:35 | 94.030   | 93.070   | 96.360   | 96.920    | 95.270    | 80.511%   |           |           |
| 3    | 00:17:43 | 94.010   | 93.700   | 95.550   | 97.110    | 96.400    | 80.258%   |           |           |
| X    |          | 93.234%  | 92.670%  | 95.058%  | 96.231%   | 95.080%   | 80.277%   |           |           |
| σ    |          | n/a      | n/a      | n/a      | n/a       | n/a       | 0.225%    |           |           |
| %RSD |          | 1.462    | 1.382    | 1.694    | 1.418     | 1.498     | 0.280     |           |           |



CCB8 5/2/2015 12:27:20 AM QC Status: PASS (Initial: UNKNOWN)

User Pre-dilution: 1.000

| Run  | Time     | 6Li      | 9Be     | 10B     | 11B     | 13C    | 23Na     | 25Mg     | 26Mg     |
|------|----------|----------|---------|---------|---------|--------|----------|----------|----------|
|      |          | ppb      | ppb     | ppb     | ppb     | ppb    | ppb      | ppb      | ppb      |
| 1    | 00:26:27 | 113.639% | -0.007  | 1.076   | 1.154   | 0.000  | 24.320   | 22.860   | 22.310   |
| 2    | 00:26:35 | 117.180% | 0.004   | 0.905   | 0.925   | 0.000  | 26.770   | 23.940   | 22.580   |
| 3    | 00:26:43 | 120.109% | 0.013   | 0.910   | 0.814   | 0.000  | 24.300   | 23.550   | 23.470   |
| X    |          | 116.976% | 0.003   | 0.964   | 0.965   | 0.000  | 25.130   | 23.450   | 22.790   |
| σ    |          | 3.240%   | 0.010   | 0.097   | 0.174   | 0.000  | 1.420    | 0.545    | 0.604    |
| %RSD |          | 2.770    | 294.100 | 10.100  | 18.010  | 0.000  | 5.650    | 2.323    | 2.649    |
| Run  | Time     | 27Al     | 28Si    | 37Cl    | 39K     | 43Ca   | 44Ca     | 45Sc     | 47Ti     |
|      |          | ppb      | ppb     | ppb     | ppb     | ppb    | ppb      | ppb      | ppb      |
| 1    | 00:26:27 | 7.243    | 22.860  | 0.000   | 26.120  | 23.950 | 24.910   | 120.171% | 0.255    |
| 2    | 00:26:35 | 7.662    | 16.710  | 0.000   | 28.060  | 22.790 | 24.700   | 117.985% | 0.223    |
| 3    | 00:26:43 | 7.609    | 11.250  | 0.000   | 24.000  | 24.780 | 22.870   | 120.883% | 0.438    |
| X    |          | 7.505    | 16.940  | 0.000   | 26.060  | 23.840 | 24.160   | 119.680% | 0.305    |
| σ    |          | 0.228    | 5.807   | 0.000   | 2.026   | 1.002  | 1.117    | 1.510%   | 0.116    |
| %RSD |          | 3.040    | 34.280  | 0.000   | 7.775   | 4.203  | 4.622    | 1.261    | 38.020   |
| Run  | Time     | 51V      | 52Cr    | 55Mn    | 56Fe    | 57Fe   | 59Co     | 60Ni     | 63Cu     |
|      |          | ppb      | ppb     | ppb     | ppb     | ppb    | ppb      | ppb      | ppb      |
| 1    | 00:26:27 | 0.097    | 0.070   | 0.452   | 26.610  | 26.960 | 0.055    | 0.081    | 0.009    |
| 2    | 00:26:35 | 0.070    | 0.058   | 0.449   | 27.240  | 28.990 | 0.052    | 0.054    | 0.024    |
| 3    | 00:26:43 | 0.104    | 0.060   | 0.441   | 25.870  | 23.980 | 0.038    | 0.053    | 0.012    |
| X    |          | 0.090    | 0.063   | 0.447   | 26.570  | 26.640 | 0.048    | 0.062    | 0.015    |
| σ    |          | 0.018    | 0.006   | 0.006   | 0.685   | 2.522  | 0.009    | 0.016    | 0.008    |
| %RSD |          | 19.960   | 10.350  | 1.289   | 2.576   | 9.464  | 18.500   | 25.650   | 54.900   |
| Run  | Time     | 65Cu     | 66Zn    | 68Zn    | 75As    | 78Se   | 82Se     | 83Kr     | 88Sr     |
|      |          | ppb      | ppb     | ppb     | ppb     | ppb    | ppb      | ppb      | ppb      |
| 1    | 00:26:27 | -0.002   | 0.127   | 0.103   | 0.065   | 0.127  | 0.160    | 0.000    | 0.100    |
| 2    | 00:26:35 | 0.053    | 0.236   | 0.019   | 0.065   | 0.070  | -0.546   | 0.000    | 0.099    |
| 3    | 00:26:43 | -0.002   | 0.291   | 0.146   | 0.075   | 0.146  | -0.276   | 0.000    | 0.149    |
| X    |          | 0.016    | 0.218   | 0.089   | 0.068   | 0.114  | -0.221   | 0.000    | 0.116    |
| σ    |          | 0.032    | 0.084   | 0.065   | 0.006   | 0.040  | 0.356    | 0.000    | 0.029    |
| %RSD |          | 197.500  | 38.500  | 72.590  | 8.222   | 34.910 | 161.300  | 0.000    | 24.740   |
| Run  | Time     | 89Y      | 95Mo    | 98Mo    | 103Rh   | 107Ag  | 109Ag    | 111Cd    | 114Cd    |
|      |          | ppb      | ppb     | ppb     | ppb     | ppb    | ppb      | ppb      | ppb      |
| 1    | 00:26:27 | 101.178% | 0.244   | 0.326   | 98.128% | 0.016  | 0.033    | 0.054    | 0.004    |
| 2    | 00:26:35 | 101.988% | 0.404   | 0.364   | 95.416% | 0.019  | 0.024    | 0.031    | 0.023    |
| 3    | 00:26:43 | 100.854% | 0.305   | 0.293   | 99.319% | 0.030  | 0.027    | 0.007    | -0.006   |
| X    |          | 101.340% | 0.318   | 0.328   | 97.621% | 0.022  | 0.028    | 0.031    | 0.007    |
| σ    |          | 0.584%   | 0.081   | 0.036   | 2.000%  | 0.007  | 0.005    | 0.023    | 0.015    |
| %RSD |          | 0.576    | 25.410  | 10.940  | 2.049   | 33.150 | 17.120   | 76.460   | 217.500  |
| Run  | Time     | 115In    | 118Sn   | 121Sb   | 123Sb   | 135Ba  | 137Ba    | 159Tb    | 165Ho    |
|      |          | ppb      | ppb     | ppb     | ppb     | ppb    | ppb      | ppb      | ppb      |
| 1    | 00:26:27 | 98.224%  | -0.359  | 0.025   | -0.098  | 0.179  | 0.106    | 102.422% | 102.010% |
| 2    | 00:26:35 | 100.020% | -0.411  | 0.051   | -0.164  | 0.098  | 0.106    | 100.977% | 102.594% |
| 3    | 00:26:43 | 98.895%  | -0.379  | -0.005  | -0.044  | 0.098  | 0.138    | 103.265% | 102.760% |
| X    |          | 99.046%  | -0.383  | 0.023   | -0.102  | 0.125  | 0.117    | 102.222% | 102.455% |
| σ    |          | 0.908%   | 0.026   | 0.028   | 0.060   | 0.047  | 0.019    | 1.158%   | 0.394%   |
| %RSD |          | 0.916    | 6.839   | 119.000 | 58.710  | 37.520 | 16.040   | 1.132    | 0.385    |
| Run  | Time     | 203Tl    | 205Tl   | 206Pb   | 207Pb   | 208Pb  | 209Bi    |          |          |
|      |          | ppb      | ppb     | ppb     | ppb     | ppb    | ppb      |          |          |
| 1    | 00:26:27 | 0.054    | 0.069   | 0.012   | 0.048   | 0.036  | 105.589% |          |          |
| 2    | 00:26:35 | 0.082    | 0.063   | 0.019   | 0.059   | 0.041  | 107.390% |          |          |
| 3    | 00:26:43 | 0.052    | 0.051   | 0.027   | 0.027   | 0.039  | 108.541% |          |          |
| X    |          | 0.062    | 0.061   | 0.019   | 0.045   | 0.039  | 107.173% |          |          |
| σ    |          | 0.017    | 0.009   | 0.007   | 0.017   | 0.002  | 1.488%   |          |          |
| %RSD |          | 27.020   | 15.190  | 39.150  | 36.840  | 6.408  | 1.388    |          |          |

## Performance Report

### Sample details

Sample name : ITUNE

Acquired at : 5/1/2015 1:38:54 PM

Report name : EPA ILM05.2 / 6020A 2.1 [8/10/2014 1:06:06 PM]

### Mass Calibration verification

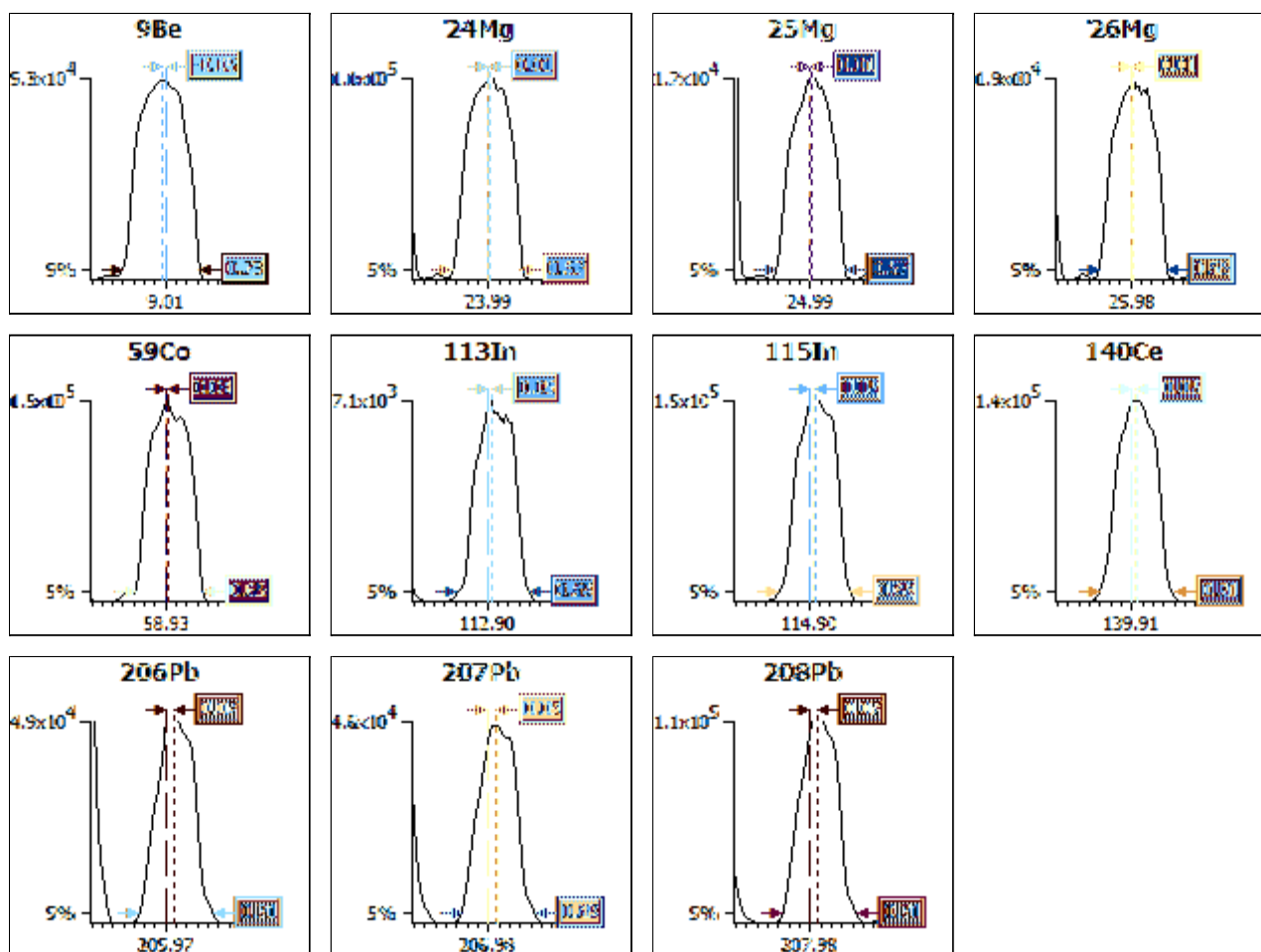
#### Acquisition parameters

Sweeps : 50

Dwell : 1.0 mSecs

Point spacing : 0.02 amu

Peak width measured at 5% of the peak maximum



| Analyte | Limits     |            |            | Results    |            |
|---------|------------|------------|------------|------------|------------|
|         | Max. width | Min. width | Max. error | Peak width | Peak error |
| 9Be     | 0.90       | 0.40       | 0.10       | 0.73       | -0.05      |
| 24Mg    | 0.90       | 0.40       | 0.10       | 0.67       | 0.01       |
| 25Mg    | 0.90       | 0.40       | 0.10       | 0.67       | 0.01       |
| 26Mg    | 0.90       | 0.40       | 0.10       | 0.65       | 0.01       |
| 59Co    | 0.90       | 0.40       | 0.10       | 0.65       | 0.03       |
| 113In   | 0.90       | 0.40       | 0.10       | 0.69       | 0.05       |
| 115In   | 0.90       | 0.40       | 0.10       | 0.69       | 0.05       |
| 140Ce   | 0.90       | 0.40       | 0.10       | 0.71       | 0.05       |
| 206Pb   | 0.90       | 0.40       | 0.10       | 0.71       | 0.07       |
| 207Pb   | 0.90       | 0.40       | 0.10       | 0.69       | 0.09       |
| 208Pb   | 0.90       | 0.40       | 0.10       | 0.71       | 0.07       |

**Sample details**

Sample name : ITUNE

Acquired at : 5/1/2015 1:38:54 PM

Report name : EPA ILM05.2 / 6020A 2.1 [8/10/2014 1:06:06 PM]

**Tune conditions**

| Major          |       | Minor         |        | Global              |     | Add. Gases |      |
|----------------|-------|---------------|--------|---------------------|-----|------------|------|
| Extraction     | -110  | Lens 2        | -36.9  | Standard resolution | n/a | CCT1       | 0.00 |
| Lens 1         | 1.2   | Lens 3        | -196.9 | High resolution     | n/a | CCT2       | 0.00 |
| Focus          | 25.7  | Forward power | 1404   | Analogue Detector   | n/a |            |      |
| D1             | -29.0 | Horizontal    | 82     | PC Detector         | n/a |            |      |
| Pole Bias      | -0.0  | Vertical      | 142    |                     |     |            |      |
| Hexapole Bias  | -3.4  | D2            | -121   |                     |     |            |      |
| Nebuliser      | 1.10  | DA            | -80.0  |                     |     |            |      |
| Sampling Depth | 200   | Cool          | 14.0   |                     |     |            |      |
|                |       | Auxiliary     | 0.80   |                     |     |            |      |

**Sensitivity and stability results****Acquisition parameters**

Sweeps : 180

| Run           | Time       | 58kg   | 9Be    | 24Mg    | 25Mg   | 26Mg   | 59Co    | 113In | 115In   |
|---------------|------------|--------|--------|---------|--------|--------|---------|-------|---------|
| Dwell (mSecs) |            | 0.0    | 0.0    | 0.0     | 0.0    | 0.0    | 0.0     | 0.0   | 0.0     |
| Limits        | %RSD       | -      | 5.0%   | 5.0%    | 5.0%   | 5.0%   | 5.0%    | 5.0%  | 5.0%    |
|               | Countrate  | -      | >100   | >500    | >150   | >150   | >500    | >500  | >10000  |
| 1             | 1:39:41 PM | 2      | 49648  | 113754  | 15236  | 17906  | 146255  | 6830  | 156193  |
| 2             | 1:40:53 PM | 1      | 49557  | 112147  | 15323  | 18024  | 144647  | 6656  | 156168  |
| 3             | 1:42:05 PM | 1      | 48963  | 111643  | 15112  | 17481  | 143683  | 6704  | 154479  |
| 4             | 1:43:18 PM | 1      | 47610  | 109142  | 15140  | 17598  | 143313  | 6805  | 153466  |
| 5             | 1:44:30 PM | 2      | 49439  | 113070  | 15557  | 18287  | 143782  | 6625  | 154147  |
| x             |            | 1      | 49043  | 111951  | 15274  | 17859  | 144336  | 6724  | 154890  |
| σ             |            | 0.51   | 843.46 | 1769.61 | 178.99 | 325.14 | 1178.83 | 90.38 | 1232.94 |
| %RSD          |            | 39.121 | 1.720  | 1.581   | 1.172  | 1.821  | 0.817   | 1.344 | 0.796   |

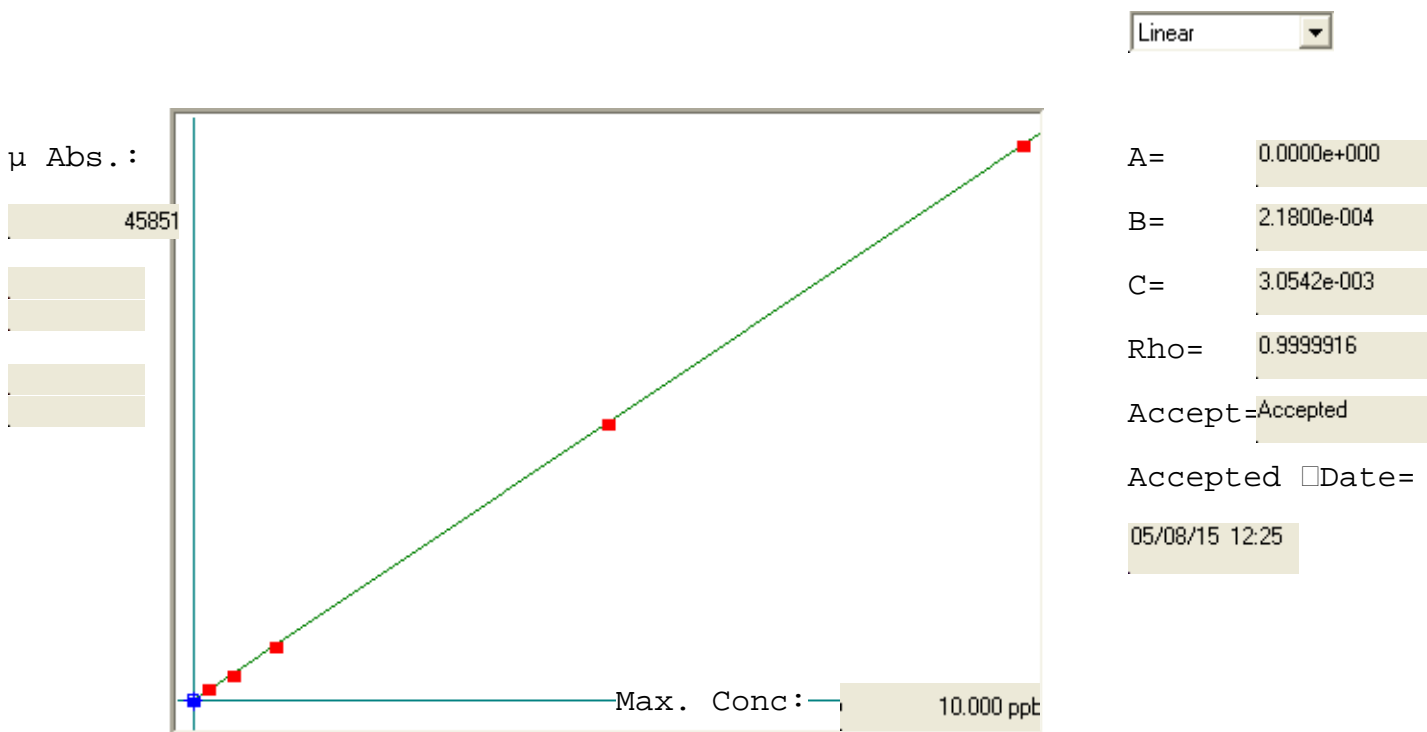
| Run           | Time       | 140Ce  | 156Ce O | 206Pb  | 207Pb  | 208Pb   | 220Bkg |
|---------------|------------|--------|---------|--------|--------|---------|--------|
| Dwell (mSecs) |            | 0.0    | 0.0     | 0.0    | 0.0    | 0.0     | 0.0    |
| Limits        | %RSD       | 5.0%   | -       | 5.0%   | 5.0%   | 5.0%    | -      |
|               | Countrate  | >10000 | -       | >1000  | >1000  | >5000   | -      |
| 1             | 1:39:41 PM | 146312 | 4027    | 48980  | 44189  | 105816  | 0      |
| 2             | 1:40:53 PM | 145406 | 3931    | 48515  | 43722  | 105520  | 0      |
| 3             | 1:42:05 PM | 144899 | 3886    | 48184  | 43240  | 104124  | 0      |
| 4             | 1:43:18 PM | 145522 | 3914    | 48339  | 43385  | 104016  | 0      |
| 5             | 1:44:30 PM | 143938 | 3917    | 47868  | 43262  | 103208  | 0      |
| x             |            | 145216 | 3935    | 48377  | 43560  | 104537  | 0      |
| σ             |            | 875.44 | 54.15   | 412.68 | 401.19 | 1096.47 | 0.06   |
| %RSD          |            | 0.603  | 1.376   | 0.853  | 0.921  | 1.049   | 81.441 |

**Ratio results**

| Run          | Time       | 156Ce O/140Ce |
|--------------|------------|---------------|
| Ratio limits |            | <0.0600       |
| 1            | 1:39:41 PM | 0             |
| 2            | 1:40:53 PM | 0             |
| 3            | 1:42:05 PM | 0             |
| 4            | 1:43:18 PM | 0             |
| 5            | 1:44:30 PM | 0             |
| x            |            | 0.0271        |
| σ            |            | 0.00          |
| %RSD         |            | 1.0423        |

Result : The performance report passed.

METHG



| Std ID  | Conc.  | Calc. | Dev.   | Mean  | SD or %RSD | Rep 1 | Rep 2 | Rep 3 | Rep 4 | Rep 5 |
|---------|--------|-------|--------|-------|------------|-------|-------|-------|-------|-------|
| blank   | 0.000  | 0.010 | 0.010  | 32    | 0.000      | 32    |       |       |       |       |
| .2ppb   | 0.200  | 0.220 | 0.020  | 993   | 0.0 %      | 993   |       |       |       |       |
| .5ppb   | 0.500  | 0.472 | -0.028 | 2152  | 0.0 %      | 2152  |       |       |       |       |
| 1.0ppb  | 1.000  | 0.994 | -0.006 | 4544  | 0.0 %      | 4544  |       |       |       |       |
| 5.0ppb  | 5.000  | 5.006 | 0.006  | 22951 | 0.0 %      | 22951 |       |       |       |       |
| 10.0ppb | 10.000 | 9.998 | -0.002 | 45851 | 0.0 %      | 45851 |       |       |       |       |

| Rack | Cup | Sample ID   | Extended ID | Wt.    | Vol.   | Cup Action |
|------|-----|-------------|-------------|--------|--------|------------|
| 1    | 1   | MB 180-140  |             | 1.0000 | 1.0000 |            |
| 1    | 2   | LCS 180-140 |             | 1.0000 | 1.0000 |            |
| 1    | 3   | 180-43804-A |             | 1.0000 | 1.0000 |            |
| 1    | 4   | 180-43804-A |             | 1.0000 | 1.0000 |            |
| 1    | 5   | 180-43804-A |             | 1.0000 | 1.0000 |            |
| 1    | 6   | D180-43811- |             | 1.0000 | 1.0000 |            |
| 1    | 7   | 180-43842-A |             | 1.0000 | 1.0000 |            |
| 1    | 8   | 180-43842-A |             | 1.0000 | 1.0000 |            |
| 1    | 9   | 180-43842-A |             | 1.0000 | 1.0000 |            |
| 1    | 10  | 180-43842-A |             | 1.0000 | 1.0000 |            |
| 1    | 60  | 180-43842-A |             | 1.0000 | 1.0000 |            |
| 2    | 1   | 180-43842-A |             | 1.0000 | 1.0000 |            |
| 2    | 2   | 180-43842-A |             | 1.0000 | 1.0000 |            |
| 2    | 3   | 180-43842-A |             | 1.0000 | 1.0000 |            |
| 1    | 11  | MB 180-140  |             | 1.0000 | 1.0000 |            |
| 1    | 12  | LCS 180-140 |             | 1.0000 | 1.0000 |            |
| 1    | 13  | 180-43684-D |             | 1.0000 | 1.0000 |            |
| 1    | 14  | 180-43684-D |             | 1.0000 | 1.0000 |            |
| 1    | 15  | 180-43684-D |             | 1.0000 | 1.0000 |            |
| 1    | 16  | 180-43684-D |             | 1.0000 | 1.0000 |            |
| 1    | 17  | 180-43684-D |             | 1.0000 | 1.0000 |            |
| 1    | 18  | 180-43684-D |             | 1.0000 | 1.0000 |            |
| 1    | 19  | 180-43684-D |             | 1.0000 | 1.0000 |            |
| 1    | 20  | 180-43698-D |             | 1.0000 | 1.0000 |            |
| 1    | 21  | 180-43698-D |             | 1.0000 | 1.0000 |            |
| 1    | 22  | 180-43698-D |             | 1.0000 | 1.0000 |            |
| 1    | 23  | 180-43698-D |             | 1.0000 | 1.0000 |            |
| 1    | 24  | 180-43698-D |             | 1.0000 | 1.0000 |            |
| 1    | 25  | 180-43698-B |             | 1.0000 | 1.0000 |            |
| 1    | 26  | 180-43698-D |             | 1.0000 | 1.0000 |            |
| 1    | 27  | 180-43698-B |             | 1.0000 | 1.0000 |            |
| 1    | 28  | 180-43698-D |             | 1.0000 | 1.0000 |            |
| 1    | 29  | 180-43411-A |             | 1.0000 | 1.0000 |            |
| 1    | 30  | MB 180-141  |             | 1.0000 | 1.0000 |            |
| 1    | 31  | LCS 180-141 |             | 1.0000 | 1.0000 |            |
| 1    | 32  | 180-43699-C |             | 1.0000 | 1.0000 |            |
| 1    | 33  | 180-43699-A |             | 1.0000 | 1.0000 |            |
| 1    | 34  | 180-43699-B |             | 1.0000 | 1.0000 |            |
| 1    | 35  | 180-43699-A |             | 1.0000 | 1.0000 |            |
| 1    | 36  | 180-43699-B |             | 1.0000 | 1.0000 |            |
| 1    | 37  | 180-43699-A |             | 1.0000 | 1.0000 |            |

| Rack | Cup | Sample ID   | Extended ID | Wt.    | Vol.   | Cup Action |
|------|-----|-------------|-------------|--------|--------|------------|
| 1    | 38  | 180-43699-B |             | 1.0000 | 1.0000 |            |
| 1    | 39  | 180-43699-B |             | 1.0000 | 1.0000 |            |
| 1    | 40  | 180-43698-D |             | 1.0000 | 1.0000 |            |
| 1    | 41  | 180-43699-A |             | 1.0000 | 1.0000 |            |
| 1    | 42  | 180-43699-A |             | 1.0000 | 1.0000 |            |
| 1    | 43  | 180-43699-B |             | 1.0000 | 1.0000 |            |
| 1    | 44  | 180-43698-D |             | 1.0000 | 1.0000 |            |
| 1    | 45  | 180-43699-B |             | 1.0000 | 1.0000 |            |
| 1    | 46  | 180-43699-A |             | 1.0000 | 1.0000 |            |
| 1    | 47  | 180-43699-B |             | 1.0000 | 1.0000 |            |
| 1    | 48  | 180-43699-B |             | 1.0000 | 1.0000 |            |
| 1    | 49  | 180-43699-C |             | 1.0000 | 1.0000 |            |
| 1    | 50  | 180-43699-C |             | 1.0000 | 1.0000 |            |
| 1    | 51  | 180-43699-C |             | 1.0000 | 1.0000 |            |
| 1    | 52  | 180-43699-A |             | 1.0000 | 1.0000 |            |
| 1    | 53  | 180-43699-A |             | 1.0000 | 1.0000 |            |
| 1    | 54  | MB 180-141  |             | 1.0000 | 1.0000 |            |
| 1    | 55  | LCS 180-141 |             | 1.0000 | 1.0000 |            |
| 1    | 56  | LCSD 180-1  |             | 1.0000 | 1.0000 |            |
| 1    | 57  | 180-43744-A |             | 1.0000 | 1.0000 |            |
| 1    | 58  | 180-43747-A |             | 1.0000 | 1.0000 |            |
| 1    | 59  | 180-43814-A |             | 1.0000 | 1.0000 |            |
| 2    | 4   |             |             | 1.0000 | 1.0000 |            |
| 2    | 5   |             |             | 1.0000 | 1.0000 |            |
| 2    | 6   |             |             | 1.0000 | 1.0000 |            |
| 2    | 7   |             |             | 1.0000 | 1.0000 |            |
| 2    | 8   |             |             | 1.0000 | 1.0000 |            |
| 2    | 9   |             |             | 1.0000 | 1.0000 |            |
| 2    | 10  |             |             | 1.0000 | 1.0000 |            |
| 2    | 11  |             |             | 1.0000 | 1.0000 |            |
| 2    | 12  |             |             | 1.0000 | 1.0000 |            |
| 2    | 13  |             |             | 1.0000 | 1.0000 |            |
| 2    | 14  |             |             | 1.0000 | 1.0000 |            |
| 2    | 15  |             |             | 1.0000 | 1.0000 |            |
| 2    | 16  |             |             | 1.0000 | 1.0000 |            |
| 2    | 17  |             |             | 1.0000 | 1.0000 |            |
| 2    | 18  |             |             | 1.0000 | 1.0000 |            |
| 2    | 19  |             |             | 1.0000 | 1.0000 |            |
| 2    | 20  |             |             | 1.0000 | 1.0000 |            |
| 2    | 21  |             |             | 1.0000 | 1.0000 |            |
| 2    | 22  |             |             | 1.0000 | 1.0000 |            |

## R50508A-raw

Method: METHG

Operator: Admin

Date of Analysis: 08 May 2015 12:00:56

| Seq ID | Type    | Sample ID               | Extended ID | Date                 | Conc.         | Units | Std Conc | μ Abs. | Method      | Chapter |
|--------|---------|-------------------------|-------------|----------------------|---------------|-------|----------|--------|-------------|---------|
| 2222   | Std     | blank - 1               |             | 08 May 2015 12:13:56 | -             | ppb   | 0.0000   |        | 32METHG     | R50508A |
| 2223   | Std     | .2ppb - 1               |             | 08 May 2015 12:15:49 | -             | ppb   | 0.2000   |        | 993METHG    | R50508A |
| 2224   | Std     | .5ppb - 1               |             | 08 May 2015 12:17:42 | -             | ppb   | 0.5000   |        | 2152METHG   | R50508A |
| 2225   | Std     | 1.0ppb - 1              |             | 08 May 2015 12:19:35 | -             | ppb   | 1.0000   |        | 4544METHG   | R50508A |
| 2226   | Std     | 5.0ppb - 1              |             | 08 May 2015 12:21:30 | -             | ppb   | 5.0000   |        | 22951METHG  | R50508A |
| 2227   | Std     | 10.0ppb - 1             |             | 08 May 2015 12:23:24 | -             | ppb   | 10.0000  |        | 45851METHG  | R50508A |
| 2228   | CK STND | ICV - 1                 |             | 08 May 2015 12:25:37 | 102.5% 2.5632 | ppb   | -        |        | 11744METHG  | R50508A |
| 2229   | CK STND | ICB - 1                 |             | 08 May 2015 12:27:57 | -0.0909       | ppb   | -        |        | -431METHG   | R50508A |
| 2230   | CK STND | CRA - 1                 |             | 08 May 2015 12:29:57 | 111.3% 0.2226 | ppb   | -        |        | 1007METHG   | R50508A |
| 2231   | CK STND | CCV - 1                 |             | 08 May 2015 12:31:48 | 103.9% 5.1961 | ppb   | -        |        | 23822METHG  | R50508A |
| 2232   | CK STND | CCB - 1                 |             | 08 May 2015 12:33:40 | -0.0634       | ppb   | -        |        | -305METHG   | R50508A |
| 2233   | CK STND | CCV - 1                 |             | 08 May 2015 12:35:51 | 101.0% 5.0516 | ppb   | -        |        | 23159METHG  | R50508A |
| 2234   | CK STND | CCB - 1                 |             | 08 May 2015 12:37:43 | -0.1064       | ppb   | -        |        | -502METHG   | R50508A |
| 2235   | SMPL    | MB 180-140975/1-A - 1   |             | 08 May 2015 13:17:55 | 0.0072        | ppb   | -        |        | 19METHG     | R50508A |
| 2236   | SMPL    | LCS 180-140975/2-A - 1  |             | 08 May 2015 13:19:46 | 2.6020        | ppb   | -        |        | 11922METHG  | R50508A |
| 2237   | SMPL    | 180-43804-A-1-B - 1     |             | 08 May 2015 13:21:38 | 0.3996        | ppb   | -        |        | 1819METHG   | R50508A |
| 2238   | SMPL    | 180-43804-A-1-C MS - 1  |             | 08 May 2015 13:23:39 | 1.5234        | ppb   | -        |        | 6974METHG   | R50508A |
| 2239   | SMPL    | 180-43804-A-1-D MS - 1  |             | 08 May 2015 13:25:32 | 1.4331        | ppb   | -        |        | 6560METHG   | R50508A |
| 2240   | SMPL    | D180-43811-A-1-D - 1    |             | 08 May 2015 13:27:27 | 0.2723        | ppb   | -        |        | 1235METHG   | R50508A |
| 2241   | SMPL    | 180-43842-A-1-B - 1     |             | 08 May 2015 13:29:21 | 3.6401        | ppb   | -        |        | 16684METHG  | R50508A |
| 2242   | SMPL    | 180-43842-A-2-B - 1     |             | 08 May 2015 13:31:14 | 10.4782       | ppb   | -        |        | 48052METHG  | R50508A |
| 2243   | SMPL    | 180-43842-A-3-B - 1     |             | 08 May 2015 13:33:18 | HIGH          | ppb   | -        |        | 393316METHG | R50508A |
| 2244   | SMPL    | 180-43842-A-4-B - 1     |             | 08 May 2015 13:35:26 | 42.9909       | ppb   | -        |        | 197196METHG | R50508A |
| 2245   | CK STND | CCV - 1                 |             | 08 May 2015 13:38:32 | 98.1% 4.9038  | ppb   | -        |        | 22481METHG  | R50508A |
| 2246   | CK STND | CCB - 1                 |             | 08 May 2015 13:41:20 | -0.1171       | ppb   | -        |        | -551METHG   | R50508A |
| 2247   | SMPL    | 180-43842-A-2-B@2 - 1   |             | 08 May 2015 13:43:32 | 5.1486        | ppb   | -        |        | 23604METHG  | R50508A |
| 2248   | SMPL    | 180-43842-A-3-B@100 - 1 |             | 08 May 2015 13:45:25 | 1.4761        | ppb   | -        |        | 6757METHG   | R50508A |
| 2249   | SMPL    | 180-43842-A-3-B@50 - 1  |             | 08 May 2015 13:47:33 | 3.1317        | ppb   | -        |        | 14352METHG  | R50508A |
| 2250   | SMPL    | 180-43842-A-4-B@10 - 1  |             | 08 May 2015 13:49:29 | 4.3584        | ppb   | -        |        | 19979METHG  | R50508A |
| 2251   | SMPL    | MB 180-140974/1-A - 1   |             | 08 May 2015 13:51:32 | -0.0822       | ppb   | -        |        | -391METHG   | R50508A |
| 2252   | SMPL    | LCS 180-140974/2-A - 1  |             | 08 May 2015 13:53:39 | 2.6563        | ppb   | -        |        | 12171METHG  | R50508A |
| 2253   | SMPL    | 180-43684-D-2-B - 1     |             | 08 May 2015 13:55:33 | 0.5507        | ppb   | -        |        | 2512METHG   | R50508A |
| 2254   | SMPL    | 180-43684-D-3-B - 1     |             | 08 May 2015 13:57:32 | 0.5864        | ppb   | -        |        | 2676METHG   | R50508A |
| 2255   | SMPL    | 180-43684-D-4-B - 1     |             | 08 May 2015 13:59:25 | 0.7174        | ppb   | -        |        | 3277METHG   | R50508A |
| 2256   | SMPL    | 180-43684-D-5-B - 1     |             | 08 May 2015 14:01:19 | 0.4750        | ppb   | -        |        | 2165METHG   | R50508A |
| 2257   | CK STND | CCV - 1                 |             | 08 May 2015 14:03:14 | 100.7% 5.0357 | ppb   | -        |        | 23086METHG  | R50508A |
| 2258   | CK STND | CCB - 1                 |             | 08 May 2015 14:05:08 | -0.0885       | ppb   | -        |        | -420METHG   | R50508A |
| 2259   | SMPL    | 180-43684-D-6-D - 1     |             | 08 May 2015 14:07:18 | 0.7573        | ppb   | -        |        | 3460METHG   | R50508A |
| 2260   | SMPL    | 180-43684-D-6-E MS - 1  |             | 08 May 2015 14:09:10 | 2.5074        | ppb   | -        |        | 11488METHG  | R50508A |
| 2261   | SMPL    | 180-43684-D-6-F MSD - 1 |             | 08 May 2015 14:11:03 | 2.0014        | ppb   | -        |        | 9167METHG   | R50508A |
| 2262   | SMPL    | 180-43698-D-1-A - 1     |             | 08 May 2015 14:13:01 | 1.4922        | ppb   | -        |        | 6831METHG   | R50508A |
| 2263   | SMPL    | 180-43698-D-2-A - 1     |             | 08 May 2015 14:14:57 | 0.7006        | ppb   | -        |        | 3200METHG   | R50508A |
| 2264   | SMPL    | 180-43698-D-3-A - 1     |             | 08 May 2015 14:16:52 | 1.2711        | ppb   | -        |        | 5817METHG   | R50508A |
| 2265   | SMPL    | 180-43698-D-4-A - 1     |             | 08 May 2015 14:18:47 | 0.9003        | ppb   | -        |        | 4116METHG   | R50508A |
| 2266   | SMPL    | 180-43698-D-5-A - 1     |             | 08 May 2015 14:20:43 | 1.2971        | ppb   | -        |        | 5936METHG   | R50508A |
| 2267   | SMPL    | 180-43698-B-9-H - 1     |             | 08 May 2015 14:22:38 | 1.0915        | ppb   | -        |        | 4993METHG   | R50508A |
| 2268   | SMPL    | 180-43698-D-10-A - 1    |             | 08 May 2015 14:24:33 | 0.7227        | ppb   | -        |        | 3301METHG   | R50508A |
| 2269   | CK STND | CCV - 1                 |             | 08 May 2015 14:26:28 | 99.4% 4.9679  | ppb   | -        |        | 22775METHG  | R50508A |
| 2270   | CK STND | CCB - 1                 |             | 08 May 2015 14:28:22 | -0.0992       | ppb   | -        |        | -469METHG   | R50508A |
| 2271   | SMPL    | 180-43698-B-11-H - 1    |             | 08 May 2015 14:30:32 | 1.1556        | ppb   | -        |        | 5287METHG   | R50508A |
| 2272   | SMPL    | 180-43698-D-12-A - 1    |             | 08 May 2015 14:32:24 | 1.6984        | ppb   | -        |        | 7777METHG   | R50508A |
| 2273   | SMPL    | 180-43411-A-2-L - 1     |             | 08 May 2015 14:34:19 | 0.7748        | ppb   | -        |        | 3540METHG   | R50508A |
| 2274   | SMPL    | MB 180-141000/1-A - 1   |             | 08 May 2015 14:36:13 | -0.0331       | ppb   | -        |        | -166METHG   | R50508A |
| 2275   | SMPL    | LCS 180-141000/2-A - 1  |             | 08 May 2015 14:38:08 | 2.6785        | ppb   | -        |        | 12273METHG  | R50508A |
| 2276   | SMPL    | 180-43699-C-1-B - 1     |             | 08 May 2015 14:40:00 | 1.4508        | ppb   | -        |        | 6641METHG   | R50508A |
| 2277   | SMPL    | 180-43699-A-2-F - 1     |             | 08 May 2015 14:42:01 | 8.1561        | ppb   | -        |        | 37400METHG  | R50508A |
| 2278   | SMPL    | 180-43699-B-3-A - 1     |             | 08 May 2015 14:43:57 | 4.1367        | ppb   | -        |        | 18962METHG  | R50508A |

## R50508A-raw

Method: METHG

Operator: Admin

Date of Analysis: 08 May 2015 12:00:56

| Seq ID | Type    | Sample ID               | Extended ID | Date                 | Conc.        | Units | Std Conc | μ Abs. | Method | Chapter |
|--------|---------|-------------------------|-------------|----------------------|--------------|-------|----------|--------|--------|---------|
| 2279   | SMPL    | 180-43699-A-4-F - 1     |             | 08 May 2015 14:46:10 | 5.8368       | ppb   |          | 26761  | METHG  | R50508A |
| 2280   | SMPL    | 180-43699-B-5-A - 1     |             | 08 May 2015 14:48:17 | 1.7839       | ppb   |          | 8169   | METHG  | R50508A |
| 2281   | CK STND | CCV - 1                 |             | 08 May 2015 14:50:25 | 96.2% 4.8123 | ppb   |          | 22061  | METHG  | R50508A |
| 2282   | CK STND | CCB - 1                 |             | 08 May 2015 14:52:23 | -0.1251      | ppb   |          | -588   | METHG  | R50508A |
| 2283   | SMPL    | 180-43699-A-6-F - 1     |             | 08 May 2015 14:54:31 | 6.2371       | ppb   |          | 28597  | METHG  | R50508A |
| 2284   | SMPL    | 180-43699-B-7-A - 1     |             | 08 May 2015 14:56:23 | 1.2216       | ppb   |          | 5590   | METHG  | R50508A |
| 2285   | SMPL    | 180-43699-B-8-A - 1     |             | 08 May 2015 14:58:31 | 1.4519       | ppb   |          | 6646   | METHG  | R50508A |
| 2286   | SMPL    | 180-43698-D-9-A - 1     |             | 08 May 2015 15:00:27 | 0.8330       | ppb   |          | 3807   | METHG  | R50508A |
| 2287   | SMPL    | 180-43699-A-9-P MS - 1  |             | 08 May 2015 15:02:24 | 5.9888       | ppb   |          | 27458  | METHG  | R50508A |
| 2288   | SMPL    | 180-43699-A-9-Q MSD - 1 |             | 08 May 2015 15:04:19 | 5.3326       | ppb   |          | 24448  | METHG  | R50508A |
| 2289   | SMPL    | 180-43699-B-10-A - 1    |             | 08 May 2015 15:06:28 | 1.9443       | ppb   |          | 8905   | METHG  | R50508A |
| 2290   | SMPL    | 180-43698-D-11-A - 1    |             | 08 May 2015 15:08:36 | 0.8341       | ppb   |          | 3812   | METHG  | R50508A |
| 2291   | SMPL    | 180-43699-B-12-A - 1    |             | 08 May 2015 15:10:34 | 1.6223       | ppb   |          | 7428   | METHG  | R50508A |
| 2292   | SMPL    | 180-43699-A-13-F - 1    |             | 08 May 2015 15:12:29 | 3.9730       | ppb   |          | 18211  | METHG  | R50508A |
| 2293   | CK STND | CCV - 1                 |             | 08 May 2015 15:14:28 | 97.2% 4.8620 | ppb   |          | 22289  | METHG  | R50508A |
| 2294   | CK STND | CCB - 1                 |             | 08 May 2015 15:16:31 | -0.0931      | ppb   |          | -441   | METHG  | R50508A |
| 2295   | SMPL    | 180-43699-B-14-A - 1    |             | 08 May 2015 15:18:41 | 3.4374       | ppb   |          | 15754  | METHG  | R50508A |
| 2296   | SMPL    | 180-43699-B-15-A - 1    |             | 08 May 2015 15:20:35 | 3.5767       | ppb   |          | 16393  | METHG  | R50508A |
| 2297   | SMPL    | 180-43699-C-17-A - 1    |             | 08 May 2015 15:22:39 | 3.8869       | ppb   |          | 17816  | METHG  | R50508A |
| 2298   | SMPL    | 180-43699-C-18-A - 1    |             | 08 May 2015 15:24:41 | 1.0082       | ppb   |          | 4611   | METHG  | R50508A |
| 2299   | SMPL    | 180-43699-C-19-A - 1    |             | 08 May 2015 15:26:46 | 5.9336       | ppb   |          | 27205  | METHG  | R50508A |
| 2300   | SMPL    | 180-43699-A-20-D - 1    |             | 08 May 2015 15:28:41 | 5.8115       | ppb   |          | 26645  | METHG  | R50508A |
| 2301   | SMPL    | 180-43699-A-21-D - 1    |             | 08 May 2015 15:30:50 | 0.0979       | ppb   |          | 435    | METHG  | R50508A |
| 2302   | SMPL    | MB 180-141018/1-A - 1   |             | 08 May 2015 15:32:58 | -0.0163      | ppb   |          | -89    | METHG  | R50508A |
| 2303   | SMPL    | LCS 180-141018/2-A - 1  |             | 08 May 2015 15:34:51 | 2.4841       | ppb   |          | 11381  | METHG  | R50508A |
| 2304   | SMPL    | LCSD 180-141018/3-A - 1 |             | 08 May 2015 15:36:43 | 2.4304       | ppb   |          | 11135  | METHG  | R50508A |
| 2305   | CK STND | CCV - 1                 |             | 08 May 2015 15:38:46 | 95.9% 4.7931 | ppb   |          | 21973  | METHG  | R50508A |
| 2306   | CK STND | CCB - 1                 |             | 08 May 2015 15:40:49 | -0.0809      | ppb   |          | -385   | METHG  | R50508A |
| 2307   | SMPL    | 180-43744-A-1-C - 1     |             | 08 May 2015 15:43:02 | 0.0249       | ppb   |          | 100    | METHG  | R50508A |
| 2308   | SMPL    | 180-43747-A-1-C - 1     |             | 08 May 2015 15:44:54 | 0.0079       | ppb   |          | 22     | METHG  | R50508A |
| 2309   | SMPL    | 180-43814-A-1-D - 1     |             | 08 May 2015 15:46:47 | 0.0039       | ppb   |          | 4      | METHG  | R50508A |
| 2310   | CK STND | CCV - 1                 |             | 08 May 2015 15:48:40 | 96.7% 4.8330 | ppb   |          | 22156  | METHG  | R50508A |
| 2311   | CK STND | CCB - 1                 |             | 08 May 2015 15:50:32 | -0.0826      | ppb   |          | -393   | METHG  | R50508A |



## METALS BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Batch Number: 140635 Batch Start Date: 05/05/15 16:30 Batch Analyst: Reagle, CarlBatch Method: AVSSEM Batch End Date: 05/05/15 17:30

| Lab Sample ID       | Client Sample ID | Method Chain     | Basis | InitialAmount | FinalAmount | MTAPITMSBREV<br>00014 |  |  |  |
|---------------------|------------------|------------------|-------|---------------|-------------|-----------------------|--|--|--|
| MB 180-140635/1     |                  | AVSSEM,<br>6010B |       | 10.00 g       | 250 mL      |                       |  |  |  |
| LCS<br>180-140635/2 |                  | AVSSEM,<br>6010B |       | 10.00 g       | 250 mL      | 2.5 mL                |  |  |  |
| 180-43411-A-1       | DE01-SD          | AVSSEM,<br>6010B | V     | 10.03 g       | 250 mL      |                       |  |  |  |
| 180-43411-A-2       | F05-SD           | AVSSEM,<br>6010B | V     | 9.95 g        | 250 mL      |                       |  |  |  |

| Batch Notes |  |
|-------------|--|
|             |  |
|             |  |

| Basis | Basis Description |
|-------|-------------------|
| V     | SEM/AVS           |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

# METALS BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Batch Number: 139790 Batch Start Date: 04/27/15 15:00 Batch Analyst: Baikadi, Ashwin

Batch Method: 3050B Batch End Date: 04/28/15 17:00

| Lab Sample ID    | Client Sample ID | Method Chain | Basis | CalcMsg             | InitialAmount | FinalAmount | MTAPITTCPMS<br>00020 | MTAPITMSA<br>00023 | MTAPITMSC<br>00029 |
|------------------|------------------|--------------|-------|---------------------|---------------|-------------|----------------------|--------------------|--------------------|
| MB 180-139790/1  |                  | 3050B, 6020A |       | CALC NOT SET TO RUN | 00002.01 g    | 100 mL      |                      |                    |                    |
| LCS 180-139790/2 |                  | 3050B, 6020A |       | CALC NOT SET TO RUN | 00002.01 g    | 100 mL      | 1 mL                 | 1 mL               | 1 mL               |
| 180-43411-B-1    | DE01-SD          | 3050B, 6020A | T     | CALC NOT SET TO RUN | 00002.03 g    | 100 mL      |                      |                    |                    |
| 180-43411-B-2    | F05-SD           | 3050B, 6020A | T     | CALC NOT SET TO RUN | 00002.05 g    | 100 mL      |                      |                    |                    |

| Batch Notes                              |                  |
|--|------------------|
| Analyst                                  | AB               |
| Balance ID                               | P1856710         |
| Batch Comment                            | Metals D6        |
| Blank Soil Lot Number                    | 1159128          |
| First End time                           | 17:00            |
| Filter Paper Lot Number                  | 9605292B         |
| Hydrogen peroxide lot number             | 10 ml 1536618    |
| Lot # of hydrochloric acid               | 10 ml 1533280    |
| Logbook ID for diluted Nitric            | 10 ml 1542247    |
| Lot # of Nitric Acid                     | 5 ml 1513887     |
| Hot Block ID number                      | #7               |
| Oven, Bath or Block Temperature 1        | 95 Degrees C     |
| Pipette ID                               | L1201611U        |
| Person's name who witnessed reagent drop | AB               |
| Perform Calculation (0=No, 1=Yes)        | 0                |
| First Start time                         | 15:00            |
| Temperature                              | 95 Degrees C     |
| ID number of the thermometer             | IP3-14 CF=0.0 A2 |
| Digestion Tube/Cup Lot #                 | 1408268          |
| Uncorrected Temperature                  | 95 Celsius       |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

# METALS BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Batch Number: 139790 Batch Start Date: 04/27/15 15:00 Batch Analyst: Baikadi, Ashwin

Batch Method: 3050B Batch End Date: 04/28/15 17:00

| Basis | Basis Description |
|-------|-------------------|
| T     | Total/NA          |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

## METALS BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Batch Number: 140974 Batch Start Date: 05/08/15 10:45 Batch Analyst: Freeman, Michele LBatch Method: 7471A Batch End Date: 05/08/15 11:30

| Lab Sample ID       | Client Sample ID | Method Chain | Basis | InitialAmount | FinalAmount | MHgworkingCal<br>01040 |  |  |  |
|---------------------|------------------|--------------|-------|---------------|-------------|------------------------|--|--|--|
| MB 180-140974/1     |                  | 7471A, 7471A |       | 1.24 g        | 100 mL      |                        |  |  |  |
| LCS<br>180-140974/2 |                  | 7471A, 7471A |       | 1.20 g        | 100 mL      | 2.5 mL                 |  |  |  |
| 180-43411-A-2       | F05-SD           | 7471A, 7471A | T     | 1.23 g        | 100 mL      |                        |  |  |  |

| Batch Notes                       |                            |
|-----------------------------------|----------------------------|
| Hydroxylamine Hydrochloride Lot   | 6mL 1554125 HG-DISP-C6     |
| Aqua Regia Lot Number             | 5mL 1564935                |
| Balance ID                        | B417532814                 |
| Batch Comment                     | HG-DISP-05C4676 h2O        |
| Hood ID or number                 | HB1                        |
| Potassium Persulfate Lot Number   | 8mL 1550823 HG-DISP-KS4    |
| Potassium Permanganate Lot Number | 15mL 1563187 HG-DISP-KMNO4 |
| Oven, Bath or Block Temperature 1 | 95C Celsius                |
| Pipette ID                        | L1201611U                  |
| Stannous Chloride Lot Number      | 1556837                    |
| Person who witnessed spiking      | MLF                        |
| ID number of the thermometer      | IP30-14 0.0 B3             |
| Digestion Tube/Cup Lot #          | ENV.EXPRESS 1501179        |

| Basis | Basis Description |
|-------|-------------------|
| T     | Total/NA          |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

7471A

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## METALS BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Batch Number: 141017 Batch Start Date: 05/08/15 10:45 Batch Analyst: Freeman, Michele LBatch Method: 7470A Batch End Date: 05/08/15 11:30

| Lab Sample ID        | Client Sample ID | Method Chain | Basis | InitialAmount | FinalAmount | MHgworkingCal<br>01040 | MHgWorkingicv<br>01011 |  |  |
|----------------------|------------------|--------------|-------|---------------|-------------|------------------------|------------------------|--|--|
| ICV<br>180-141017/7  |                  | 7470A, 7471A |       | 100 mL        | 100 mL      |                        | 2.5 mL                 |  |  |
| ICB<br>180-141017/8  |                  | 7470A, 7471A |       | 100 mL        | 100 mL      |                        |                        |  |  |
| CRA<br>180-141017/9  |                  | 7470A, 7471A |       | 100 mL        | 100 mL      | 0.2 mL                 |                        |  |  |
| CCV<br>180-141017/10 |                  | 7470A, 7471A |       | 100 mL        | 100 mL      | 5 mL                   |                        |  |  |
| CCB<br>180-141017/11 |                  | 7470A, 7471A |       | 100 mL        | 100 mL      |                        |                        |  |  |

| Batch Notes                       |                            |
|-----------------------------------|----------------------------|
| Hydroxylamine Hydrochloride Lot   | 6mL 1554125                |
| Batch Comment                     | HG-DISP-05C4676 H2O        |
| Hot Block ID number               | HB3                        |
| Potassium Persulfate Lot Number   | 8mL 1550823 HG-DISP-KS4    |
| Potassium Permanganate Lot Number | 15ml 1563187 HG-DISP-KMNO4 |
| Pipette ID                        | L1201611U                  |
| Stannous Chloride Lot Number      | 1556837                    |
| Person who witnessed spiking      | MLF                        |
| Temperature                       | 95c                        |
| ID number of the thermometer      | IP33-14 0.0 B3             |
| Digestion Tube/Cup Lot #          | ENV.EXPRESS 1501179        |

| Basis | Basis Description |
|-------|-------------------|
|       |                   |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

7471A

Page 1 of 1

# GENERAL CHEMISTRY

COVER PAGE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-43411-1

SDG No.: \_\_\_\_\_

Project: Sparrows Point Trust Offshore Investigat

Client Sample ID

DE01-SD

F05-SD

Lab Sample ID

180-43411-1

180-43411-2

Comments:

1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

|                                  |                                 |
|----------------------------------|---------------------------------|
| Client Sample ID: DE01-SD        | Lab Sample ID: 180-43411-1      |
| Lab Name: TestAmerica Pittsburgh | Job No.: 180-43411-1            |
| SDG ID.:                         |                                 |
| Matrix: Sediment                 | Date Sampled: 04/23/2015 13:00  |
| Reporting Basis: DRY             | Date Received: 04/24/2015 08:30 |
| % Solids: 72.2                   |                                 |

| CAS No.   | Analyte                              | Result | RL   | MDL  | Units | C | Q | DIL | Method        |
|-----------|--------------------------------------|--------|------|------|-------|---|---|-----|---------------|
| 57-12-5   | Cyanide, Total                       | 1.6    | 0.34 | 0.11 | mg/Kg |   |   | 1   | 9014          |
| 7440-44-0 | Total Organic Carbon<br>- Duplicates | 3200   | 1400 | 120  | mg/Kg |   |   | 1   | Lloyd<br>Kahn |



1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY - SEM/AVS

Client Sample ID: DE01-SD

Lab Sample ID: 180-43411-1

Lab Name: TestAmerica Pittsburgh

Job No.: 180-43411-1

SDG ID.:

Matrix: Sediment

Date Sampled: 04/23/2015 13:00

Reporting Basis: DRY

Date Received: 04/24/2015 08:30

% Solids: 72.2

| CAS No.    | Analyte                      | Result | RL   | MDL  | Units  | C | Q | DIL | Method |
|------------|------------------------------|--------|------|------|--------|---|---|-----|--------|
| 18496-25-8 | Acid Volatile Sulfides (AVS) | 11     | 21   | 4.1  | mg/Kg  | J |   | 1   | 9034   |
| 18496-25-8 | Acid Volatile Sulfides (AVS) | 0.35   | 0.65 | 0.13 | umol/g | J |   | 1   | 9034   |

1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY

Client Sample ID: F05-SD  
Lab Name: TestAmerica Pittsburgh  
SDG ID.:  
Matrix: Sediment  
Reporting Basis: DRY  
% Solids: 71.3

Lab Sample ID: 180-43411-2  
Job No.: 180-43411-1  
Date Sampled: 04/23/2015 16:00  
Date Received: 04/24/2015 08:30

| CAS No.   | Analyte                              | Result | RL   | MDL  | Units | C | Q | DIL | Method        |
|-----------|--------------------------------------|--------|------|------|-------|---|---|-----|---------------|
| 57-12-5   | Cyanide, Total                       | 0.74   | 0.35 | 0.11 | mg/Kg |   |   | 1   | 9014          |
|           | HEM                                  | 14000  | 1400 | 240  | mg/Kg |   |   | 1   | 9071B         |
| 7440-44-0 | Total Organic Carbon<br>- Duplicates | 17000  | 1400 | 120  | mg/Kg |   |   | 1   | Lloyd<br>Kahn |

1B-IN  
INORGANIC ANALYSIS DATA SHEET  
GENERAL CHEMISTRY - SEM/AVS

Client Sample ID: F05-SD  
Lab Name: TestAmerica Pittsburgh  
SDG ID.:  
Matrix: Sediment  
Reporting Basis: DRY  
% Solids: 71.3

Lab Sample ID: 180-43411-2  
Job No.: 180-43411-1  
Date Sampled: 04/23/2015 16:00  
Date Received: 04/24/2015 08:30

| CAS No.    | Analyte                      | Result | RL   | MDL  | Units  | C | Q | DIL | Method |
|------------|------------------------------|--------|------|------|--------|---|---|-----|--------|
| 18496-25-8 | Acid Volatile Sulfides (AVS) | 1100   | 21   | 4.2  | mg/Kg  |   |   | 1   | 9034   |
| 18496-25-8 | Acid Volatile Sulfides (AVS) | 34     | 0.66 | 0.13 | umol/g |   |   | 1   | 9034   |

2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Analyst: PGJ Batch Start Date: 04/28/2015  
Reporting Units: mg/L Analytical Batch No.: 139911

| Sample Number | QC Type | Time  | Analyte        | Result | Spike Amount | (%) Recovery | Limits | Qual | Reagent         |
|---------------|---------|-------|----------------|--------|--------------|--------------|--------|------|-----------------|
| 9             | ICV     | 10:59 | Cyanide, Total | 0.213  | 0.200        | 106          | 90-110 |      | WCN0.2ICV_00326 |
| 10            | ICB     | 11:01 | Cyanide, Total | ND     |              |              |        |      |                 |
| 11            | CCV     | 11:03 | Cyanide, Total | 0.101  | 0.100        | 101          | 90-110 |      | WCN0.1L3_00041  |
| 12            | CCB     | 11:06 | Cyanide, Total | ND     |              |              |        |      |                 |
| 23            | CCV     | 11:29 | Cyanide, Total | 0.105  | 0.100        | 105          | 90-110 |      | WCN0.1L3_00041  |
| 24            | CCB     | 11:31 | Cyanide, Total | ND     |              |              |        |      |                 |
| 34            | CCV     | 11:51 | Cyanide, Total | 0.102  | 0.100        | 102          | 90-110 |      | WCN0.1L3_00041  |
| 35            | CCB     | 11:52 | Cyanide, Total | ND     |              |              |        |      |                 |
| 37            | CCV     | 12:24 | Cyanide, Total | 0.106  | 0.100        | 106          | 90-110 |      | WCN0.1L3_00041  |
| 38            | CCB     | 12:26 | Cyanide, Total | ND     |              |              |        |      |                 |

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
SDG No.: \_\_\_\_\_  
Analyst: CMR Batch Start Date: 05/05/2015  
Reporting Units: mg/L Analytical Batch No.: 140700

| Sample Number | QC Type | Time  | Analyte                      | Result | Spike Amount | (%) Recovery | Limits | Qual | Reagent            |
|---------------|---------|-------|------------------------------|--------|--------------|--------------|--------|------|--------------------|
| 1             | ICV     | 18:20 | Acid Volatile Sulfides (AVS) | 17.8   | 19.2         | 92           | 85-115 |      | WSULFSICVCCV_00204 |
| 2             | ICB     | 18:21 | Acid Volatile Sulfides (AVS) | ND     |              |              |        |      |                    |
| 13            | CCV     | 18:37 | Acid Volatile Sulfides (AVS) | 18.0   | 19.2         | 94           | 85-115 |      | WSULFSICVCCV_00204 |
| 14            | CCB     | 18:38 | Acid Volatile Sulfides (AVS) | ND     |              |              |        |      |                    |
| 20            | CCV     | 18:47 | Acid Volatile Sulfides (AVS) | 17.6   | 19.2         | 92           | 85-115 |      | WSULFSICVCCV_00204 |
| 21            | CCB     | 18:48 | Acid Volatile Sulfides (AVS) | ND     |              |              |        |      |                    |

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

2-IN  
CALIBRATION QUALITY CONTROL  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Analyst: JDD Batch Start Date: 05/07/2015  
 Reporting Units: mg/Kg Analytical Batch No.: 141007

| Sample Number | QC Type | Time  | Analyte                           | Result | Spike Amount | (%) Recovery | Limits | Qual | Reagent          |
|---------------|---------|-------|-----------------------------------|--------|--------------|--------------|--------|------|------------------|
| 1             | CCV     | 04:01 | Total Organic Carbon - Duplicates | 9750   | 10000        | 97           | 85-115 |      | LKTOCKHPL1_00012 |
| 2             | CCB     | 04:06 | Total Organic Carbon - Duplicates | ND     |              |              |        |      |                  |
| 15            | CCV     | 05:54 | Total Organic Carbon - Duplicates | 10500  | 10000        | 104          | 85-115 |      | LKTOCKHPL1_00012 |
| 16            | CCB     | 06:00 | Total Organic Carbon - Duplicates | ND     |              |              |        |      |                  |
| 29            | CCV     | 07:42 | Total Organic Carbon - Duplicates | 10200  | 10000        | 102          | 85-115 |      | LKTOCKHPL1_00012 |
| 30            | CCB     | 07:47 | Total Organic Carbon - Duplicates | ND     |              |              |        |      |                  |
| 43            | CCV     | 09:28 | Total Organic Carbon - Duplicates | 10400  | 10000        | 104          | 85-115 |      | LKTOCKHPL1_00012 |
| 44            | CCB     | 09:33 | Total Organic Carbon - Duplicates | ND     |              |              |        |      |                  |

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN  
METHOD BLANK  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

| Method  | Lab Sample ID     | Analyte                           | Result | Qual | Units  | RL   | Dil |
|---|-------------------|-----------------------------------|--------|------|--------|------|-----|
| Batch ID: 139911 Date: 04/28/2015 12:22 Prep Batch: 139851 Date: 04/28/2015 08:30 |                   |                                   |        |      |        |      |     |
| 9014  | MB 180-139851/4-A | Cyanide, Total                    | ND     |      | mg/Kg  | 0.25 | 1   |
| Batch ID: 140700 Date: 05/05/2015 18:22 Prep Batch: 140637 Date: 05/05/2015 16:30 |                   |                                   |        |      |        |      |     |
| 9034  | MB 180-140637/1-A | Acid Volatile Sulfides (AVS)      | ND     |      | mg/Kg  | 15   | 1   |
| 9034  | MB 180-140637/1-A | Acid Volatile Sulfides (AVS)      | ND     |      | umol/g | 0.47 | 1   |
| Batch ID: 139865 Date: 04/27/2015 08:29 Prep Batch: 139713 Date: 04/27/2015 08:29 |                   |                                   |        |      |        |      |     |
| 9071B   | MB 180-139713/1-A | HEM                               | ND     |      | mg/Kg  | 170  | 1   |
| Batch ID: 141007 Date: 05/07/2015 04:11   |                   |                                   |        |      |        |      |     |
| Lloyd Kahn  | MB 180-141007/3   | Total Organic Carbon - Duplicates | ND     |      | mg/Kg  | 1000 | 1   |

7A-IN  
LAB CONTROL SAMPLE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Matrix: Sediment

| Method  | Lab Sample ID         | Analyte                           | Result | C | Unit  | Spike Amount | Pct. Rec. | Limits | RPD | RPD Limit | Q |
|---|-----------------------|-----------------------------------|--------|---|-------|--------------|-----------|--------|-----|-----------|---|
| Batch ID: 139911 Date: 04/28/2015 11:12 Prep Batch: 139851 Date: 04/28/2015 08:30<br>LCS Source: WCNSoilLCS_00015 |                       |                                   |        |   |       |              |           |        |     |           |   |
| 9014  | LCS<br>180-139851/3-A | Cyanide, Total                    | 77.0   |   | mg/Kg | 70.3         | 110       | 38-162 |     |           |   |
| Batch ID: 140700 Date: 05/05/2015 18:24 Prep Batch: 140637 Date: 05/05/2015 16:30<br>LCS Source: WSULFPSP_00201   |                       |                                   |        |   |       |              |           |        |     |           |   |
| 9034  | LCS<br>180-140637/2-A | Acid Volatile Sulfides (AVS)      | 86.5   |   | mg/Kg | 96.1         | 90        | 85-115 |     |           |   |
| Batch ID: 139865 Date: 04/27/2015 08:29 Prep Batch: 139713 Date: 04/27/2015 08:29<br>LCS Source: WHemPSP_00183    |                       |                                   |        |   |       |              |           |        |     |           |   |
| 9071B   | LCS<br>180-139713/2-A | HEM                               | 1300   |   | mg/Kg | 1330         | 98        | 78-114 | 1   | 18        |   |
| Batch ID: 141007 Date: 05/07/2015 04:25<br>LCS Source: LKTOCSRM_00016   |                       |                                   |        |   |       |              |           |        |     |           |   |
| Lloyd Kahn  | LCS<br>180-141007/4   | Total Organic Carbon - Duplicates | 22900  |   | mg/Kg | 22900        | 100       | 75-125 |     |           |   |

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN



7A-IN  
LAB CONTROL SAMPLE DUPLICATE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Matrix: Sediment

| Method  | Lab Sample ID              | Analyte | Result | C | Unit  | Spike<br>Amount | Pct.<br>Rec. | Limits | RPD | RPD<br>Limit | Q |
|---|----------------------------|---------|--------|---|-------|-----------------|--------------|--------|-----|--------------|---|
| Batch ID: 139865 Date: 04/27/2015 08:29 Prep Batch: 139713 Date: 04/27/2015 08:29 |                            |         |        |   |       |                 |              |        |     |              |   |
| LCSD Source: WHemPSP_00183  |                            |         |        |   |       |                 |              |        |     |              |   |
| 9071B   | LCSD<br>180-139713/3-<br>A | HEM     | 1290   |   | mg/Kg | 1330            | 97           | 78-114 | 1   | 18           |   |

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN  
LOW LEVEL CONTROL SAMPLE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Matrix: Sediment

| Method  | Lab Sample ID              | Analyte        | Result | C | Unit  | Spike<br>Amount | Pct.<br>Rec. | Limits | RPD | RPD<br>Limit | Q |
|---|----------------------------|----------------|--------|---|-------|-----------------|--------------|--------|-----|--------------|---|
| Batch ID: 139911 Date: 04/28/2015 11:08 Prep Batch: 139851 Date: 04/28/2015 08:30 |                            |                |        |   |       |                 |              |        |     |              |   |
| LCS Source: WCN0.5L1_00491  |                            |                |        |   |       |                 |              |        |     |              |   |
| 9014  | LLCS<br>180-139851/1-<br>A | Cyanide, Total | 0.0496 |   | mg/Kg | 0.0500          | 99           | 90-110 |     |              |   |

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

7A-IN  
HIGH LEVEL CONTROL SAMPLE  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Matrix: Sediment

| Method  | Lab Sample ID              | Analyte        | Result | C | Unit  | Spike<br>Amount | Pct.<br>Rec. | Limits | RPD | RPD<br>Limit | Q |
|---|----------------------------|----------------|--------|---|-------|-----------------|--------------|--------|-----|--------------|---|
| Batch ID: 139911 Date: 04/28/2015 11:10 Prep Batch: 139851 Date: 04/28/2015 08:30 |                            |                |        |   |       |                 |              |        |     |              |   |
| LCS Source: WCN10Pi_00483   |                            |                |        |   |       |                 |              |        |     |              |   |
| 9014  | HLCS<br>180-139851/2-<br>A | Cyanide, Total | 0.256  |   | mg/Kg | 0.250           | 103          | 90-110 |     |              |   |

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-43411-1  
SDG Number: \_\_\_\_\_  
Matrix: Sediment Instrument ID: NOEQUIP  
Method: 9014 MDL Date: 10/15/2014 13:01  
Prep Method: 9010C

| Analyte        | Wavelength/<br>Mass | RL<br>(mg/Kg) | MDL<br>(mg/Kg) |
|----------------|---------------------|---------------|----------------|
| Cyanide, Total |                     | 0.25          | 0.08165        |

9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-43411-1  
SDG Number: \_\_\_\_\_  
Matrix: Sediment Instrument ID: NOEQUIP  
Method: 9014 XMDL Date: 10/15/2014 13:02

| Analyte        | Wavelength/<br>Mass | XRL<br>(mg/L) | XMDL<br>(mg/L) |
|----------------|---------------------|---------------|----------------|
| Cyanide, Total |                     | 0.01          | 0.0025         |

9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh

Job Number: 180-43411-1

SDG Number: \_\_\_\_\_

Matrix: Sediment

Instrument ID: NOEQUIP

Method: 2540G

RL Date: 01/31/2010 13:27

| Analyte          | Wavelength/<br>Mass | RL<br>(%) |  |
|------------------|---------------------|-----------|--|
| Percent Moisture |                     | 0.1       |  |

9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-43411-1  
SDG Number: \_\_\_\_\_  
Matrix: Sediment Instrument ID: NOEQUIP  
Method: 2540G XRL Date: 01/31/2010 13:31

| Analyte          | Wavelength/<br>Mass | XRL<br>(%) |  |
|------------------|---------------------|------------|--|
| Percent Moisture |                     | 0.1        |  |

9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY - SEM/AVS

Lab Name: TestAmerica Pittsburgh Job Number: 180-43411-1  
SDG Number: \_\_\_\_\_  
Matrix: Sediment Instrument ID: NOEQUIP  
Method: 9034 MDL Date: 01/07/2010 12:11  
Prep Method: AVSSEM

| Analyte                         | Wavelength/<br>Mass | RL<br>(mg/Kg) | MDL<br>(mg/Kg) |
|---------------------------------|---------------------|---------------|----------------|
| Acid Volatile Sulfides<br>(AVS) |                     | 30            | 6.0001         |



9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY - SEM/AVS

Lab Name: TestAmerica Pittsburgh Job Number: 180-43411-1  
SDG Number: \_\_\_\_\_  
Matrix: Sediment Instrument ID: NOEQUIP  
Method: 9034 XMDL Date: 01/07/2010 12:12

| Analyte                         | Wavelength/<br>Mass | XRL<br>(mg/L) | XMDL<br>(mg/L) |
|---------------------------------|---------------------|---------------|----------------|
| Acid Volatile Sulfides<br>(AVS) |                     | 3             | 0.5897         |

9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-43411-1  
SDG Number: \_\_\_\_\_  
Matrix: Sediment Instrument ID: NOEQUIP  
Method: 9071B MDL Date: 03/10/2015 12:00  
Prep Method: 9071B

| Analyte | Wavelength/<br>Mass | RL<br>(mg/Kg) | MDL<br>(mg/Kg) |
|---------|---------------------|---------------|----------------|
| HEM     |                     | 166.7         | 28.2           |

9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-43411-1  
SDG Number: \_\_\_\_\_  
Matrix: Sediment Instrument ID: NOEQUIP  
Method: 9071B XMDL Date: 01/27/2011 15:52

| Analyte | Wavelength/<br>Mass | XRL<br>(mg/L) | XMDL<br>(mg/L) |
|---------|---------------------|---------------|----------------|
| HEM     |                     | 5             | 1.4986         |

9-IN  
DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh

Job Number: 180-43411-1

SDG Number: \_\_\_\_\_

Matrix: Sediment

Instrument ID: FLASHEA

Method: Lloyd Kahn

MDL Date: 05/25/2012 11:26

| Analyte                              | Wavelength/<br>Mass | RL<br>(mg/Kg) | MDL<br>(mg/Kg) |
|--------------------------------------|---------------------|---------------|----------------|
| Total Organic Carbon -<br>Duplicates |                     | 1000          | 88.72          |

9-IN  
CALIBRATION BLANK DETECTION LIMITS  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job Number: 180-43411-1  
SDG Number: \_\_\_\_\_  
Matrix: Sediment Instrument ID: FLASHEA  
Method: Lloyd Kahn XMDL Date: 01/25/2011 12:50

| Analyte                              | Wavelength/<br>Mass | XRL<br>(mg/Kg) | XMDL<br>(mg/Kg) |
|--------------------------------------|---------------------|----------------|-----------------|
| Total Organic Carbon -<br>Duplicates |                     | 1000           | 250.95          |

12-IN  
PREPARATION LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh

Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Prep Method: 9010C

| Lab<br>Sample<br>ID | Preparation<br>Date | Prep<br>Batch | Initial<br>Weight | Initial<br>Volume<br>(mL) | Final<br>Volume<br>(mL) |
|---------------------|---------------------|---------------|-------------------|---------------------------|-------------------------|
| LLCS 180-139851/1-A | 04/28/2015 08:30    | 139851        |                   | 50                        | 50                      |
| HLCS 180-139851/2-A | 04/28/2015 08:30    | 139851        |                   | 50                        | 50                      |
| LCS 180-139851/3-A  | 04/28/2015 08:30    | 139851        | 1.00              |                           | 50                      |
| MB 180-139851/4-A   | 04/28/2015 08:30    | 139851        | 2.00              |                           | 50                      |
| 180-43411-1         | 04/28/2015 08:30    | 139851        | 2.03              |                           | 50                      |
| 180-43411-2         | 04/28/2015 08:30    | 139851        | 2.00              |                           | 50                      |

12-IN  
PREPARATION LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh

Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Prep Method: 9071B

| Lab<br>Sample<br>ID | Preparation<br>Date | Prep<br>Batch | Initial<br>Weight<br>(g) | Initial<br>Volume | Final<br>Volume<br>(g) |
|---------------------|---------------------|---------------|--------------------------|-------------------|------------------------|
| MB 180-139713/1-A   | 04/27/2015 08:29    | 139713        | 30.0                     |                   | 30.0                   |
| LCS 180-139713/2-A  | 04/27/2015 08:29    | 139713        | 30.0                     |                   | 30.0                   |
| LCSD 180-139713/3-A | 04/27/2015 08:29    | 139713        | 30.0                     |                   | 30.0                   |
| 180-43411-2         | 04/27/2015 08:29    | 139713        | 5.0                      |                   | 30.0                   |

12-IN  
PREPARATION LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh

Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Prep Method: AVSSEM

| Lab<br>Sample<br>ID | Preparation<br>Date | Prep<br>Batch | Initial<br>Weight<br>(g) | Initial<br>Volume | Final<br>Volume<br>(mL) |
|---------------------|---------------------|---------------|--------------------------|-------------------|-------------------------|
| MB 180-140637/1-A   | 05/05/2015 16:30    | 140637        | 10.00                    |                   | 50                      |
| LCS 180-140637/2-A  | 05/05/2015 16:30    | 140637        | 10.00                    |                   | 50                      |
| 180-43411-1         | 05/05/2015 16:30    | 140637        | 10.03                    |                   | 50                      |
| 180-43411-2         | 05/05/2015 16:30    | 140637        | 9.95                     |                   | 50                      |



13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh

Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: NOEQUIP

Analysis Method: 9014

Start Date: 04/28/2015 10:42

End Date: 04/28/2015 12:26

| Lab Sample Id       | D/F | T<br>y<br>p<br>e | Time  | Analytes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---------------------|-----|------------------|-------|----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|                     |     |                  |       | C<br>N   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 10:42 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 10:44 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 10:46 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 10:48 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 10:51 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 10:53 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 10:55 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 10:57 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ICV 180-139911/9    | 1   |                  | 10:59 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ICB 180-139911/10   | 1   |                  | 11:01 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-139911/11   | 1   |                  | 11:03 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB 180-139911/12   | 1   |                  | 11:06 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LLCS 180-139851/1-A | 1   | T                | 11:08 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| HLCS 180-139851/2-A | 1   | T                | 11:10 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LCS 180-139851/3-A  | 10  | T                | 11:12 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 11:14 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 11:16 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 11:18 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 11:21 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 11:23 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 11:25 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 11:27 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-139911/23   | 1   |                  | 11:29 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB 180-139911/24   | 1   |                  | 11:31 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 11:34 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 11:36 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 11:38 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 11:40 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 11:42 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 11:44 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 11:46 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 180-43411-1         | 1   | T                | 11:47 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 180-43411-2         | 1   | T                | 11:49 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-139911/34   | 1   |                  | 11:51 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB 180-139911/35   | 1   |                  | 11:52 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MB 180-139851/4-A   | 1   | T                | 12:22 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-139911/37   | 1   |                  | 12:24 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB 180-139911/38   | 1   |                  | 12:26 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Prep Types: \_\_\_\_\_

T = Total/NA

13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: NOEQUIP Analysis Method: 2540G

Start Date: 04/27/2015 15:42 End Date: 04/27/2015 15:42

| Lab Sample Id | D/F | T<br>y<br>p<br>e | Time  | Analytes              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---------------|-----|------------------|-------|-----------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|               |     |                  |       | M<br>o<br>i<br>s<br>t |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ        |     |                  | 15:42 |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ        |     |                  | 15:42 |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ        |     |                  | 15:42 |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ        |     |                  | 15:42 |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ        |     |                  | 15:42 |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ        |     |                  | 15:42 |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ        |     |                  | 15:42 |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ        |     |                  | 15:42 |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ        |     |                  | 15:42 |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 180-43411-1   | 1   | T                | 15:42 | X                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 180-43411-2   | 1   | T                | 15:42 | X                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ        |     |                  | 15:42 |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ        |     |                  | 15:42 |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ        |     |                  | 15:42 |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ        |     |                  | 15:42 |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ        |     |                  | 15:42 |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ        |     |                  | 15:42 |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ        |     |                  | 15:42 |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ        |     |                  | 15:42 |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ        |     |                  | 15:42 |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ        |     |                  | 15:42 |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ        |     |                  | 15:42 |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ        |     |                  | 15:42 |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ        |     |                  | 15:42 |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ        |     |                  | 15:42 |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Prep Types: \_\_\_\_\_  
T = Total/NA

13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: NOEQUIP Analysis Method: 9034

Start Date: 05/05/2015 18:20 End Date: 05/05/2015 18:48

| Lab Sample Id      | D/F | T<br>y<br>p<br>e | Time  | Analytes |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------|-----|------------------|-------|----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|                    |     |                  |       | S<br>2   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ICV 180-140700/1   | 1   |                  | 18:20 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ICB 180-140700/2   | 1   |                  | 18:21 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MB 180-140637/1-A  | 1   | V                | 18:22 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LCS 180-140637/2-A | 1   | V                | 18:24 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 18:25 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 18:27 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 18:28 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 18:29 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 18:31 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 18:32 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 18:34 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 18:35 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140700/13  | 1   |                  | 18:37 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB 180-140700/14  | 1   |                  | 18:38 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 180-43411-1        | 1   | V                | 18:39 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 180-43411-2        | 1   | V                | 18:41 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 18:42 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 18:44 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ             |     |                  | 18:45 |          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-140700/20  | 1   |                  | 18:47 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB 180-140700/21  | 1   |                  | 18:48 | X        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Prep Types: \_\_\_\_\_  
V = SEM/AVS

13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Instrument ID: NOEQUIP Analysis Method: 9071B

Start Date: 04/27/2015 08:29 End Date: 04/27/2015 08:29

| Lab Sample Id       | D/F | T<br>y<br>p<br>e | Time  | Analytes    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---------------------|-----|------------------|-------|-------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|                     |     |                  |       | H<br>E<br>M |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MB 180-139713/1-A   | 1   | T                | 08:29 | X           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LCS 180-139713/2-A  | 1   | T                | 08:29 | X           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LCSD 180-139713/3-A | 1   | T                | 08:29 | X           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 180-43411-2         | 1   | T                | 08:29 | X           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 08:29 |             |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Prep Types: \_\_\_\_\_  
T = Total/NA

13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: FLASHEA Analysis Method: Lloyd Kahn  
 Start Date: 05/07/2015 04:01 End Date: 05/07/2015 11:24

| Lab Sample Id       | D/F | T<br>y<br>p<br>e | Time  | Analytes         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---------------------|-----|------------------|-------|------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|                     |     |                  |       | T<br>O<br>C<br>D |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-141007/1    | 1   |                  | 04:01 | X                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB 180-141007/2    | 1   |                  | 04:06 | X                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MB 180-141007/3     | 1   | T                | 04:11 | X                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LCS 180-141007/4    | 1   | T                | 04:25 | X                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 04:35 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RINSE 180-141007/6  |     |                  | 04:46 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 04:51 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RINSE 180-141007/8  |     |                  | 05:01 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 05:07 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RINSE 180-141007/10 |     |                  | 05:17 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 05:22 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RINSE 180-141007/12 |     |                  | 05:33 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 05:38 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RINSE 180-141007/14 |     |                  | 05:49 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-141007/15   | 1   |                  | 05:54 | X                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB 180-141007/16   | 1   |                  | 06:00 | X                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 06:06 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RINSE 180-141007/18 |     |                  | 06:16 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 06:21 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RINSE 180-141007/20 |     |                  | 06:32 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 06:39 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RINSE 180-141007/22 |     |                  | 06:49 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 06:55 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RINSE 180-141007/24 |     |                  | 07:05 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 07:10 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RINSE 180-141007/26 |     |                  | 07:21 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 07:26 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RINSE 180-141007/28 |     |                  | 07:36 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-141007/29   | 1   |                  | 07:42 | X                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB 180-141007/30   | 1   |                  | 07:47 | X                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 07:52 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RINSE 180-141007/32 |     |                  | 08:03 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 08:08 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RINSE 180-141007/34 |     |                  | 08:18 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 08:25 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RINSE 180-141007/36 |     |                  | 08:35 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 180-43411-1         | 1   | T                | 08:41 | X                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RINSE 180-141007/38 |     |                  | 08:51 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 180-43411-2         | 1   | T                | 08:56 | X                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RINSE 180-141007/40 |     |                  | 09:07 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

13-IN  
ANALYSIS RUN LOG  
GENERAL CHEMISTRY

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1  
 SDG No.: \_\_\_\_\_  
 Instrument ID: FLASHEA Analysis Method: Lloyd Kahn  
 Start Date: 05/07/2015 04:01 End Date: 05/07/2015 11:24

| Lab Sample Id       | D/F | T<br>y<br>p<br>e | Time  | Analytes         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---------------------|-----|------------------|-------|------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|                     |     |                  |       | T<br>O<br>C<br>D |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 09:12 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RINSE 180-141007/42 |     |                  | 09:23 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-141007/43   | 1   |                  | 09:28 | X                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB 180-141007/44   | 1   |                  | 09:33 | X                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 09:43 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RINSE 180-141007/46 |     |                  | 09:53 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 09:59 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RINSE 180-141007/48 |     |                  | 10:10 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 10:15 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RINSE 180-141007/50 |     |                  | 10:26 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 10:31 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RINSE 180-141007/52 |     |                  | 10:41 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 10:47 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RINSE 180-141007/54 |     |                  | 10:57 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ZZZZZZ              |     |                  | 11:02 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RINSE 180-141007/56 |     |                  | 11:13 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCV 180-141007/57   |     |                  | 11:18 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CCB 180-141007/58   |     |                  | 11:24 |                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Prep Types: \_\_\_\_\_  
 T = Total/NA



# AQ2 Report

**Serial Number:** SEAL 2  
**Report Requested By:** Test America  
**Date & Time:** 04/28/2015 12:33:28  
**Tray Number:** 1  
**Tray Name:** 15.04.28 (08-41)

*J. Johnson 4.26.15*

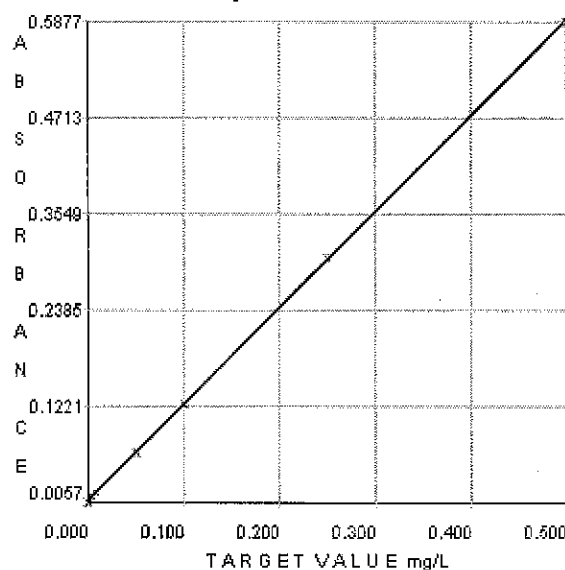
## CYANIDE

### Calibration Chart

| Type | Observed | Calculated | Target | % Error  |
|------|----------|------------|--------|----------|
| S1   | 0.0057   | -0.0017    | 0.0000 |          |
| S90  | 0.0136   | 0.0051     | 0.0050 | 2.0892   |
| S91  | 0.0172   | 0.0082     | 0.0100 | -17.8850 |
| S92  | 0.0669   | 0.0508     | 0.0500 | 1.6238   |
| S93  | 0.1256   | 0.1013     | 0.1000 | 1.2801   |
| S94  | 0.3026   | 0.2532     | 0.2500 | 1.2951   |
| S95  | 0.5877   | 0.4981     | 0.5000 | -0.3843  |
| S0   | 0.0053   | -0.0020    | 0.0000 |          |

Polynomial Order: 1  
 Correlation Coefficient: 0.9999  
 Carryover: -0.1  
 Date & Time: 04/28/2015 10:57:27

### Calibration Graph



## Reagents

| Name           | Batch   | Prepared By  | Expiry Date         |
|----------------|---------|--------------|---------------------|
| CN - Phos Buff | 1390860 | Test America | 11/03/2015 21:00:00 |
| CN - Chl-T     | 1545808 | Test America | 04/30/2015 22:00:00 |
| CN - PyrBrbA   | 1428101 | Test America | 06/04/2015 22:00:00 |

| Cup Type | ID          | Result             | Units   | Raw Data | Test Dil. | Cup Dil. | User | Time/Date           |
|----------|-------------|--------------------|---------|----------|-----------|----------|------|---------------------|
| S1       | STANDARD 1  | 0.0057             |         | 0.005677 |           |          |      | 04/28/2015 10:42:24 |
| S90      | STANDARD 90 | 0.0136             |         | 0.013628 |           |          |      | 04/28/2015 10:44:35 |
| S91      | STANDARD 91 | 0.0172             |         | 0.017246 |           |          |      | 04/28/2015 10:46:42 |
| S92      | STANDARD 92 | 0.0669             |         | 0.066853 |           |          |      | 04/28/2015 10:48:50 |
| S93      | STANDARD 93 | 0.1256             |         | 0.125621 |           |          |      | 04/28/2015 10:51:01 |
| S94      | STANDARD 94 | 0.3026             |         | 0.302569 |           |          |      | 04/28/2015 10:53:11 |
| S95      | STANDARD 95 | 0.5877             |         | 0.587677 |           |          |      | 04/28/2015 10:55:19 |
| S0       | STANDARD 0  | 0.0053             |         | 0.005348 |           |          |      | 04/28/2015 10:57:27 |
| 1        | C15         | ICV                | 0.2128  | mg/L     | 0.255517  |          |      | 04/28/2015 10:59:36 |
| 2        | C17         | ICB                | -0.0013 | mg/L     | 0.006121  |          |      | 04/28/2015 11:01:44 |
|          | C11         | C C V              | 0.1005  | mg/L     | 0.124729  |          |      | 04/28/2015 11:03:52 |
|          | C12         | C C B              | -0.0016 | mg/L     | 0.005804  |          |      | 04/28/2015 11:06:01 |
| 3        | U1          | LLCS 180-1398511-A | 0.0496  | mg/L     | 0.065416  |          |      | 04/28/2015 11:08:10 |
| 4        | U2          | HLCS 180-1398512-A | 0.2564  | mg/L     | 0.306221  |          |      | 04/28/2015 11:10:19 |
| 5        | U3          | LCS 180-1398513-A  | 1.5400  | mg/L     | 0.187012  | x 10.000 |      | 04/28/2015 11:12:27 |

|              |               |                             |                   |                 |                     |                                |
|--------------|---------------|-----------------------------|-------------------|-----------------|---------------------|--------------------------------|
| <del>6</del> | <del>U4</del> | <del>MB 180-1398514-A</del> | <del>0.0326</del> | <del>mg/L</del> | <del>0.045620</del> | <del>04/28/2015 11:14:36</del> |
| 7            | U5            | 180-43114-B-1-I             | -0.0010           | mg/L            | 0.006508            | 04/28/2015 11:16:47            |
| 8            | U6            | 180-43114-B-1-J MS          | 0.1044            | mg/L            | 0.129269            | 04/28/2015 11:18:57            |
| 9            | U7            | 180-43114-B-1-K MSD         | 0.1178            | mg/L            | 0.144843            | 04/28/2015 11:21:06            |
| 10           | U8            | 180-43114-B-2-I             | -0.0019           | mg/L            | 0.005420            | 04/28/2015 11:23:15            |
| 11           | U9            | 180-43225-B-1-I             | -0.0013           | mg/L            | 0.006116            | 04/28/2015 11:25:24            |
| 12           | U10           | 180-43225-B-2-I             | -0.0006           | mg/L            | 0.006952            | 04/28/2015 11:27:33            |
|              | C11           | C C V                       | 0.1054            | mg/L            | 0.130366            | 04/28/2015 11:29:42            |
|              | C12           | C C B                       | -0.0016           | mg/L            | 0.005827            | 04/28/2015 11:31:51            |
| 13           | U11           | 180-43249-B-1-I             | -0.0013           | mg/L            | 0.006115            | 04/28/2015 11:34:00            |
| 14           | U12           | 180-43368-D-1-A             | 0.0126            | mg/L            | 0.022299            | 04/28/2015 11:36:08            |
| 15           | U13           | 180-43408-L-1-A             | 0.0001            | mg/L            | 0.007776            | 04/28/2015 11:38:16            |
| 16           | U14           | 180-43408-L-2-A             | 0.0007            | mg/L            | 0.008454            | 04/28/2015 11:40:27            |
| 17           | U15           | 180-43408-C-3-A             | 0.0010            | mg/L            | 0.008845            | 04/28/2015 11:42:37            |
| 18           | U16           | 180-43408-L-4-A             | 0.0075            | mg/L            | 0.016388            | 04/28/2015 11:44:25            |
| 19           | U17           | 180-43408-K-5-A             | 0.0077            | mg/L            | 0.016602            | 04/28/2015 11:46:13            |
| 20           | U18           | 180-43411-A-1-A             | 0.0458            | mg/L            | 0.061040            | 04/28/2015 11:47:52            |
| 21           | U19           | 180-43411-A-2-E             | 0.0211            | mg/L            | 0.032312            | 04/28/2015 11:49:31            |
|              | C11           | C C V                       | 0.1024            | mg/L            | 0.126932            | 04/28/2015 11:51:11            |
|              | C12           | C C B                       | -0.0014           | mg/L            | 0.006057            | 04/28/2015 11:52:51            |
| 6            | U4            | MB 180-1398514-A            | -0.0016           | mg/L            | 0.005849            | 04/28/2015 12:22:49            |
|              | C11           | C C V                       | 0.1058            | mg/L            | 0.130941            | 04/28/2015 12:24:29            |
|              | C12           | C C B                       | -0.0021           | mg/L            | 0.005231            | 04/28/2015 12:26:09            |



# General Chemistry Worksheet

Batch Number: 180-140700  
Method: 9034  
Analyst: Reagle, Carl

*Carl M. D.*  
05/05/15

Date Oper: May 05 2015 6:20PM  
Batch End: May 05 2015 6:50PM

| Lab ID             | Client ID | Method Chain | Basis | Final weight/volume of sample | Amount of Iodine | First additional Buret Start volume | Volume of Titrant One Added | Calculation Message | WSULFSICVCCV_00204 |
|--------------------|-----------|--------------|-------|-------------------------------|------------------|-------------------------------------|-----------------------------|---------------------|--------------------|
| ICV~180-140700/1   |           | 9034_Calc    |       | 50 mL                         | 10 mL            | 0 mL                                | 0 mL                        | Buret Stop is Blank | 1 mL               |
| ICB~180-140700/2   |           | 9034_Calc    |       | 50 mL                         | 10 mL            | 0 mL                                | 0 mL                        | Buret Stop is Blank |                    |
| MB~180-140637/1-A  |           | 9034_Calc    |       | 50 mL                         | 10 mL            | 0 mL                                | 0 mL                        | Buret Stop is Blank |                    |
| LCS~180-140637/2-A |           | 9034_Calc    |       | 50 mL                         | 10 mL            | 0 mL                                | 0 mL                        | Buret Stop is Blank |                    |
| 180-43368-B-1-P    |           | 9034_Calc    | V     | 50 mL                         | 10 mL            | 0 mL                                | 0 mL                        | Buret Stop is Blank |                    |
| 180-43368-B-1-Q-M  |           | 9034_Calc    | V     | 50 mL                         | 10 mL            | 0 mL                                | 0 mL                        | Buret Stop is Blank |                    |
| 180-43368-B-1-R-M  |           | 9034_Calc    | V     | 50 mL                         | 10 mL            | 0 mL                                | 0 mL                        | Buret Stop is Blank |                    |
| 180-43408-L-1-K    |           | 9034_Calc    | V     | 50 mL                         | 10 mL            | 0 mL                                | 0 mL                        | Buret Stop is Blank |                    |
| 180-43408-L-2-J    |           | 9034_Calc    | V     | 50 mL                         | 10 mL            | 0 mL                                | 0 mL                        | Buret Stop is Blank |                    |
| 180-43408-C-3-G    |           | 9034_Calc    | V     | 50 mL                         | 10 mL            | 0 mL                                | 0 mL                        | Buret Stop is Blank |                    |
| 180-43408-K-4-G    |           | 9034_Calc    | V     | 50 mL                         | 10 mL            | 0 mL                                | 0 mL                        | Buret Stop is Blank |                    |
| 180-43408-L-5-D    |           | 9034_Calc    | V     | 50 mL                         | 10 mL            | 0 mL                                | 0 mL                        | Buret Stop is Blank |                    |
| CCV~180-140700/1   |           | 9034_Calc    |       | 50 mL                         | 10 mL            | 0 mL                                | 0 mL                        | Buret Stop is Blank | 1 mL               |
| CCB~180-140700/1   |           | 9034_Calc    |       | 50 mL                         | 10 mL            | 0 mL                                | 0 mL                        | Buret Stop is Blank |                    |
| 180-43411-A-1-D    |           | 9034_Calc    | V     | 50 mL                         | 10 mL            | 0 mL                                | 0 mL                        | Buret Stop is Blank |                    |
| 180-43411-A-2-K    |           | 9034_Calc    | V     | 50 mL                         | 30 mL            | 0 mL                                | 0 mL                        | Buret Stop is Blank |                    |
| 180-43458-B-2-1    |           | 9034_Calc    | V     | 50 mL                         | 10 mL            | 0 mL                                | 0 mL                        | Buret Stop is Blank |                    |
| 180-43458-C-3-D    |           | 9034_Calc    | V     | 50 mL                         | 10 mL            | 0 mL                                | 0 mL                        | Buret Stop is Blank |                    |
| 180-43458-C-4-D    |           | 9034_Calc    | V     | 50 mL                         | 20 mL            | 0 mL                                | 0 mL                        | Buret Stop is Blank |                    |
| CCV~180-140700/2   |           | 9034_Calc    |       | 50 mL                         | 10 mL            | 0 mL                                | 0 mL                        | Buret Stop is Blank | 1 mL               |
| CCB~180-140700/2   |           | 9034_Calc    |       | 50 mL                         | 10 mL            | 0 mL                                | 0 mL                        | Buret Stop is Blank |                    |

Perform Calculation (0=No, 1=Yes):

HCl Concentration:

Lot # of hydrochloric acid:

Zinc Acetate Buffer Reagent ID Number:

Normality of Iodine Solution:

Normality of first Titrant:

Starch Lot Number:

Starch Vendor:

Iodine Lot Number:

Iodine Vendor:

Sodium Thiosulfate Reagent ID Number:

1

6 N

1539063

1548123

0.0241 N

0.0240 N

1461162

1461162

1296715

1296715

1457116

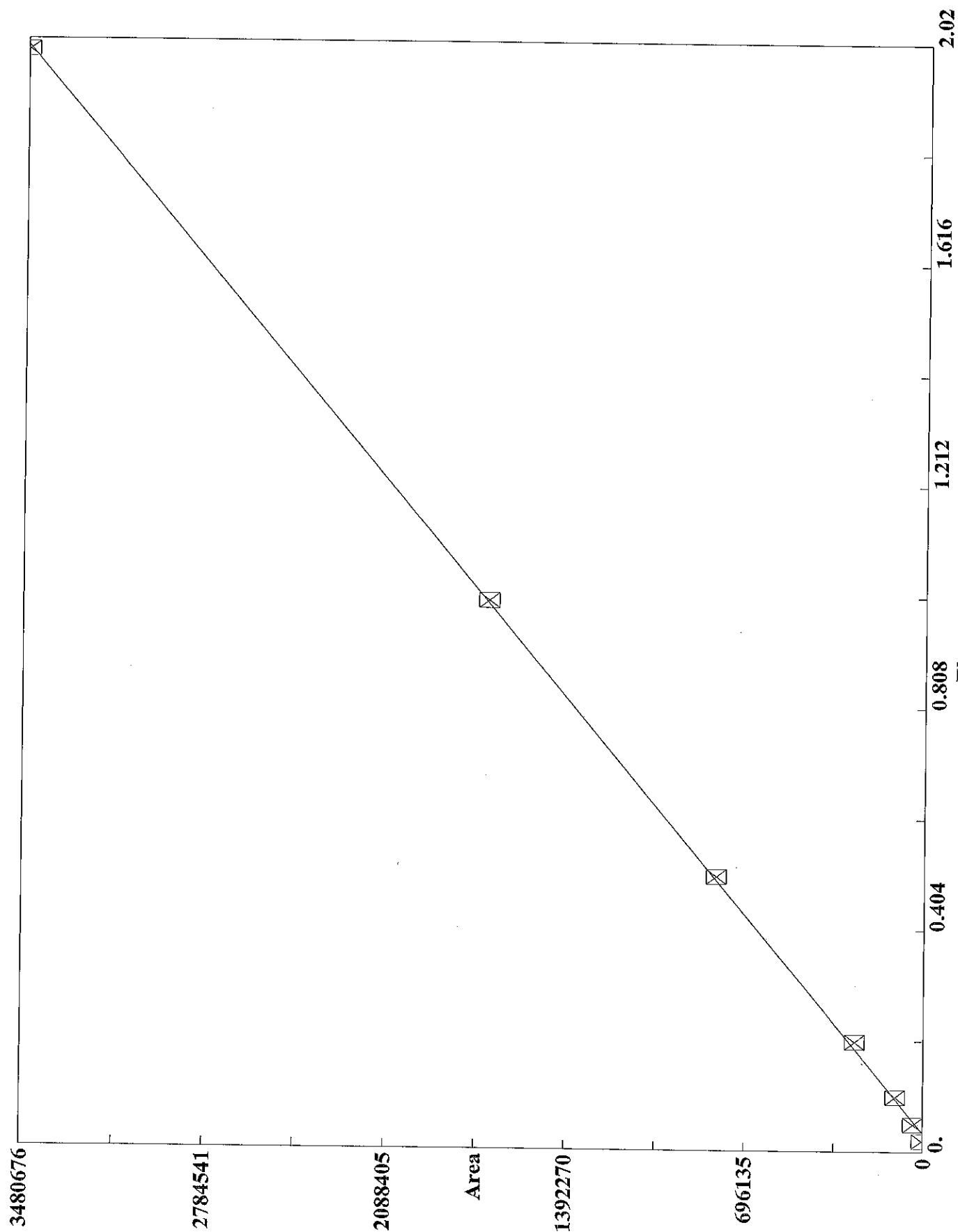
Pipette ID:

G1488373U J1207624U

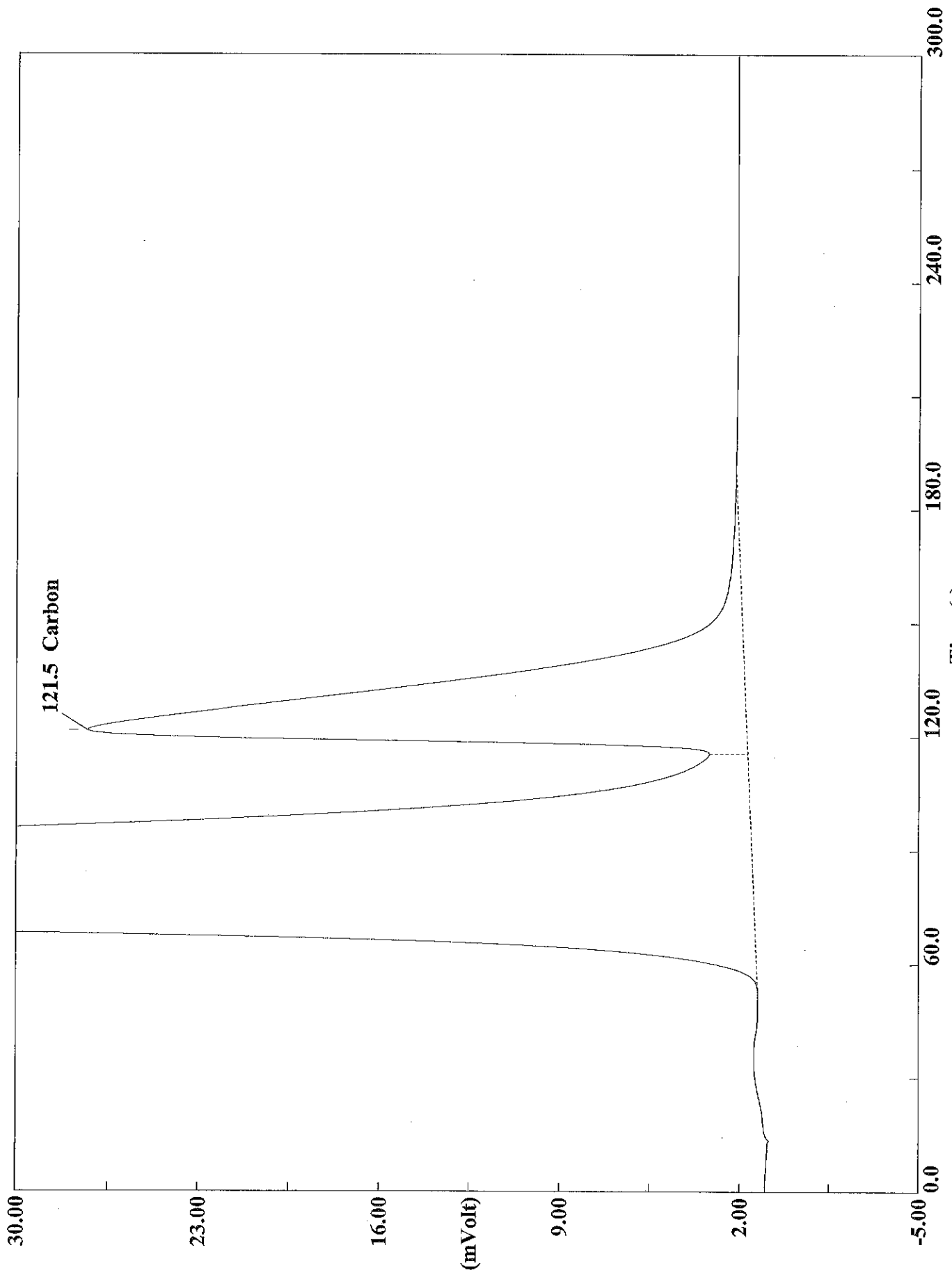


| STANDARDIZATION OF IODINE TITRANT   |                                     |                         |
|---|-------------------------------------|-------------------------|
| DATE: 05/05/15  | Lot #: D147-02                      | TALS Reagent #: 1296715 |
| Trial 1: 20.06  | Trial 2: 20.08                      | Trial 3: 20.02          |
| Average: 20.05  |                                     |                         |
| Normality: 0.0241   |                                     |                         |
| Date: 05/05/15  | Analyst: <i>Carl M. [Signature]</i> |                         |
| $\text{N Iodine} = (\text{mL Na}_2\text{S}_2\text{O}_3)(\text{N of Na}_2\text{S}_2\text{O}_3) / 20.0 \text{ mL of Iodine Solution}$     |                                     |                         |
| STANDARDIZATION OF SODIUM THIOSULFATE TITRANT   |                                     |                         |
| DATE: 05/05/15  | Lot #: D143-02                      | TALS Reagent #: 145716  |
| Trial 1: 10.38  | Trial 2: 10.41                      | Trial 3: 10.40          |
| Average: 10.40  |                                     |                         |
| Normality: 0.0240   |                                     |                         |
| Date: 05/05/15  | Analyst: <i>Carl M. [Signature]</i> |                         |
| $\text{N Na}_2\text{S}_2\text{O}_3 = (10 \text{ mL of KH(IO}_3)_2)(0.025 \text{ N KH(IO}_3)_2) / \text{mL of Na}_2\text{S}_2\text{O}_3$ |                                     |                         |
| Reviewed By: <i>[Signature]</i>   | Date: 5-5-15                        |                         |

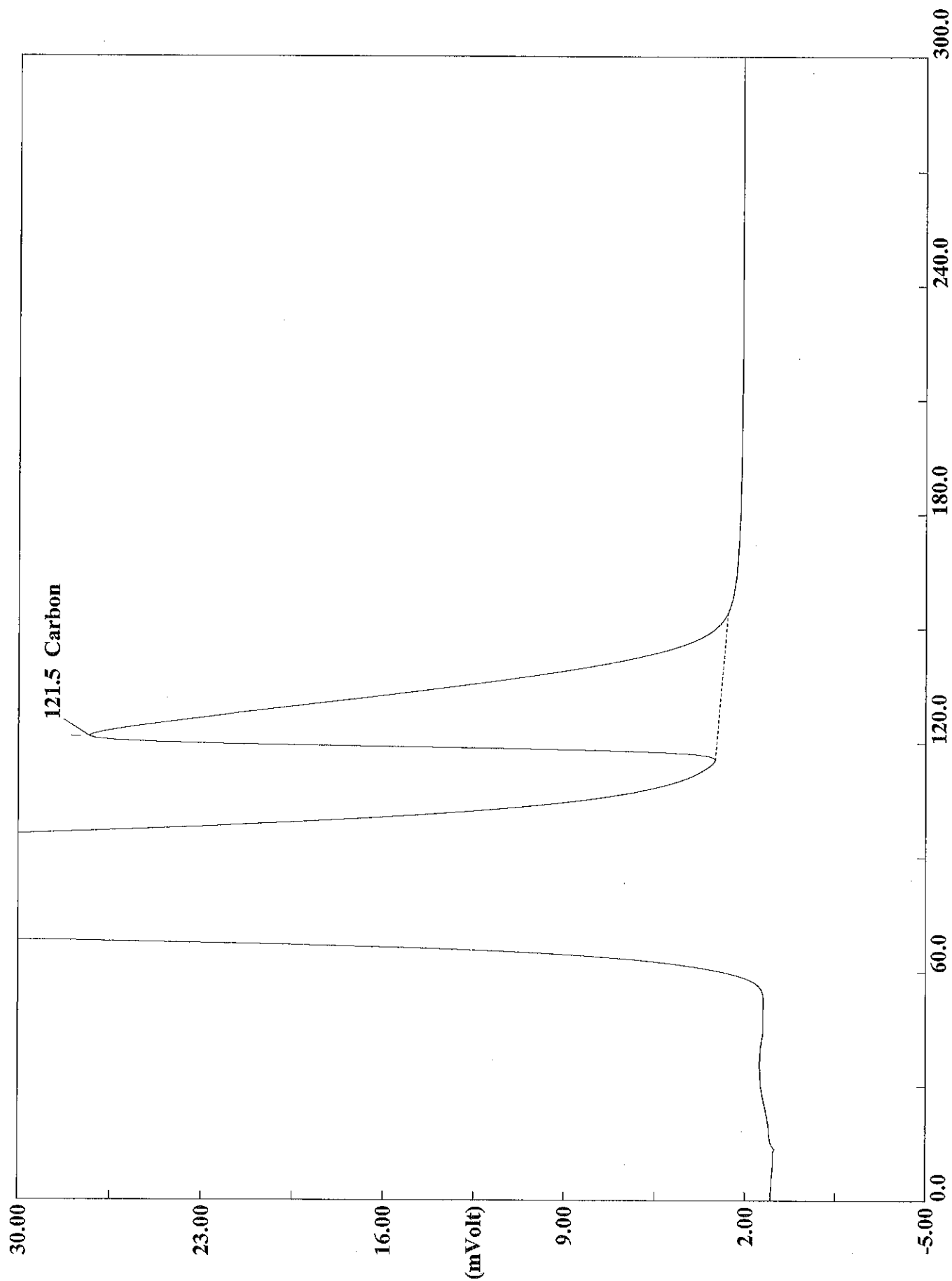
# Eager300 Calibration curve



Manual Integration on 05/06/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050615100.DAT  
Sample name :BY PASS Analysed :05/06/2015 11:41



Filename C:\data\January\A050615100.DAT  
Sample name :BY PASS Analysed :05/06/2015 11:41

# Eager 300 Report

Page: 1 Sample: BY PASS (A050615100)

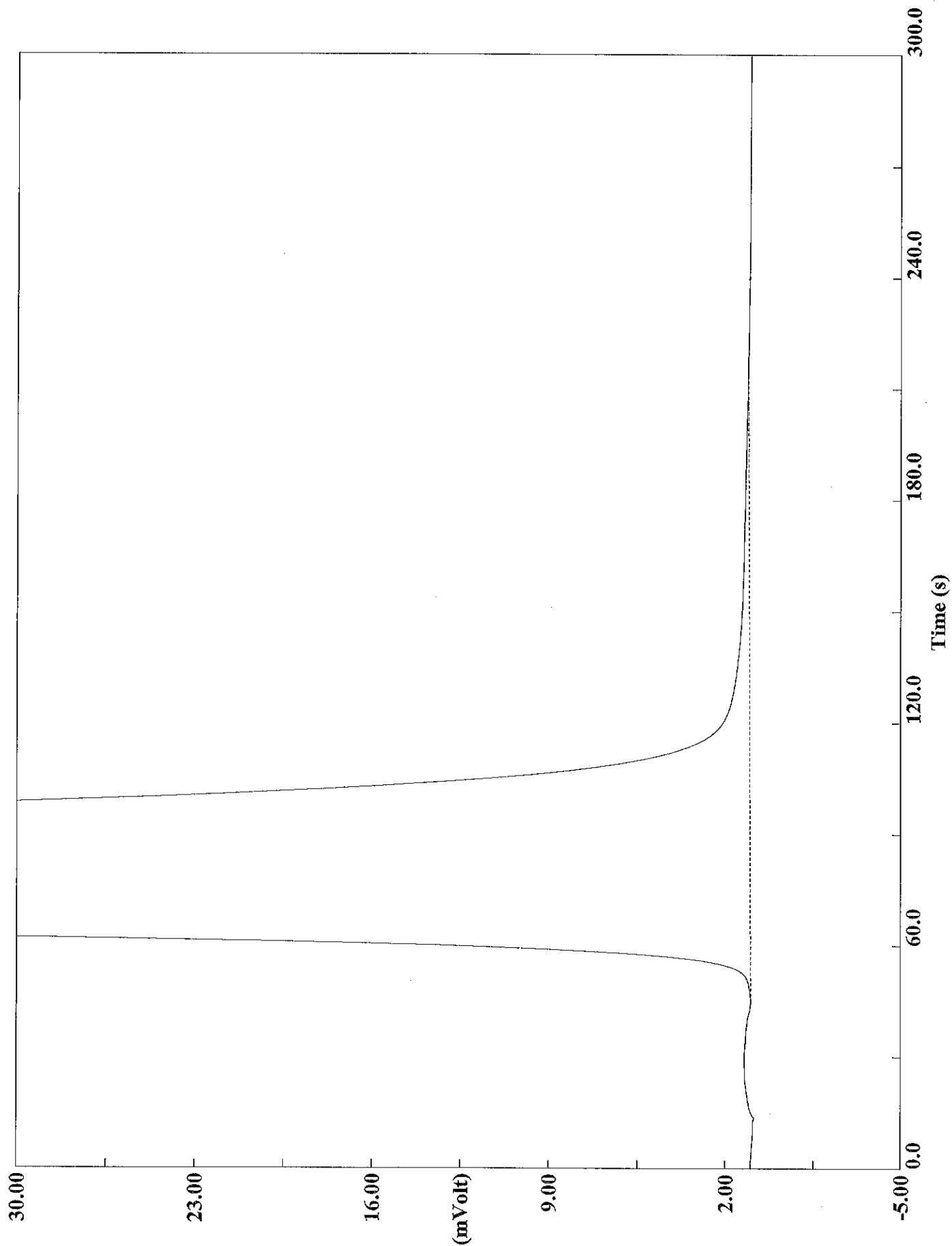
Method Name : Lloyd Kahn  
Method File : C:\data\January\050615a.mth  
Chromatogram : A050615100  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/06/2015 11:41 Printed : 5/6/2015 13:31  
Sample ID : BY PASS (# 1)  
Instrument N. : Instrument #1  
Analysis Type : By-Pass (Area) Sample weight :---

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

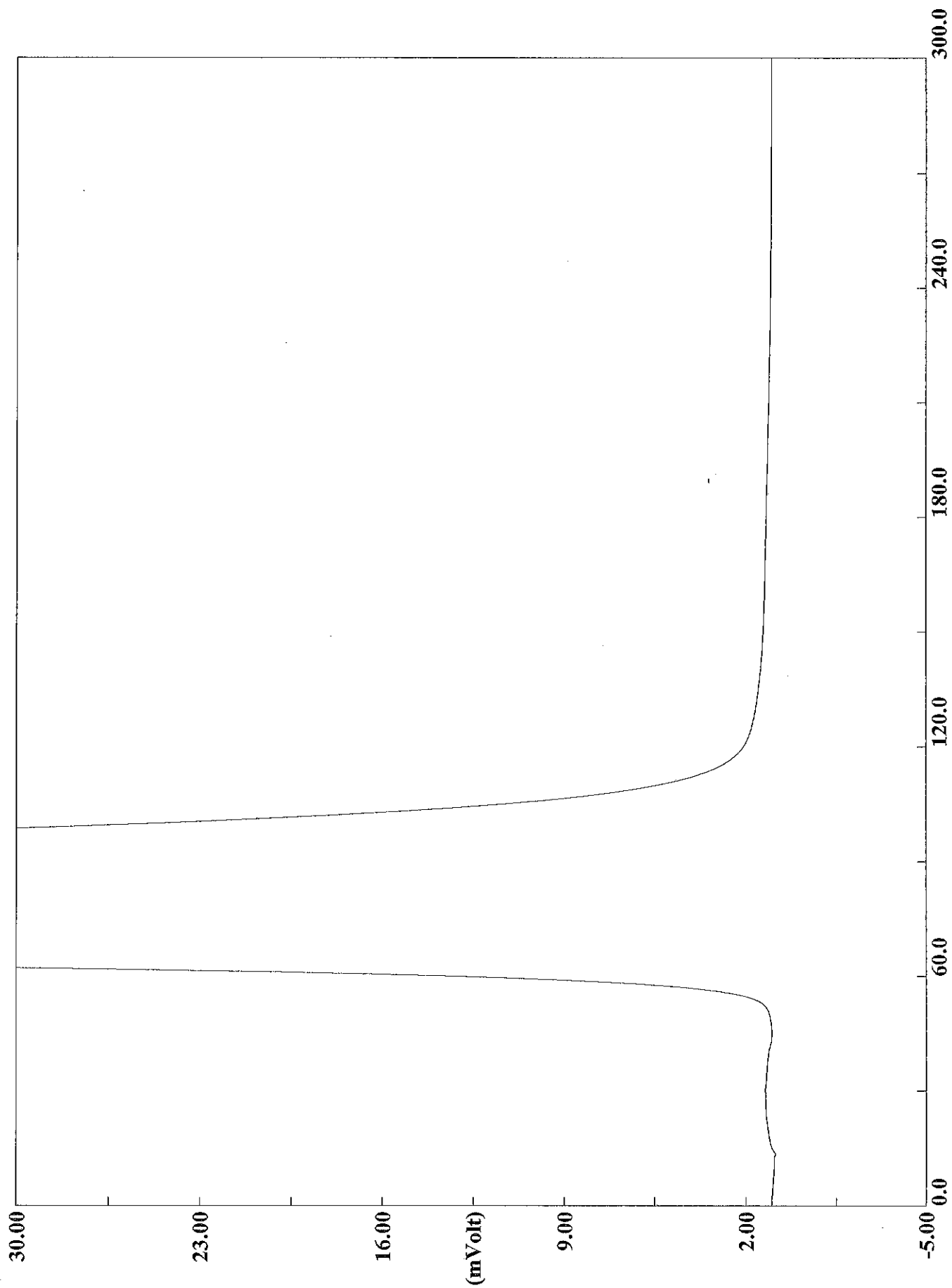
| Element Name | %      | Ret.Time | Area    | BC | Area ratio |
|--------------|--------|----------|---------|----|------------|
| Carbon       | 0.0000 | 122      | 3617388 | mi | 1.000000   |

Manual Integration on 05/06/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050615101.DAT  
Sample name :BLANK Analysed :05/06/2015 11:46

Manual Integration on 05/06/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050615101.DAT  
Sample name :BLANK Analysed :05/06/2015 11:46



# Eager 300 Report

Page: 1 Sample: BLANK (A050615101)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050615a.mth  
Chromatogram : A050615101  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/06/2015 11:46 Printed : 5/6/2015 13:31  
Sample ID : BLANK (# 2)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 20

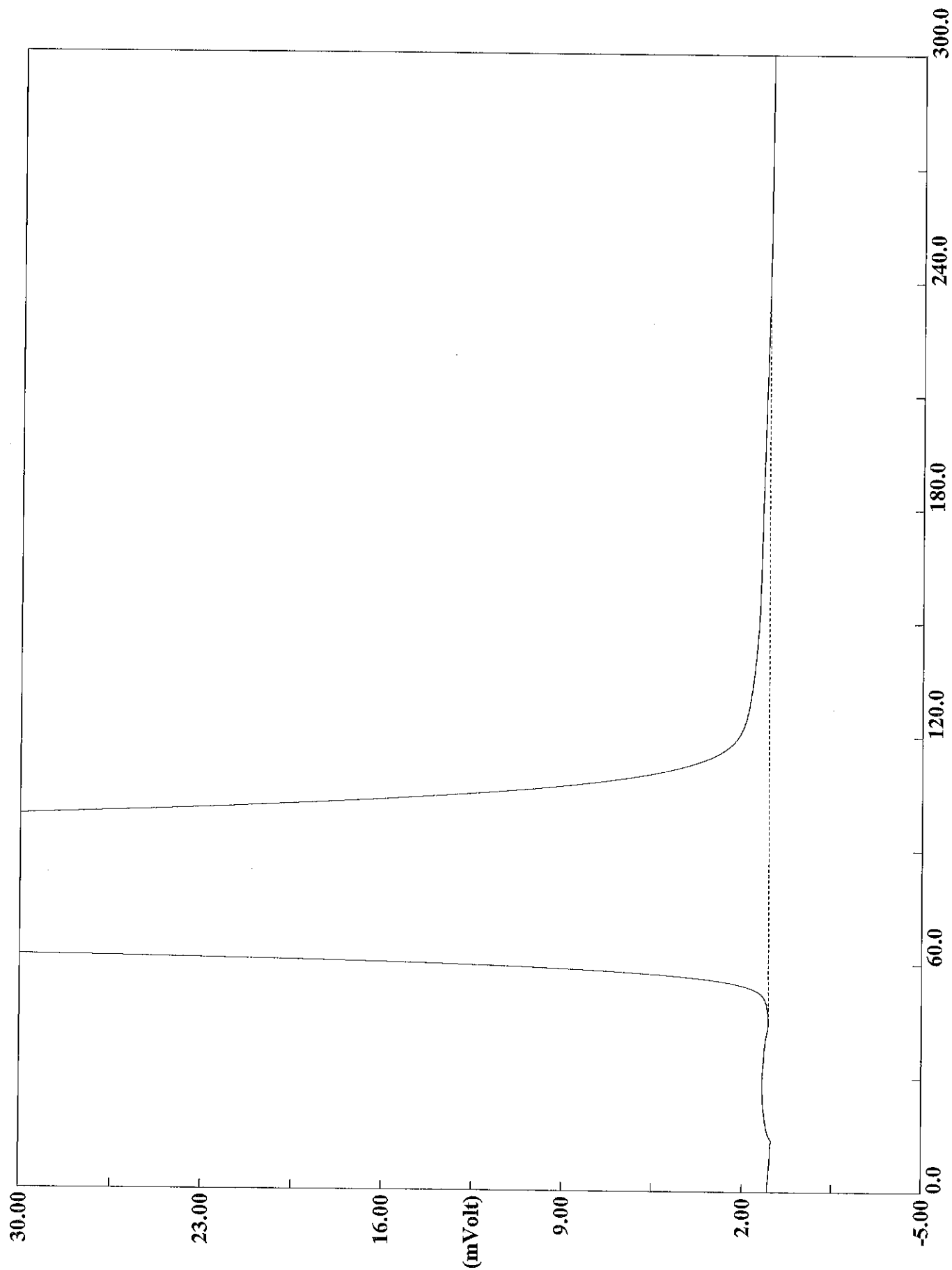
Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|

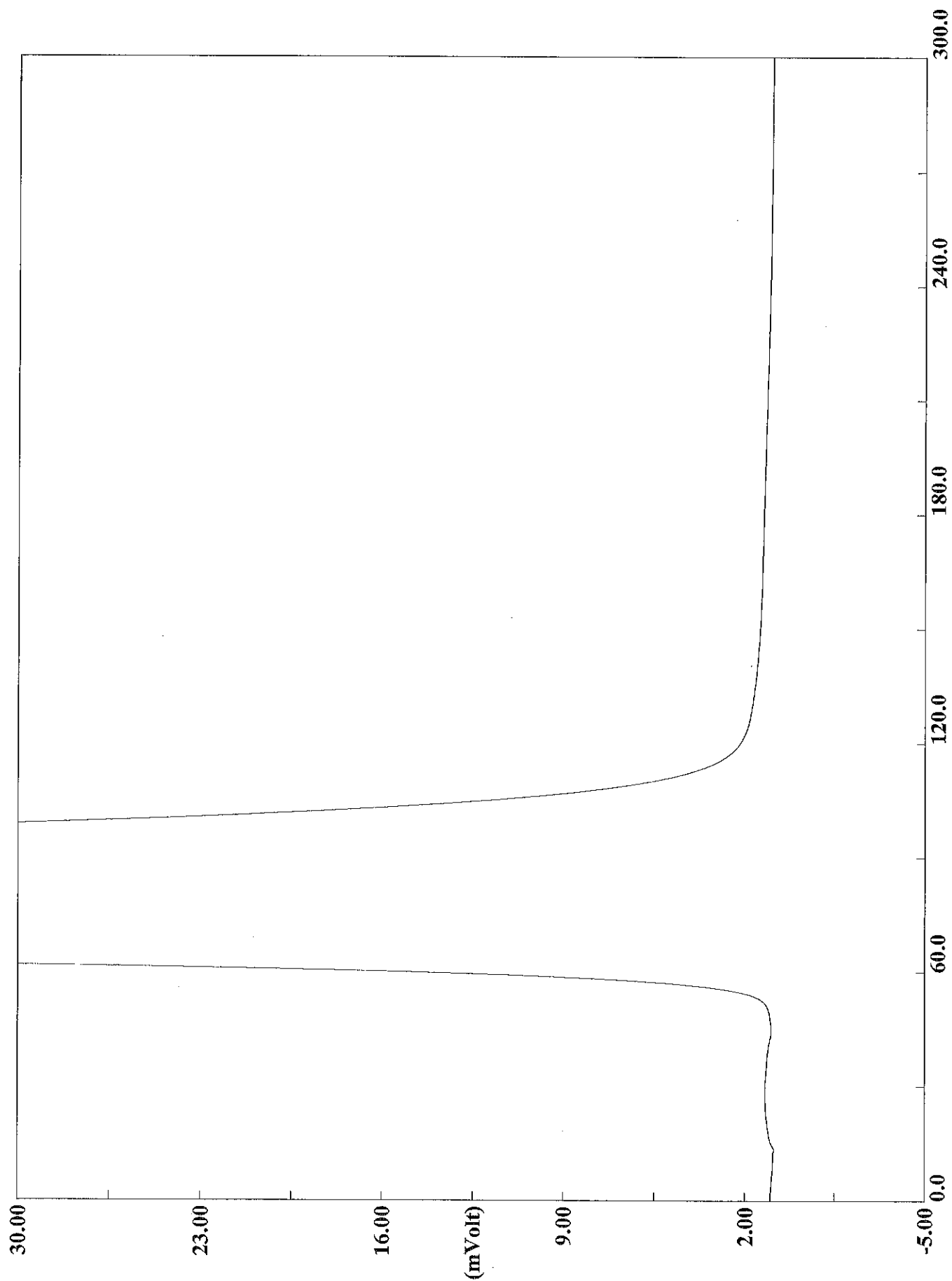
Manual Integration on 05/06/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050615102.DAT

Sample name :BLANK Analysed :05/06/2015 11:52

Manual Integration on 05/06/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050615102.DAT  
Sample name :BLANK Analysed :05/06/2015 11:52

# Eager 300 Report

Page: 1 Sample: BLANK (A050615102)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050615a.mth  
Chromatogram : A050615102  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/06/2015 11:52 Printed : 5/6/2015 13:31  
Sample ID : BLANK (# 3)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 20

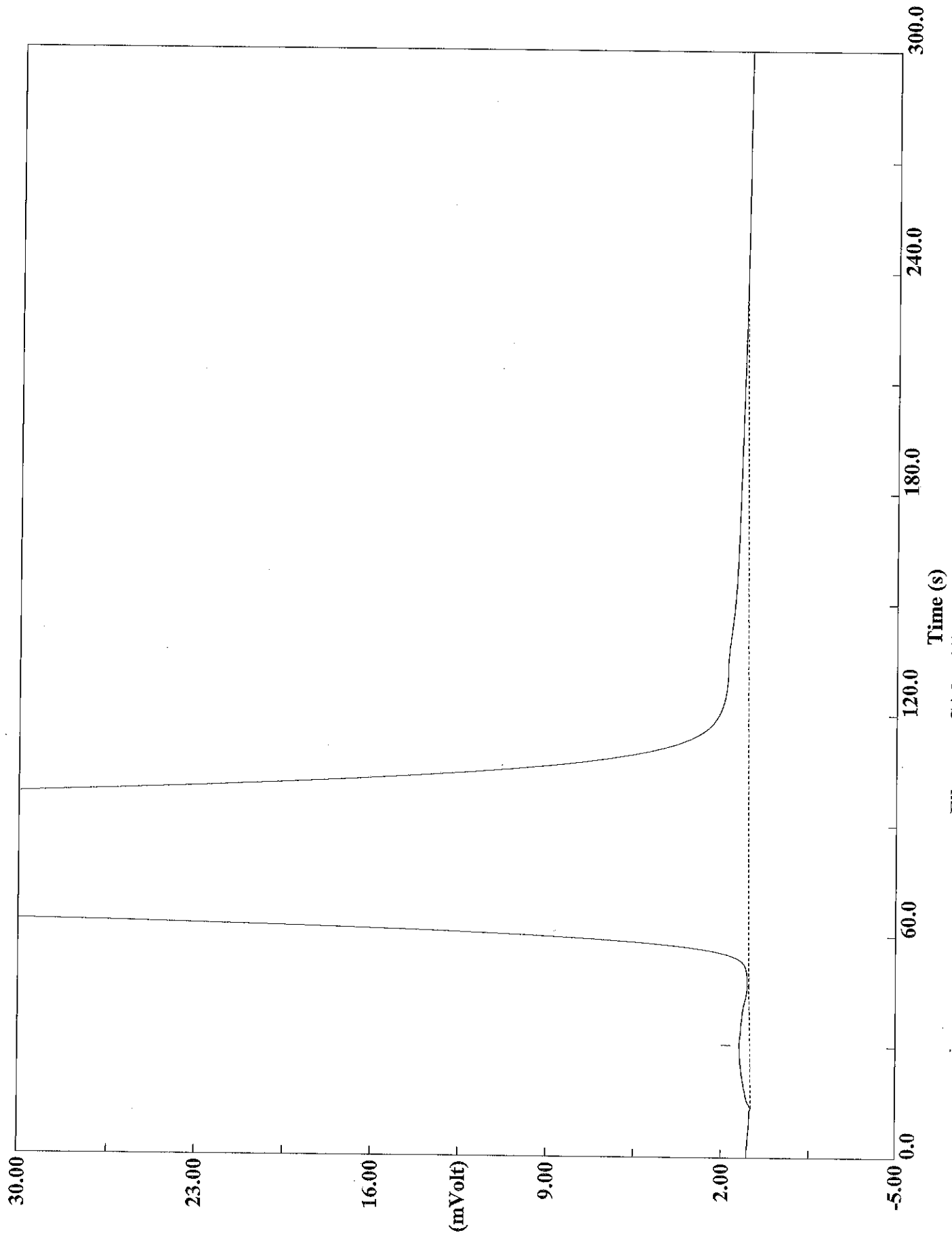
Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

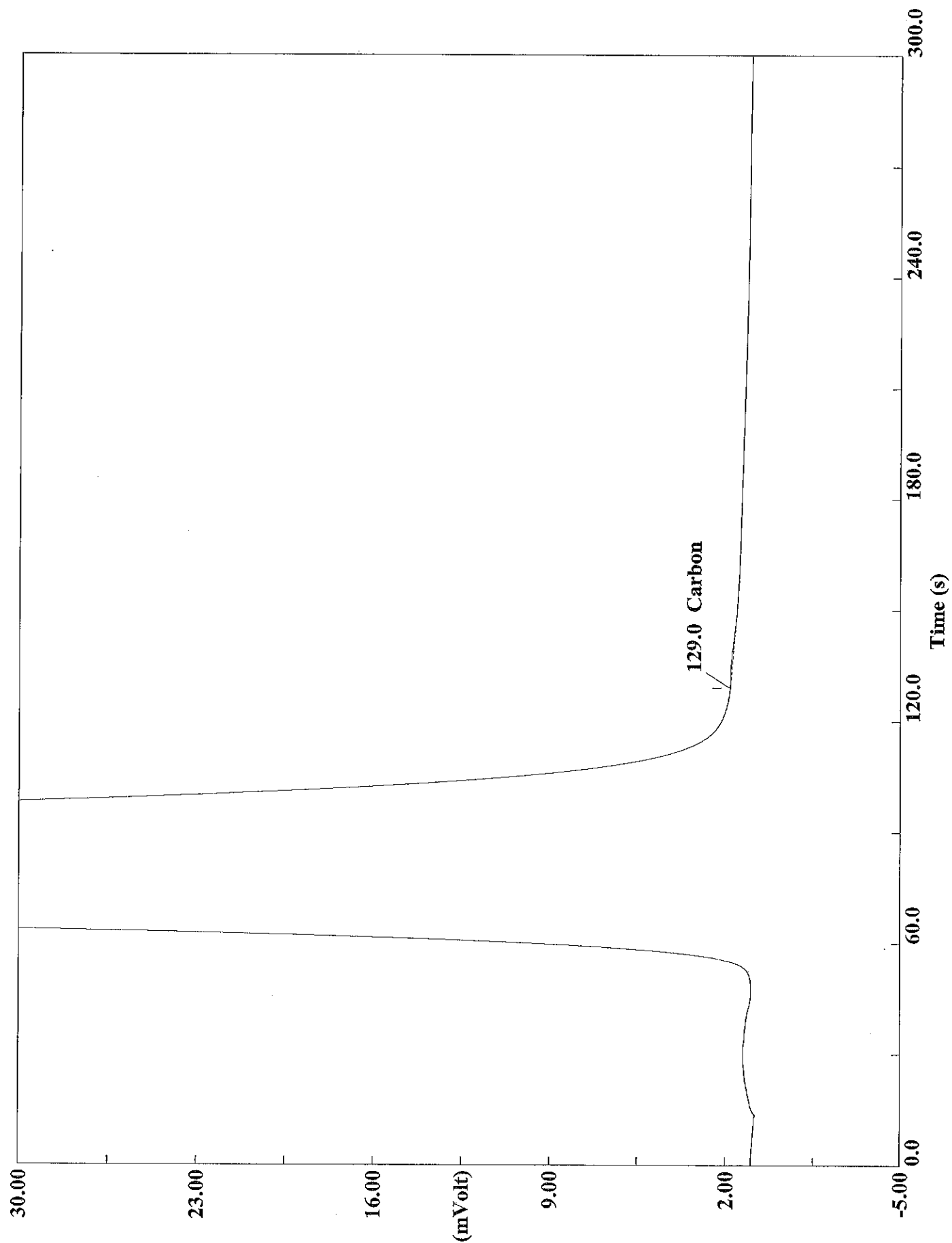
| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|

Manual Integration on 05/06/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050615103.DAT  
Sample name :1,000 KHP Analysed :05/06/2015 11:57

Manual Integration on 05/06/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050615103.DAT

Sample name :1,000 KHP Analysed :05/06/2015 11:57

# Eager 300 Report

Page: 1 Sample: 1,000 KHP (A050615103)

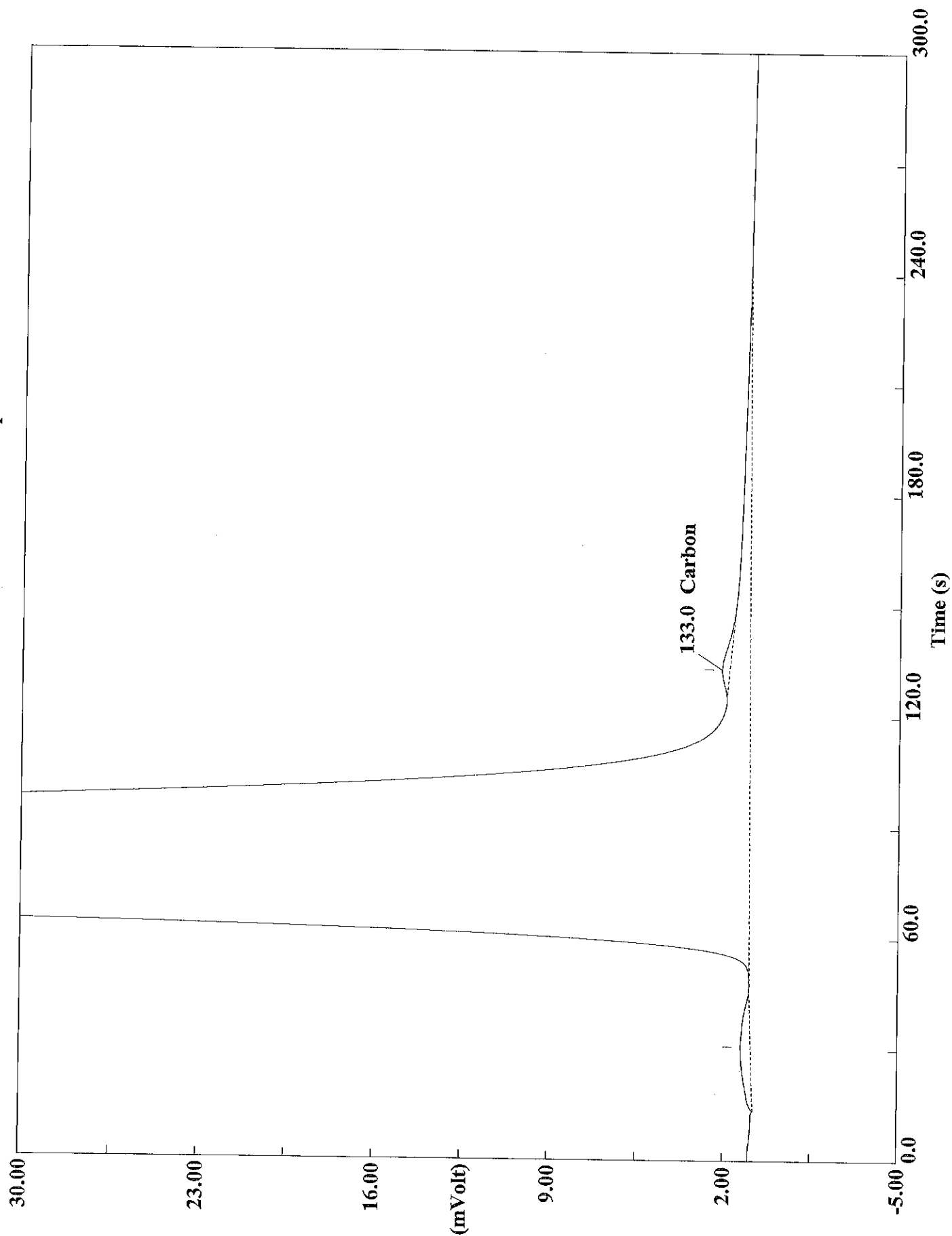
Method Name : Lloyd Kahn  
Method File : C:\data\January\050615a.mth  
Chromatogram : A050615103  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/06/2015 11:57 Printed : 5/6/2015 13:31  
Sample ID : 1,000 KHP (# 4)  
Instrument N. : Instrument #1  
Analysis Type : Calibration (Area) Sample weight : 200

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

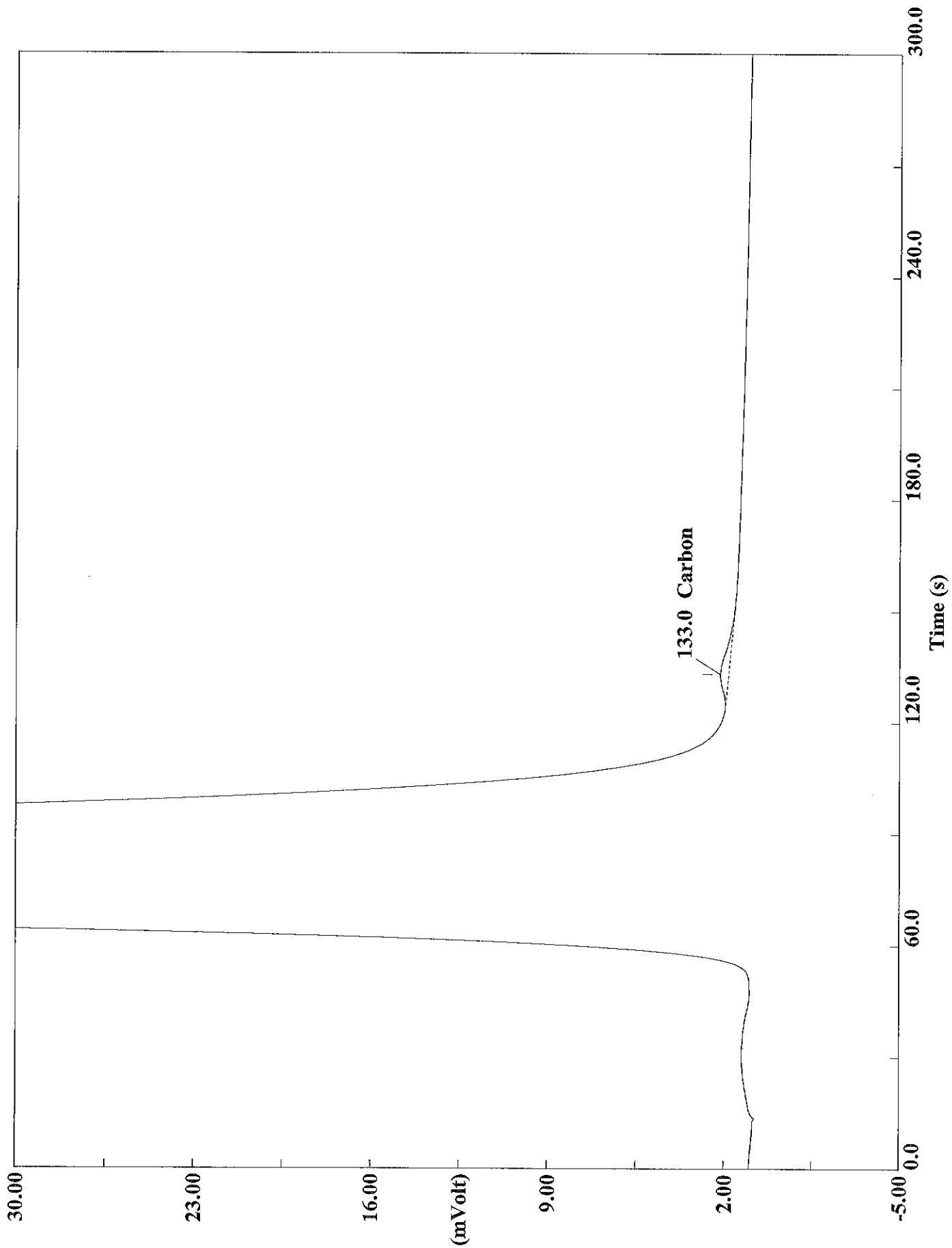
| Element Name | %      | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|--------|----------|------|----|------------|----------|
| Carbon       | 0.0100 | 129      | 4093 | mi | 1.000000   |          |

Manual Integration on 05/06/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050615104.DAT  
Sample name :2,500 KHP Analysed :05/06/2015 12:02





Filename C:\data\January\A050615104.DAT  
Sample name :2,500 KHP Analysed :05/06/2015 12:02

# Eager 300 Report

Page: 1 Sample: 2,500 KHP (A050615104)

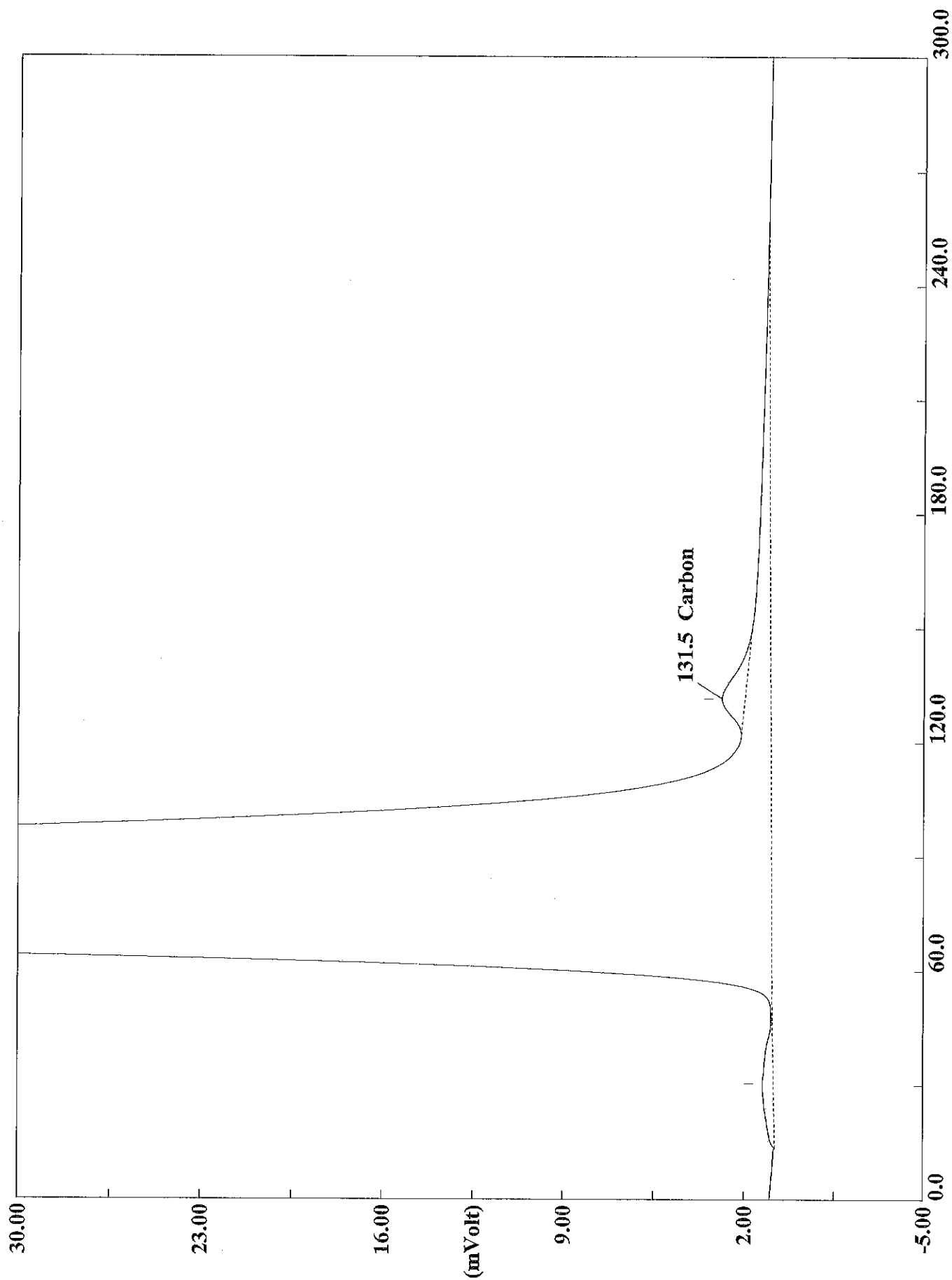
Method Name : Lloyd Kahn  
Method File : C:\data\January\050615a.mth  
Chromatogram : A050615104  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/06/2015 12:02 Printed : 5/6/2015 13:31  
Sample ID : 2,500 KHP (# 5)  
Instrument N. : Instrument #1  
Analysis Type : Calibration (Area) Sample weight : 50

Calib. method : using 'Least Squares to Linear fit'

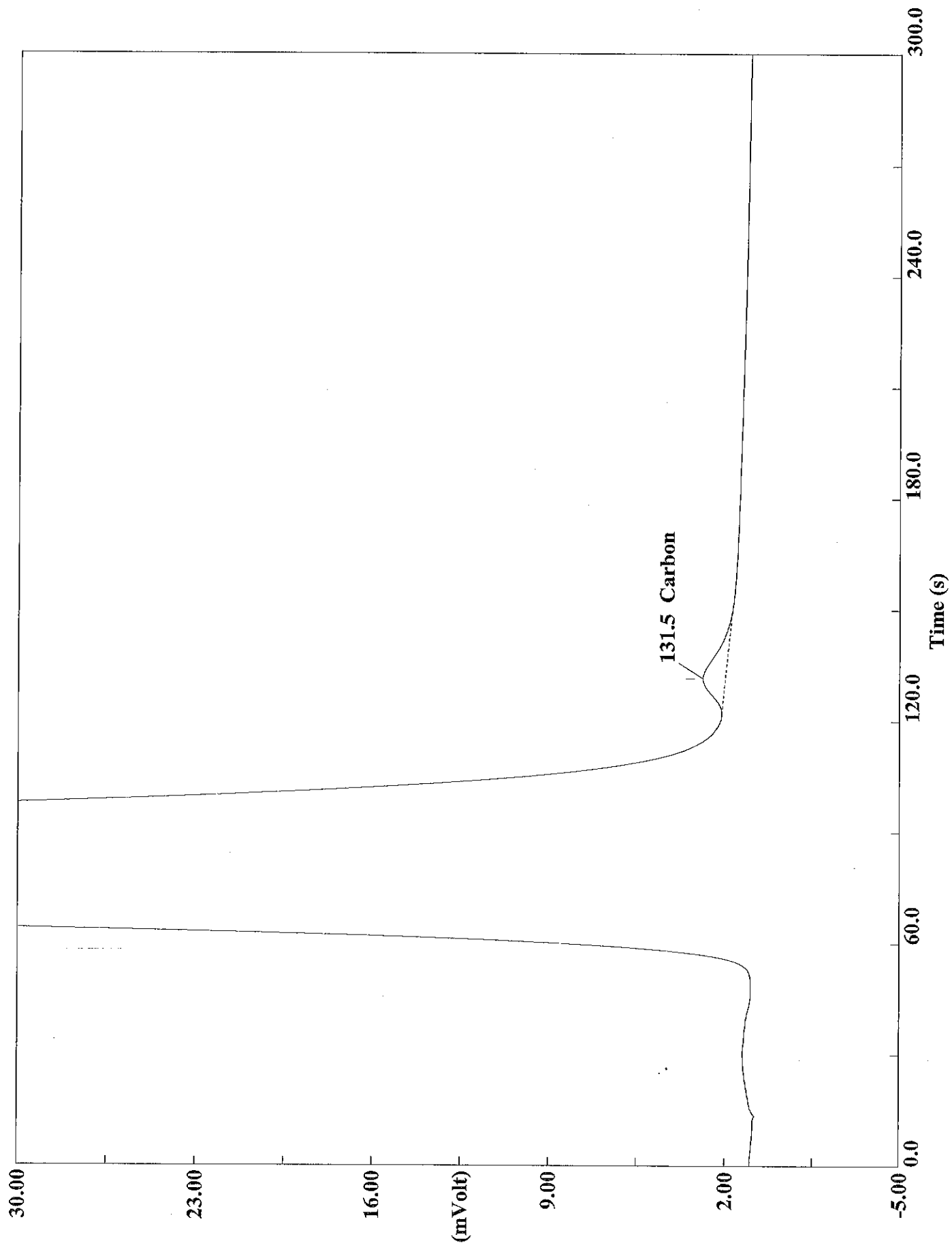
Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area  | BC | Area ratio | K factor |
|--------------|--------|----------|-------|----|------------|----------|
| Carbon       | 0.1000 | 133      | 37271 | mi | 1.000000   |          |

Manual Integration on 05/06/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050615105.DAT  
Sample name :5,000 KHP Analysed :05/06/2015 12:08



Filename C:\data\January\A050615105.DAT  
Sample name :5,000 KHP Analysed :05/06/2015 12:08

# Eager 300 Report

Page: 1 Sample: 5,000 KHP (A050615105)

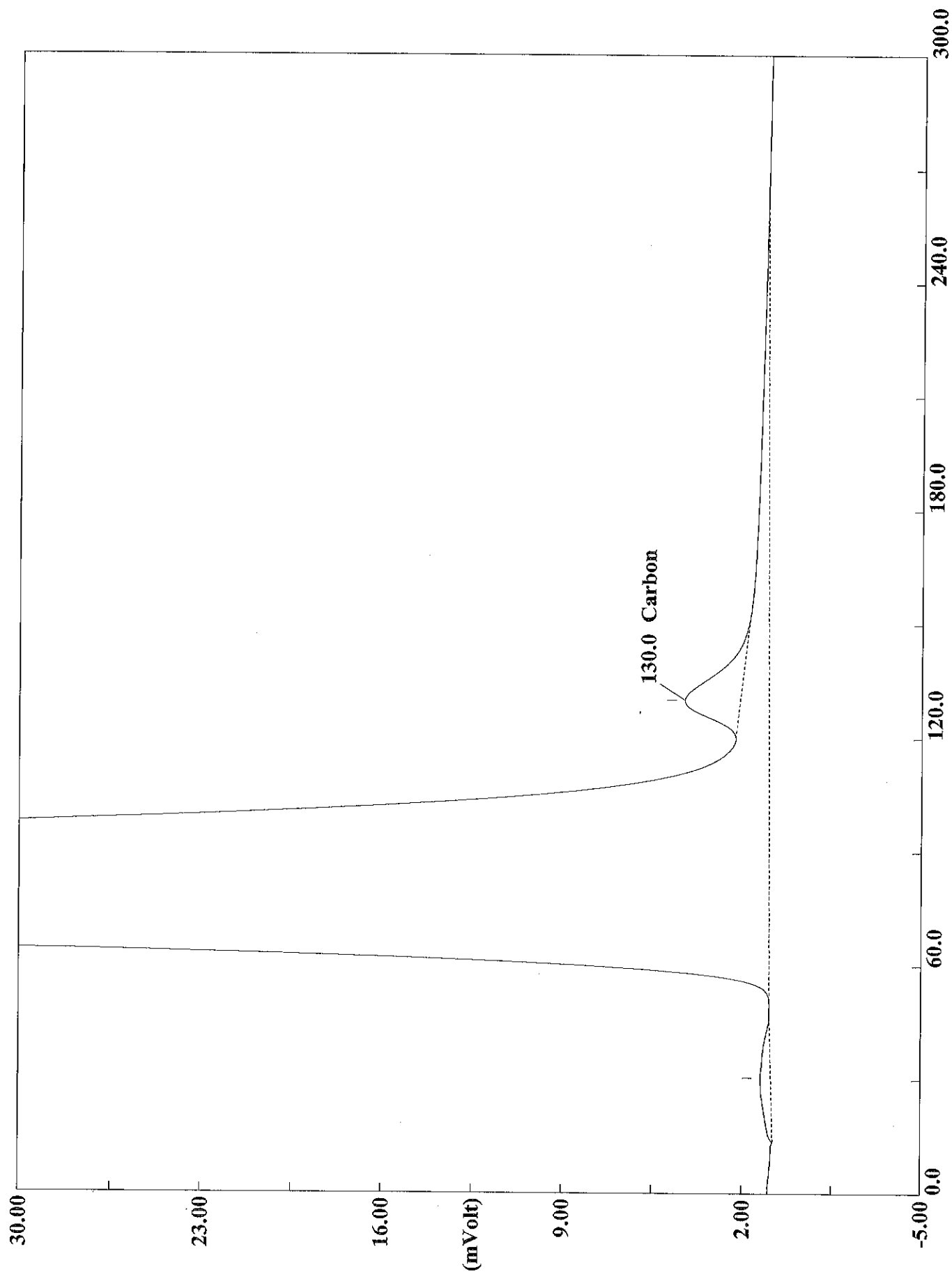
Method Name : Lloyd Kahn  
Method File : C:\data\January\050615a.mth  
Chromatogram : A050615105  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/06/2015 12:08 Printed : 5/6/2015 13:31  
Sample ID : 5,000 KHP (# 6)  
Instrument N. : Instrument #1  
Analysis Type : Calibration (Area) Sample weight : 100

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

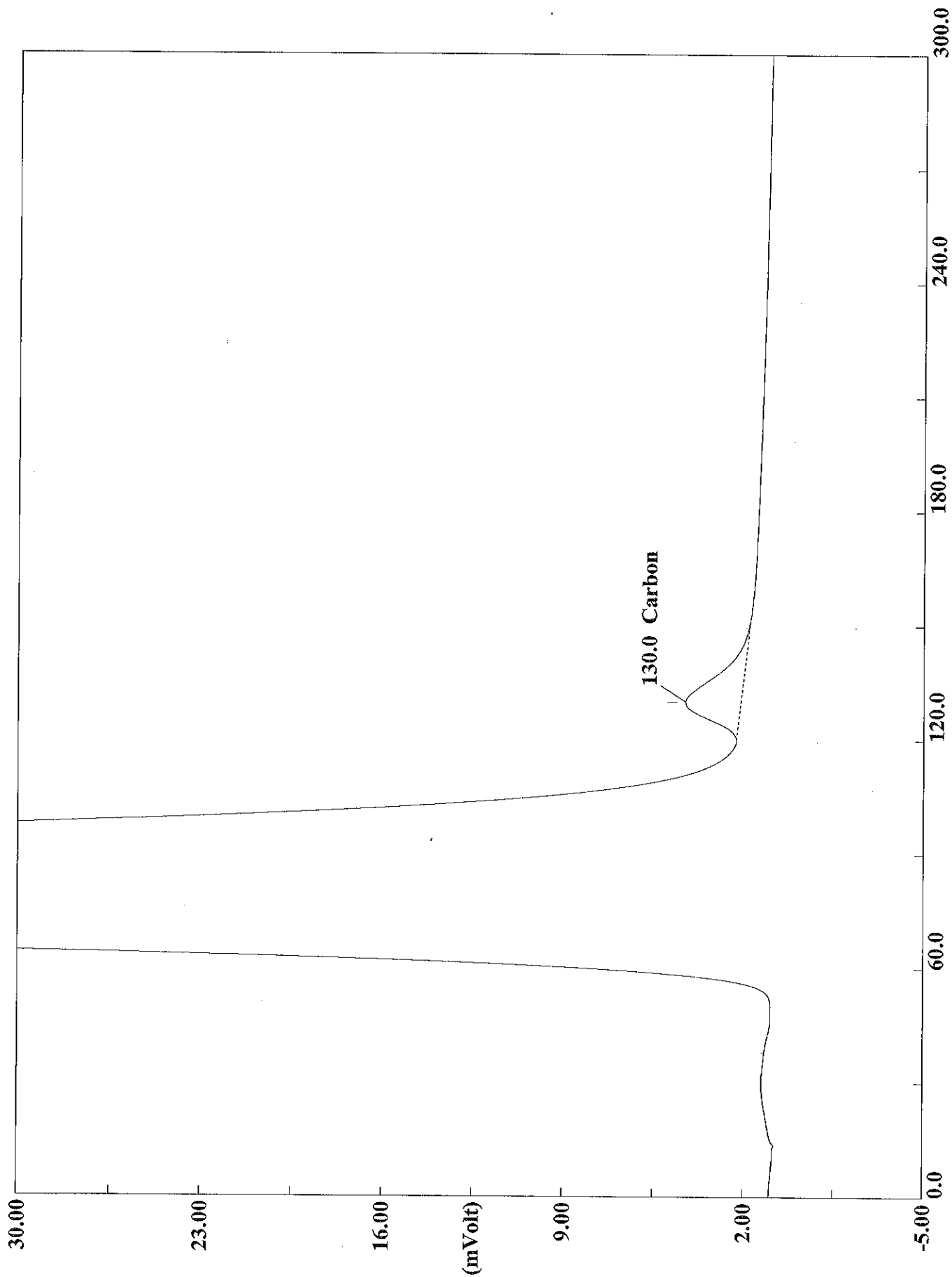
| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 0.1000 | 132      | 108200 | mi | 1.000000   |          |

Manual Integration on 05/06/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050615106.DAT

Sample name :10,000 KHP Analysed :05/06/2015 12:13



Filename C:\data\January\A050615106.DAT  
Sample name :10,000 KHP Analysed :05/06/2015 12:13

# Eager 300 Report

Page: 1 Sample: 10,000 KHP (A050615106)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050615a.mth  
Chromatogram : A050615106  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/06/2015 12:13 Printed : 5/6/2015 13:31  
Sample ID : 10,000 KHP (# 7)  
Instrument N. : Instrument #1  
Analysis Type : Calibration (Area) Sample weight : 200

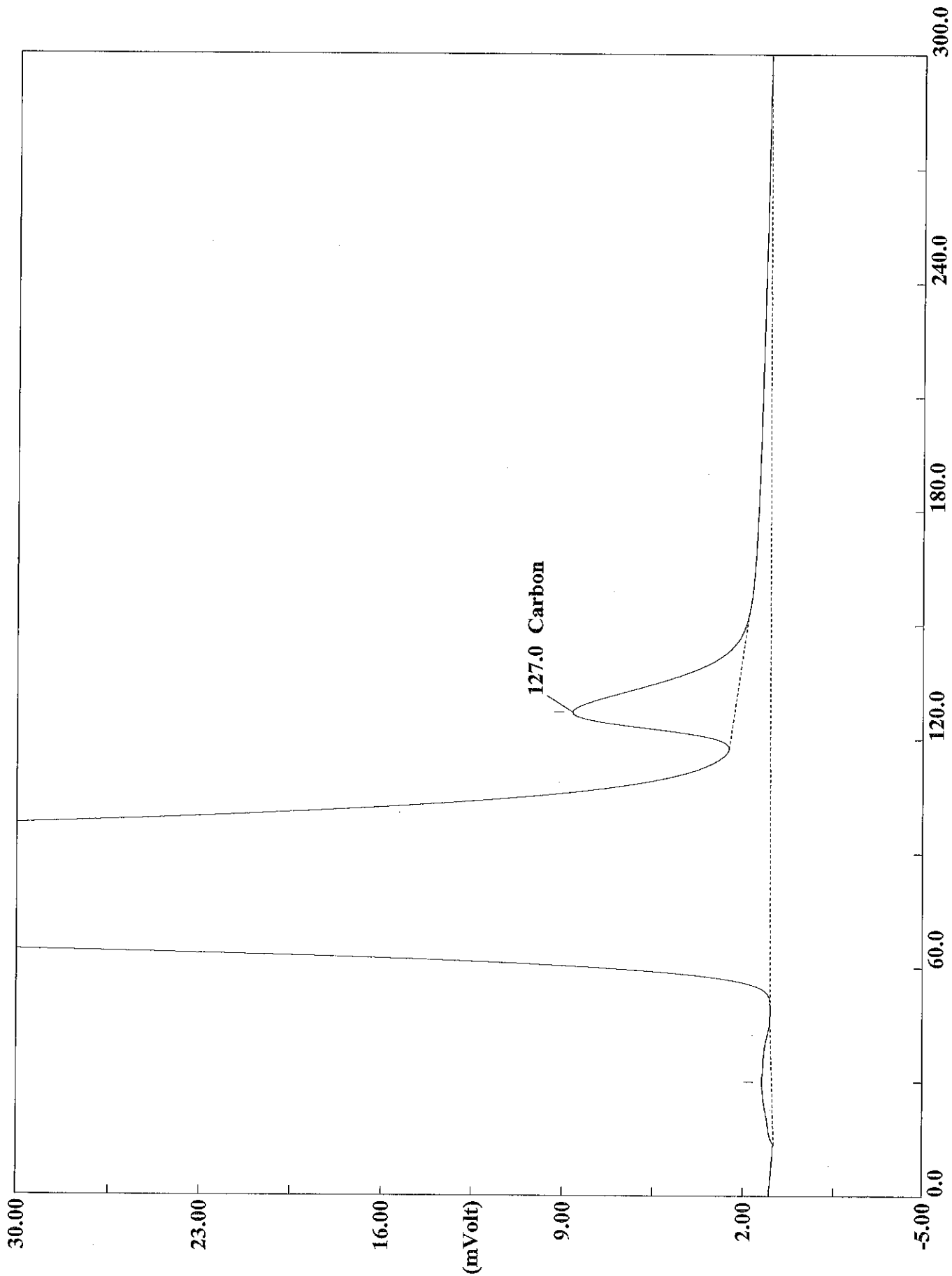
Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 0.1000 | 130      | 268678 | mi | 1.000000   |          |

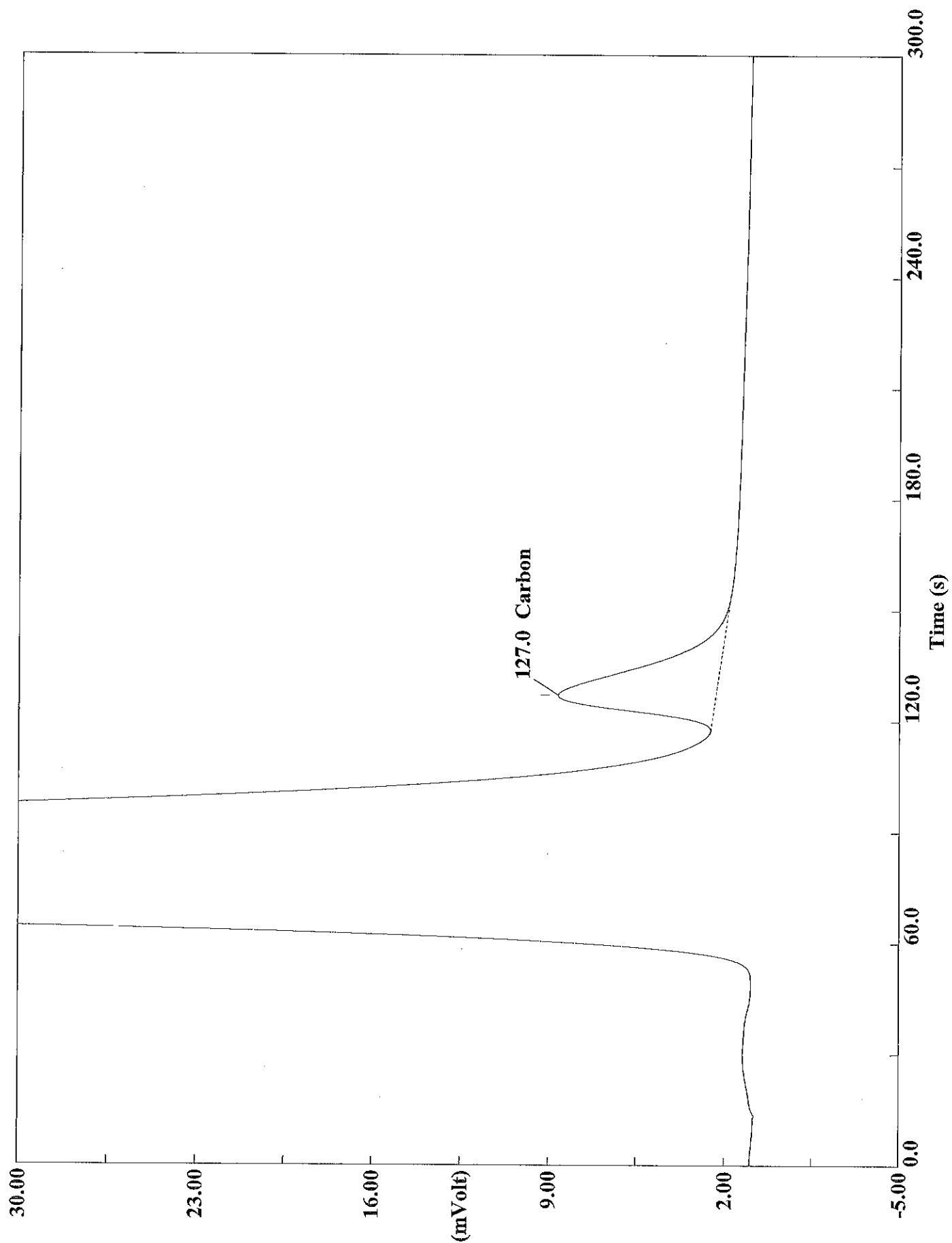


Manual Integration on 05/06/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050615107.DAT  
Sample name :25,000 KHP Analysed :05/06/2015 12:18

Manual Integration on 05/06/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050615107.DAT  
Sample name :25,000 KHP Analysed :05/06/2015 12:18

# Eager 300 Report

Page: 1 Sample: 25,000 KHP (A050615107)

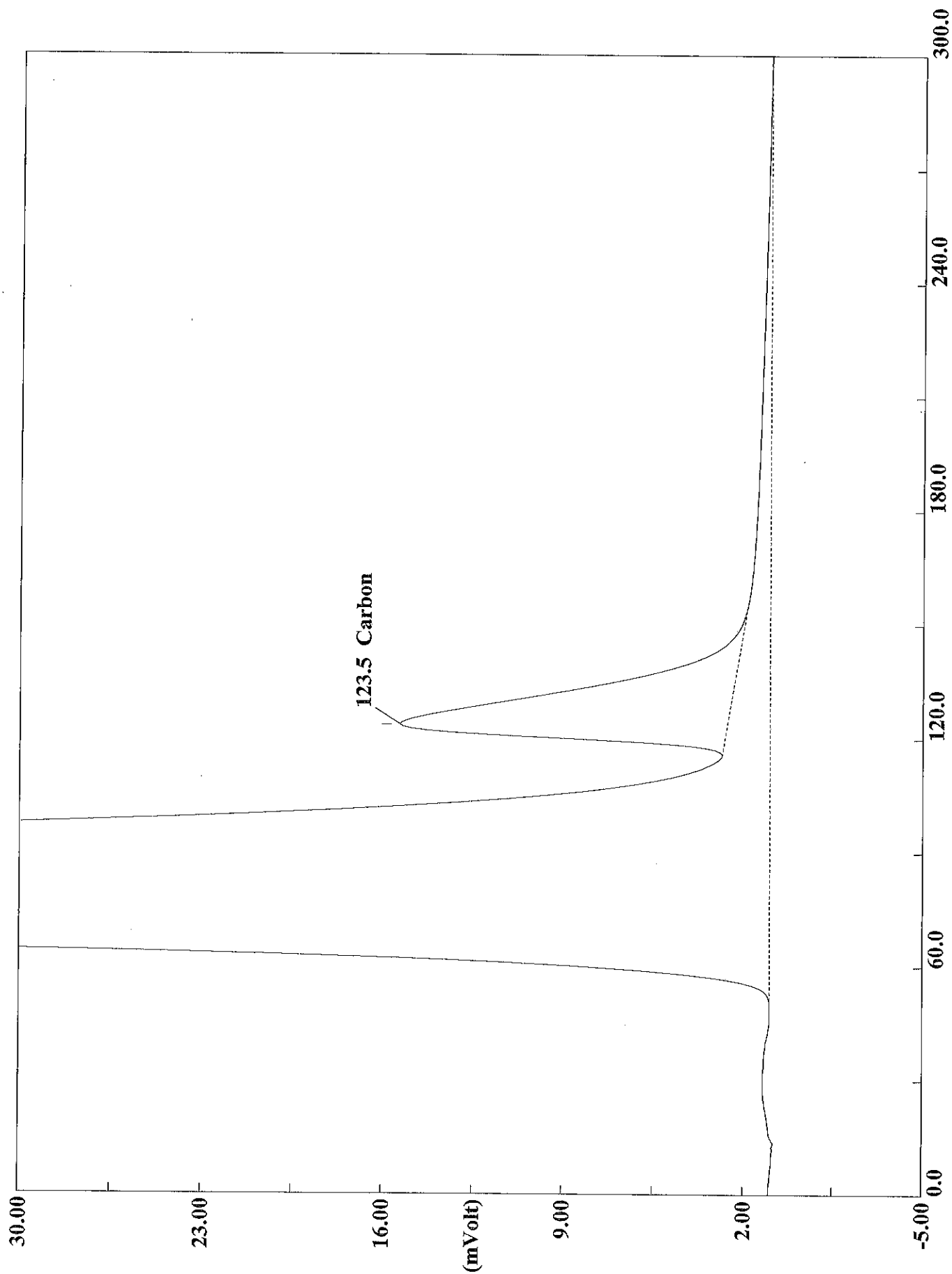
Method Name : Lloyd Kahn  
Method File : C:\data\January\050615a.mth  
Chromatogram : A050615107  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/06/2015 12:18 Printed : 5/6/2015 13:31  
Sample ID : 25,000 KHP (# 8)  
Instrument N. : Instrument #1  
Analysis Type : Calibration (Area) Sample weight : 50

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

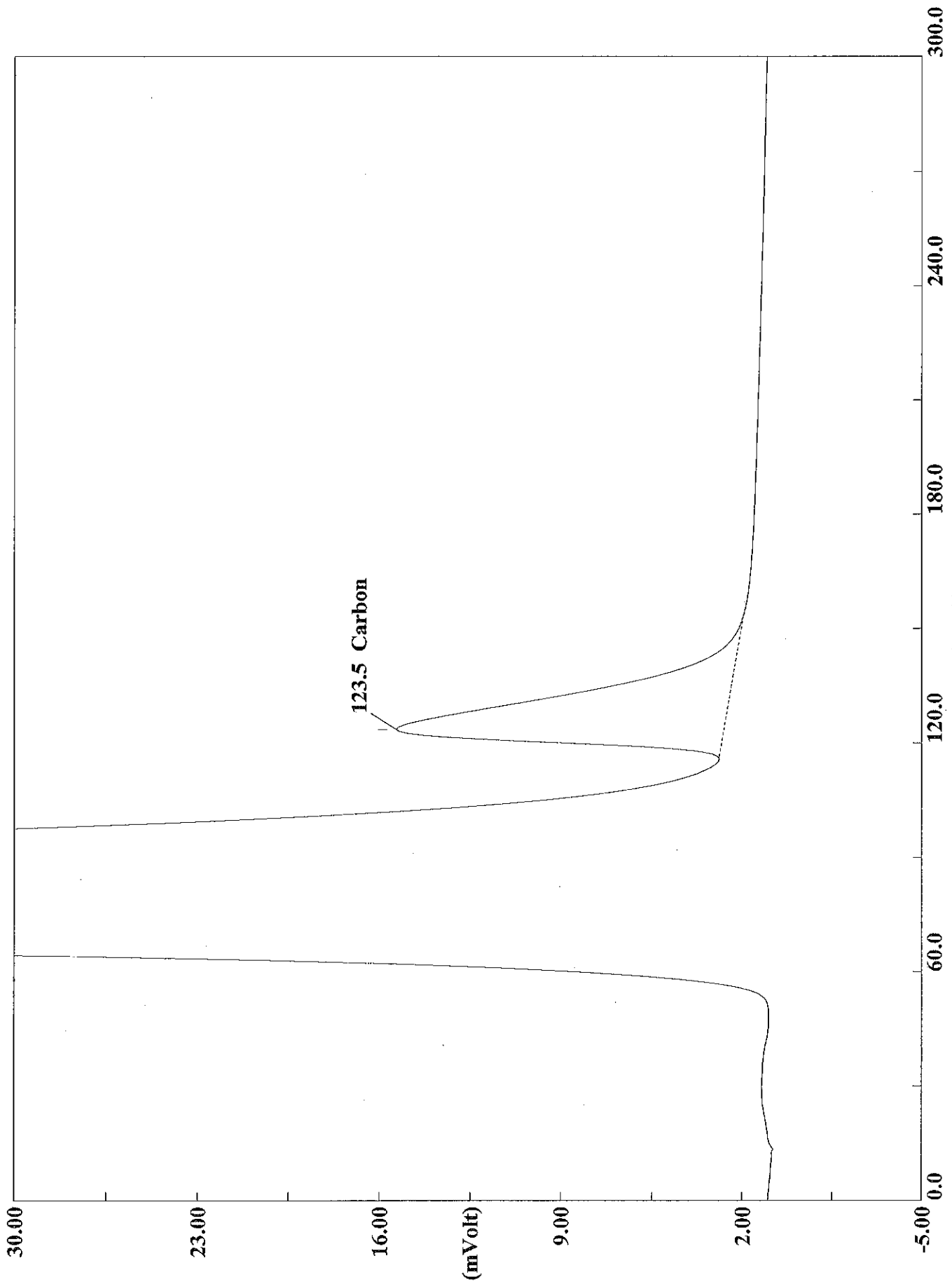
| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 1.0000 | 127      | 808571 | mi | 1.000000   |          |

Manual Integration on 05/06/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050615108.DAT  
Sample name :50,000 KHP Analysed :05/06/2015 12:23

Manual Integration on 05/06/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050615108.DAT  
Sample name :50,000 KHP Analysed :05/06/2015 12:23

# Eager 300 Report

Page: 1 Sample: 50,000 KHP (A050615108)

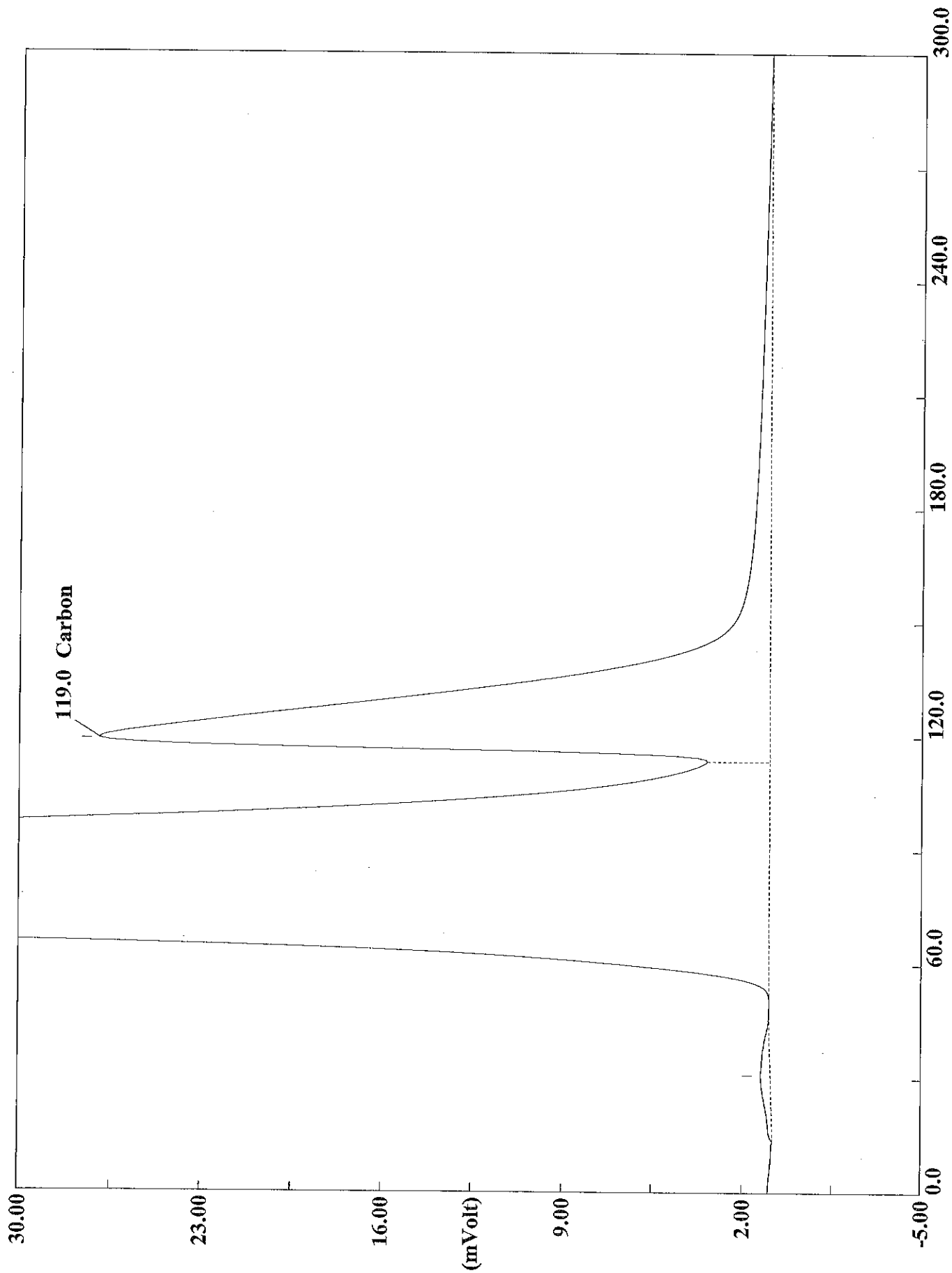
Method Name : Lloyd Kahn  
Method File : C:\data\January\050615a.mth  
Chromatogram : A050615108  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/06/2015 12:23 Printed : 5/6/2015 13:31  
Sample ID : 50,000 KHP (# 9)  
Instrument N. : Instrument #1  
Analysis Type : Calibration (Area) Sample weight : 100

Calib. method : using 'Least Squares to Linear fit'

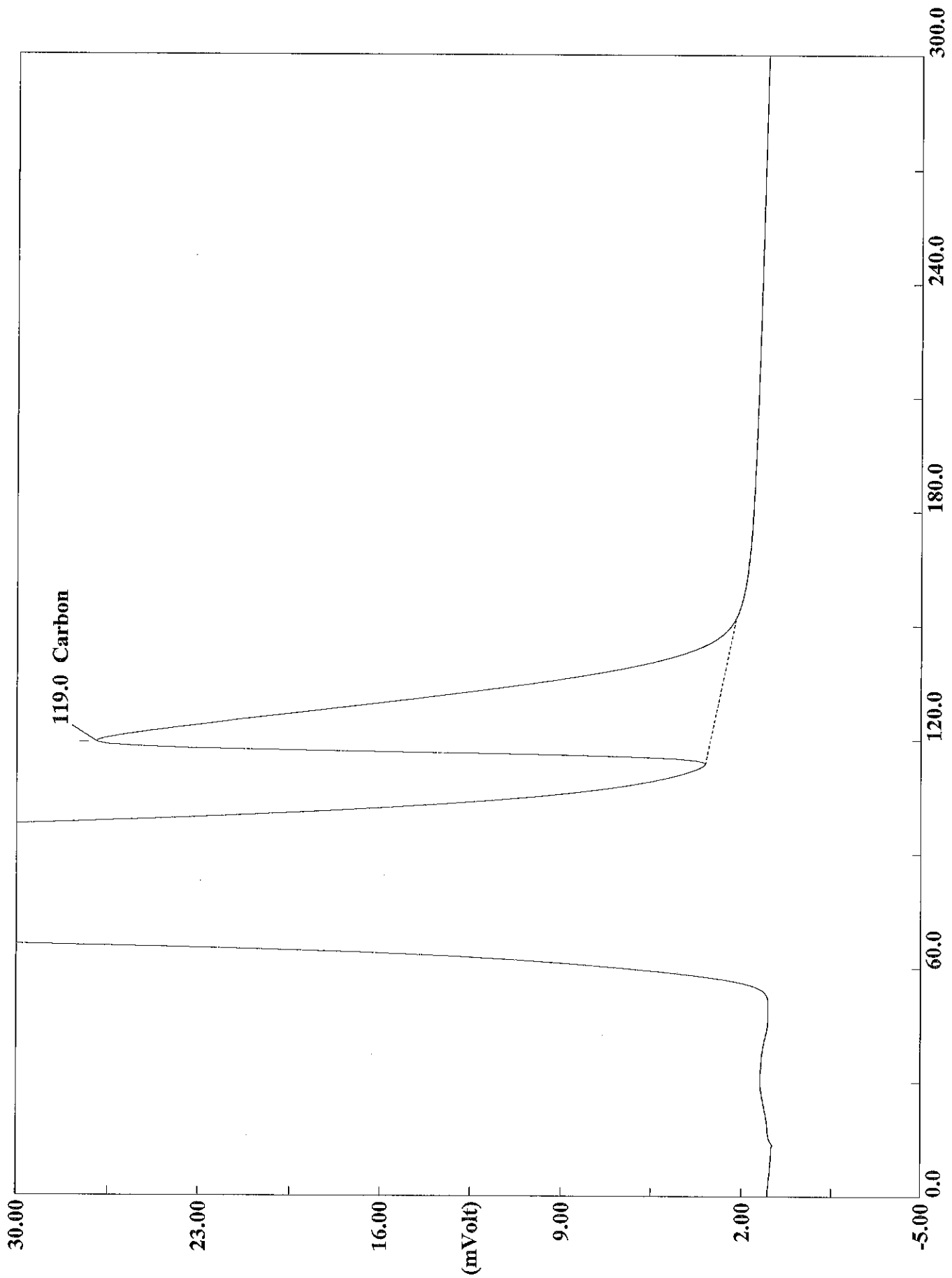
Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area    | BC | Area ratio | K factor |
|--------------|--------|----------|---------|----|------------|----------|
| Carbon       | 1.0000 | 124      | 1692771 | mi | 1.000000   |          |

Manual Integration on 05/06/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050615109.DAT  
Sample name :100,000 KHP Analysed :05/06/2015 12:29



Filename C:\data\January\A050615109.DAT  
Sample name :100,000 KHP Analysed :05/06/2015 12:29



# Eager 300 Report

Page: 1 Sample: 100,000 KHP (A050615109)

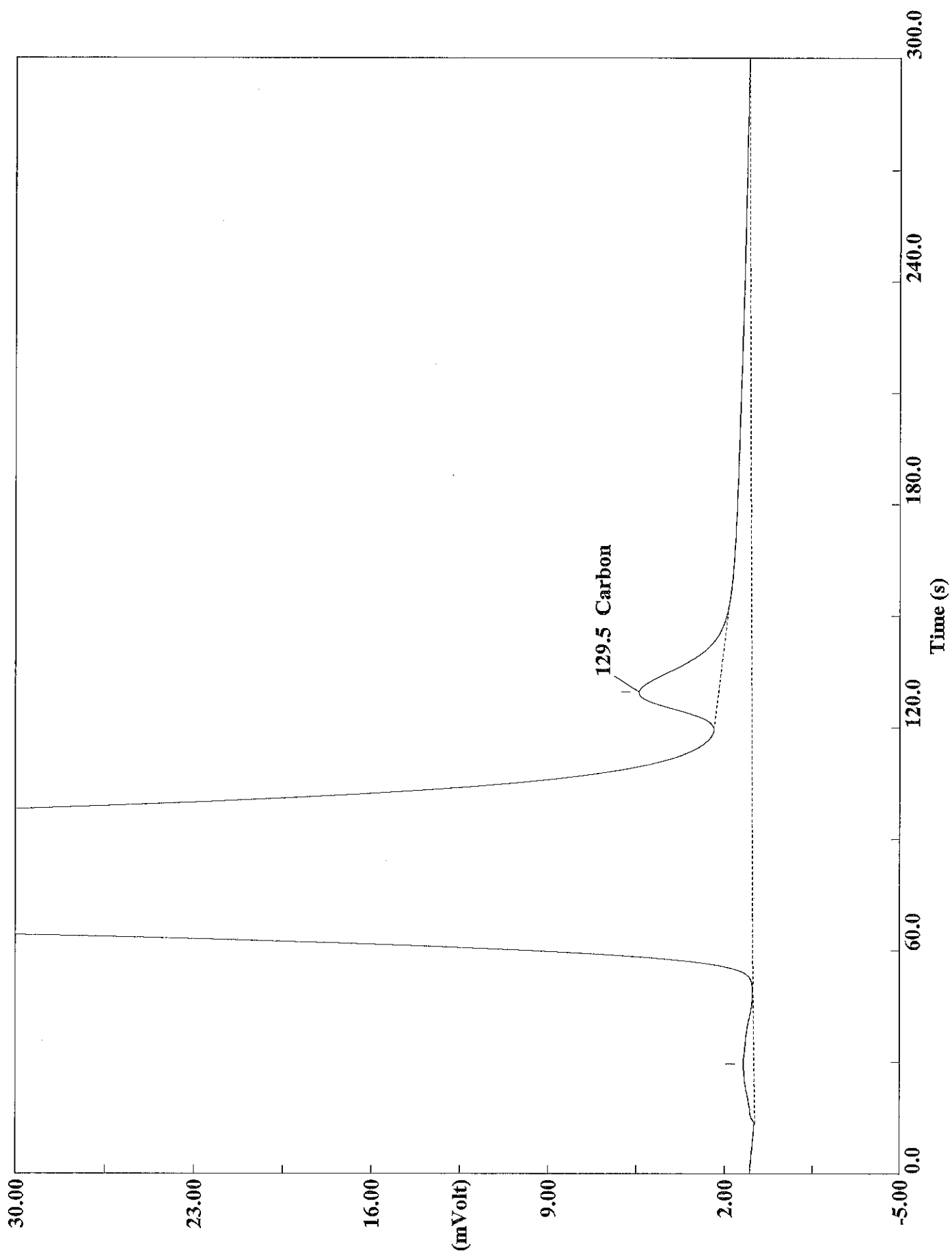
Method Name : Lloyd Kahn  
Method File : C:\data\January\050615a.mth  
Chromatogram : A050615109  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/06/2015 12:29 Printed : 5/6/2015 13:31  
Sample ID : 100,000 KHP (# 10)  
Instrument N. : Instrument #1  
Analysis Type : Calibration (Area) Sample weight : 200

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

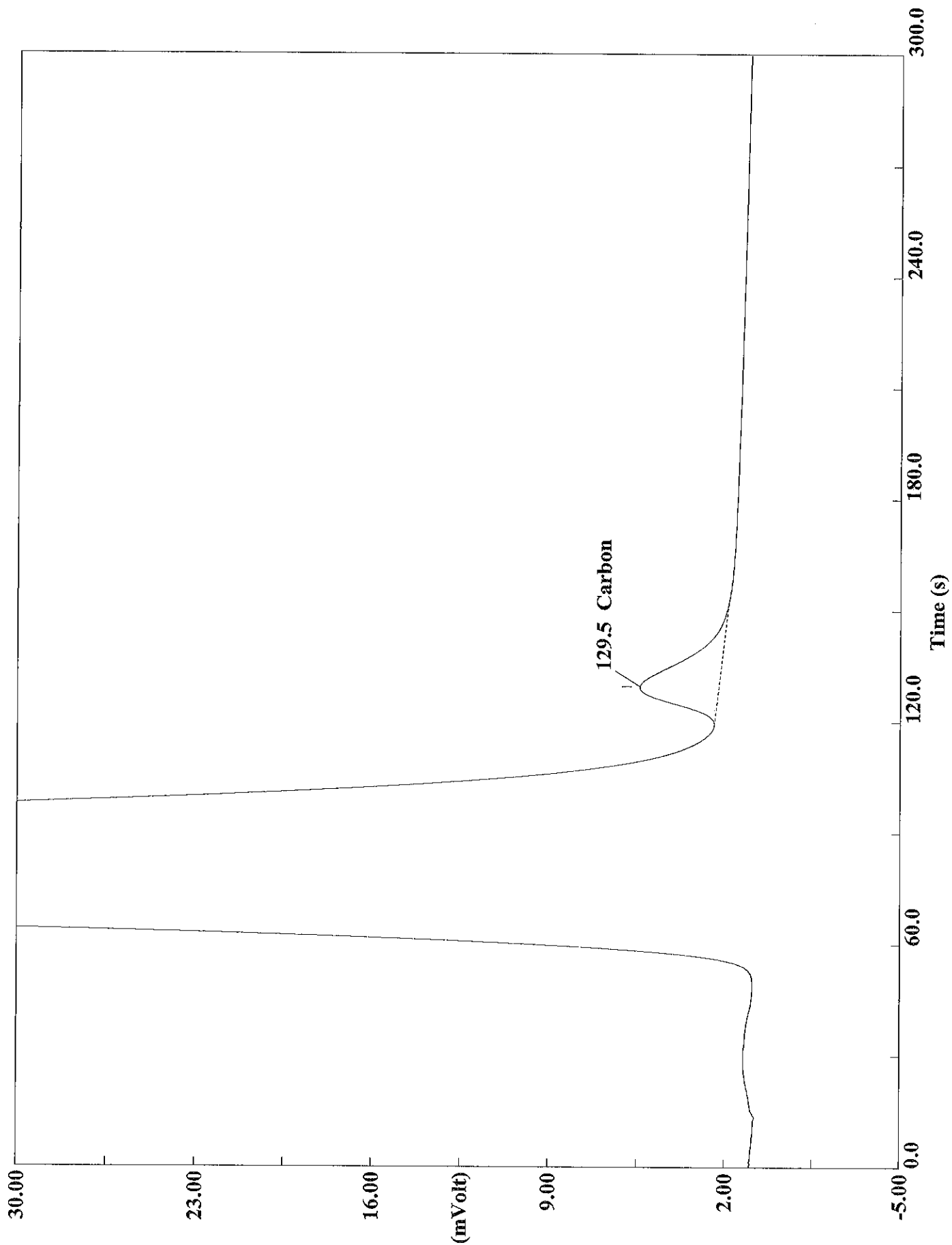
| Element Name | %      | Ret.Time | Area    | BC | Area ratio | K factor |
|--------------|--------|----------|---------|----|------------|----------|
| Carbon       | 1.0000 | 119      | 3476583 | mi | 1.000000   |          |

Manual Integration on 05/06/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050615110.DAT  
Sample name :ICV 22,900 KHP Analysed :05/06/2015 12:34

Manual Integration on 05/06/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050615110.DAT

Sample name :ICV 22,900 KHP Analysed :05/06/2015 12:34

# Eager 300 Report

Page: 1 Sample: ICV 22,900 KHP (A050615110)

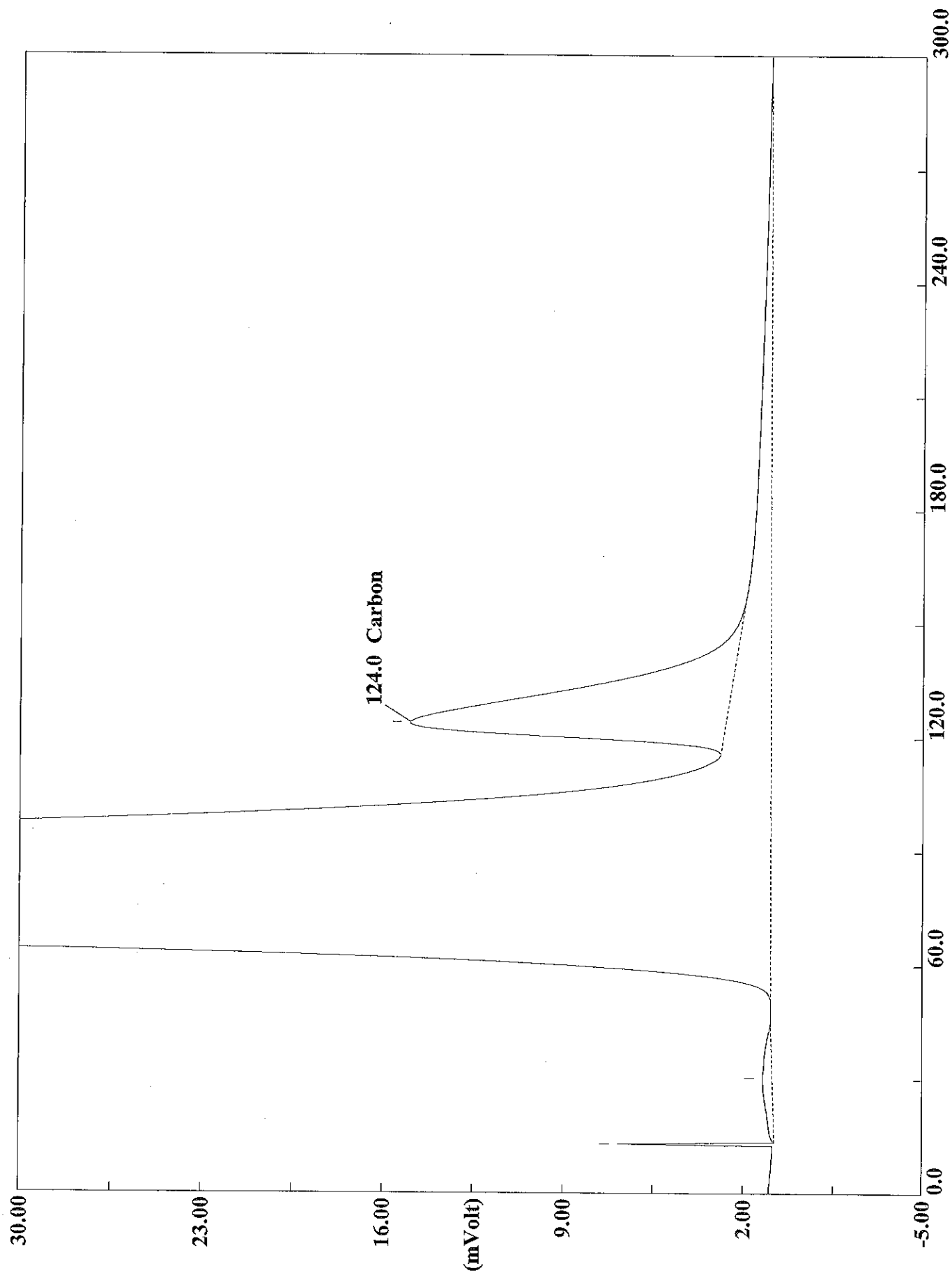
Method Name : Lloyd Kahn  
Method File : C:\data\January\050615a.mth  
Chromatogram : A050615110  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/06/2015 12:34 Printed : 5/6/2015 13:31  
Sample ID : ICV 22,900 KHP (# 11)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 11.3

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

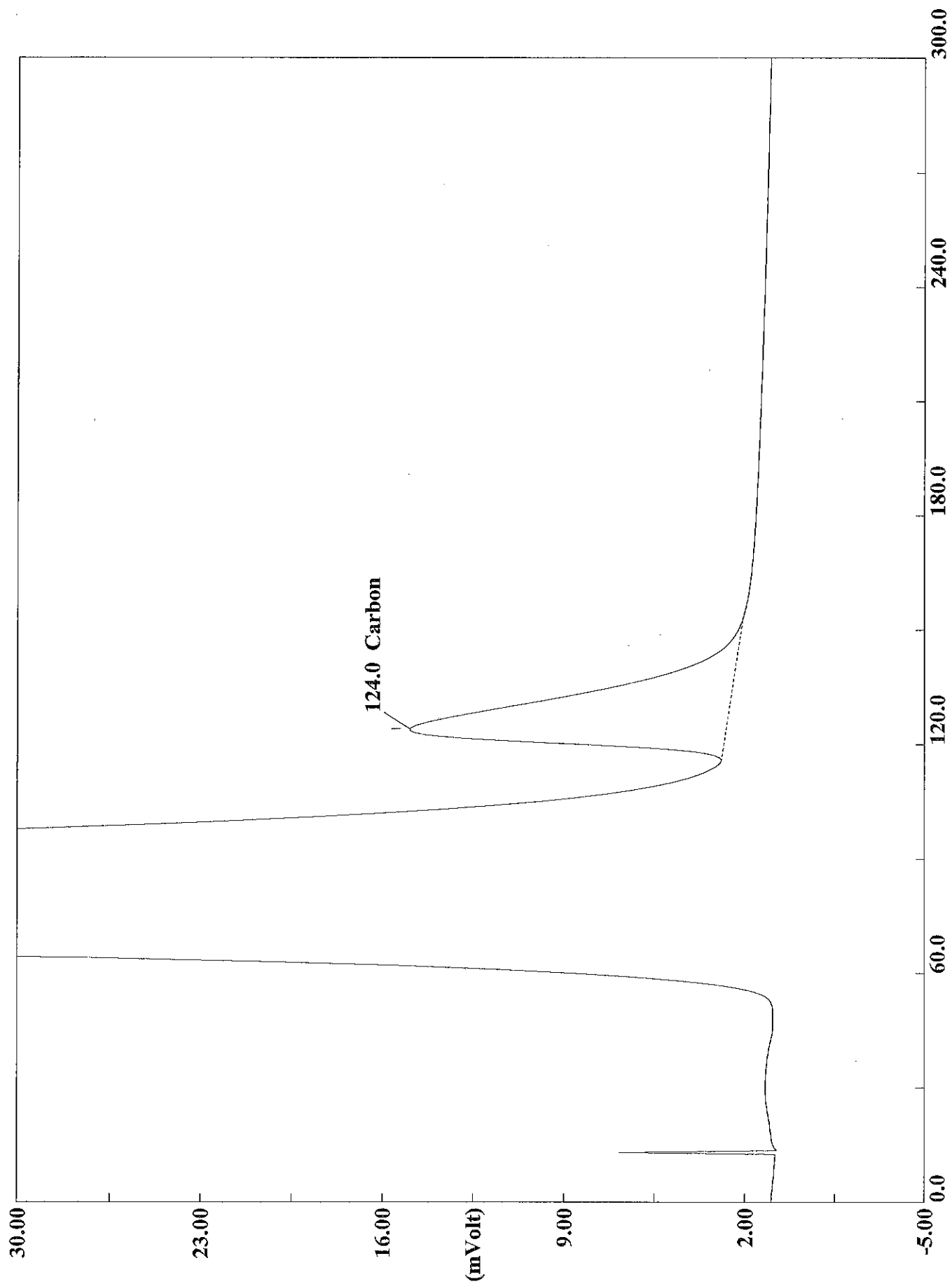
| Element Name | %      | Ret.Time | Area      | BC | Area ratio | K factor |
|--------------|--------|----------|-----------|----|------------|----------|
| Carbon       | 2.3204 | 130      | 400996 mi |    | 1.000000   |          |

Manual Integration on 05/06/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050615111.DAT  
Sample name :ccv Analysed :05/06/2015 12:39

Manual Integration on 05/06/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050615111.DAT  
Sample name :ccv Analysed :05/06/2015 12:39

# Eager 300 Report

Page: 1 Sample: ccv (A050615111)

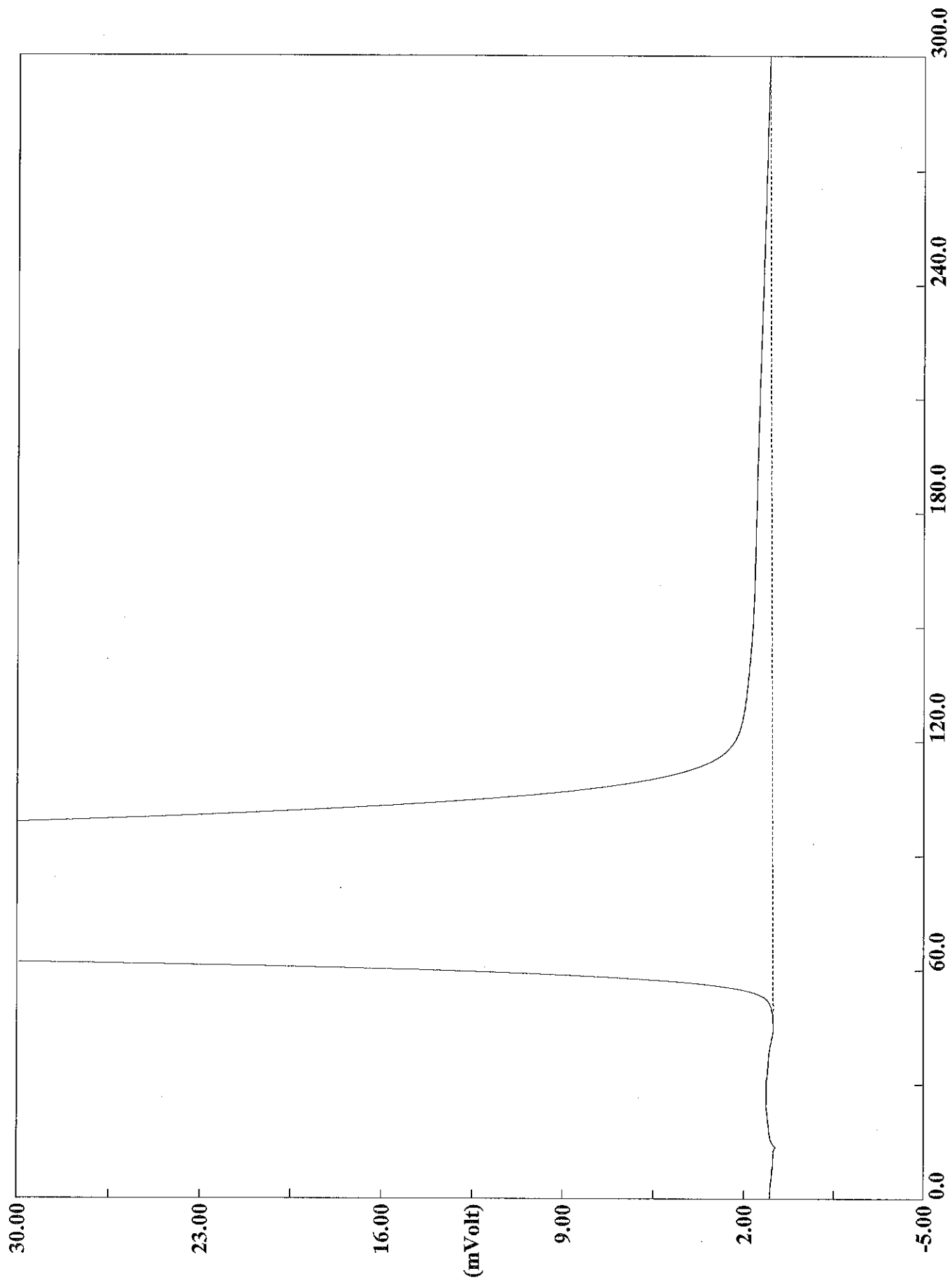
Method Name : Lloyd Kahn  
Method File : C:\data\January\050615a.mth  
Chromatogram : A050615111  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/06/2015 12:39 Printed : 5/6/2015 13:31  
Sample ID : ccv (# 12)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 100

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area    | BC | Area ratio | K factor |
|--------------|--------|----------|---------|----|------------|----------|
| Carbon       | 0.9781 | 124      | 1663919 | mi | 1.000000   |          |

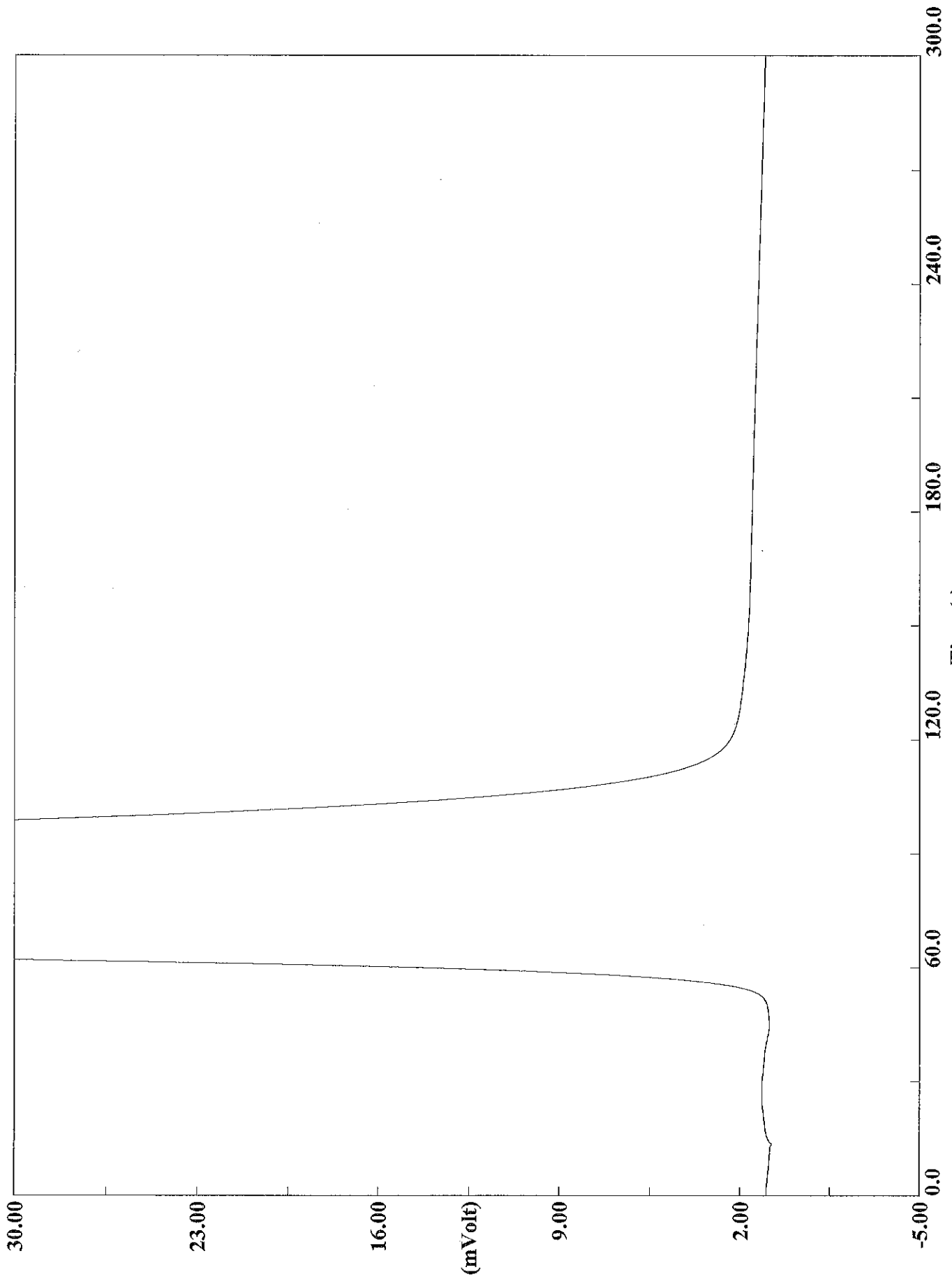
Manual Integration on 05/06/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050615112.DAT  
Sample name :ccb Analysed :05/06/2015 12:44



Manual Integration on 05/06/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050615112.DAT  
Sample name :ccb Analysed :05/06/2015 12:44

# Eager 300 Report

Page: 1 Sample: ccb (A050615112)

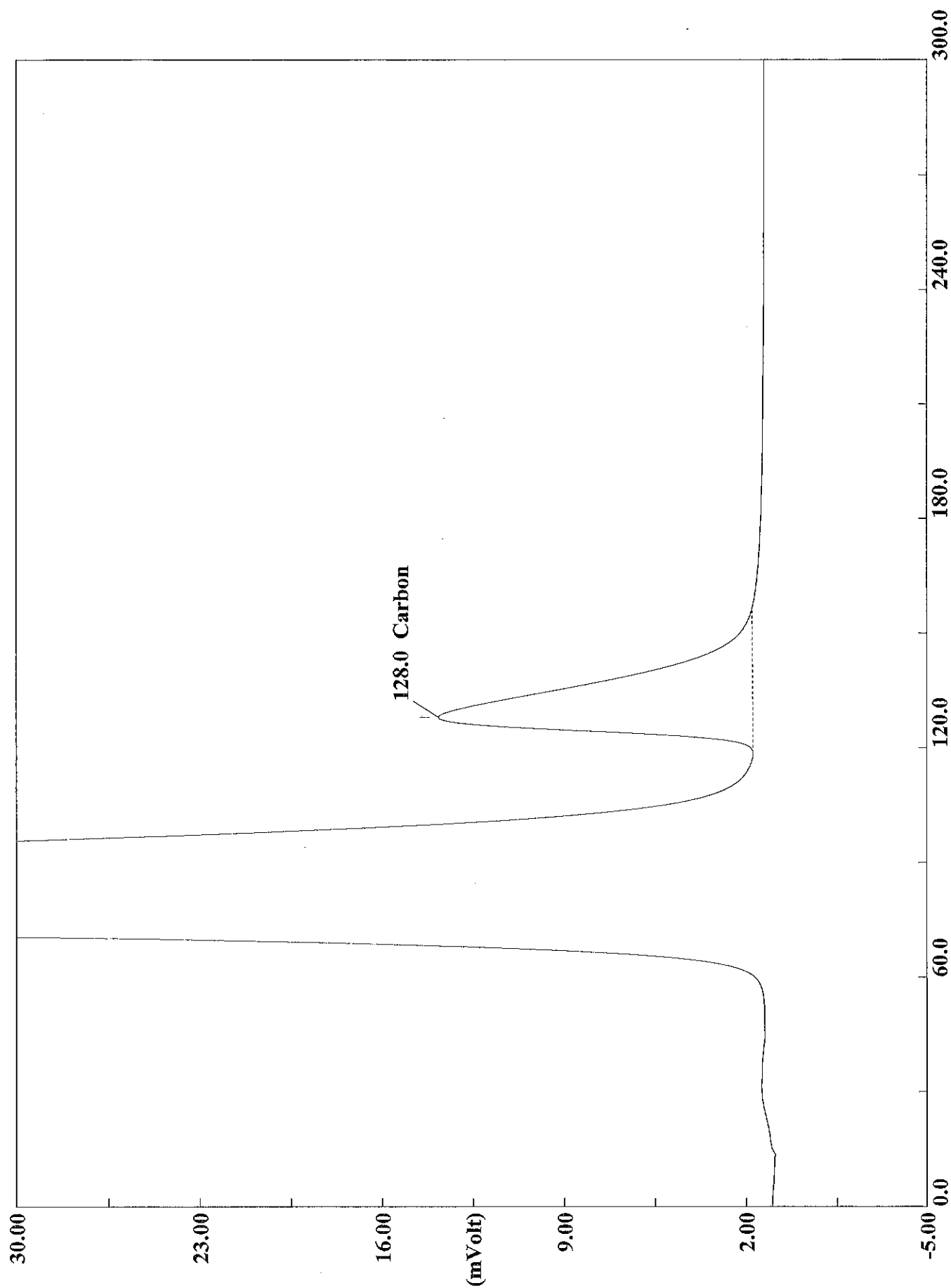
Method Name : Lloyd Kahn  
Method File : C:\data\January\050615a.mth  
Chromatogram : A050615112  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/06/2015 12:44 Printed : 5/6/2015 13:31  
Sample ID : ccb (# 13)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 20

Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|



Filename C:\data\January\A050715001.DAT  
Sample name :ccv Analysed :05/07/2015 04:01

# Eager 300 Report

Page: 1 Sample: ccv (A050715001)

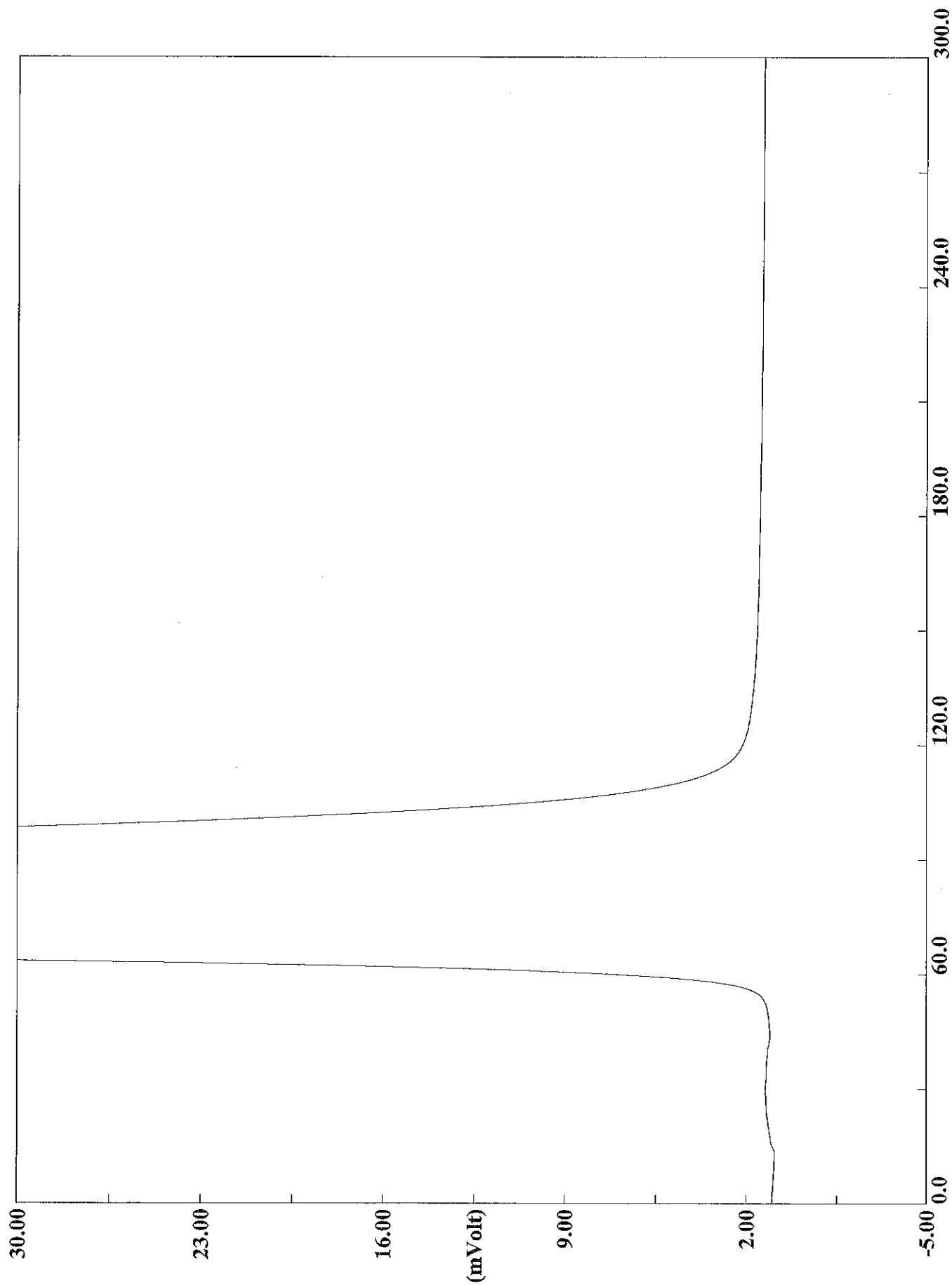
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715001  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 04:01 Printed : 5/8/2015 11:22  
Sample ID : ccv (# 14)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 100

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area    | BC | Area ratio | K factor |
|--------------|--------|----------|---------|----|------------|----------|
| Carbon       | 0.9747 | 128      | 1657942 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715002.DAT  
Sample name :ccb Analysed :05/07/2015 04:06

# Eager 300 Report

Page: 1 Sample: ccb (A050715002)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715002  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 04:06 Printed : 5/8/2015 11:22  
Sample ID : ccb (# 15)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 20

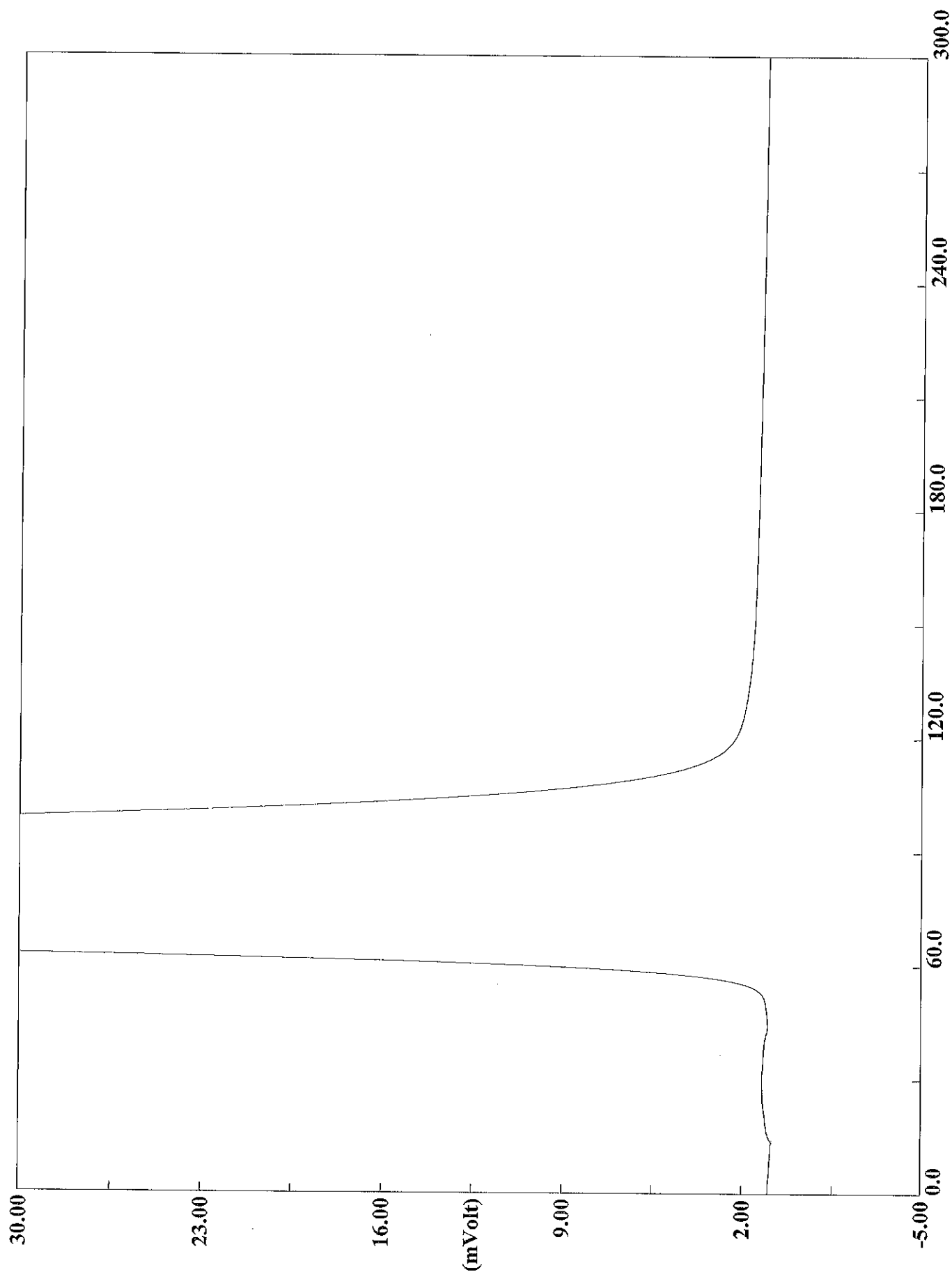
Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715003.DAT

Sample name : mb OS-2CB0290 Analysed : 05/07/2015 04:11

# Eager 300 Report

Page: 1 Sample: mb OS-2CB0290 (A050715003)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715003  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 04:11 Printed : 5/8/2015 11:22  
Sample ID : mb OS-2CB0290 (# 16)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 20.9

Calib. method : using 'Least Squares to Linear fit'

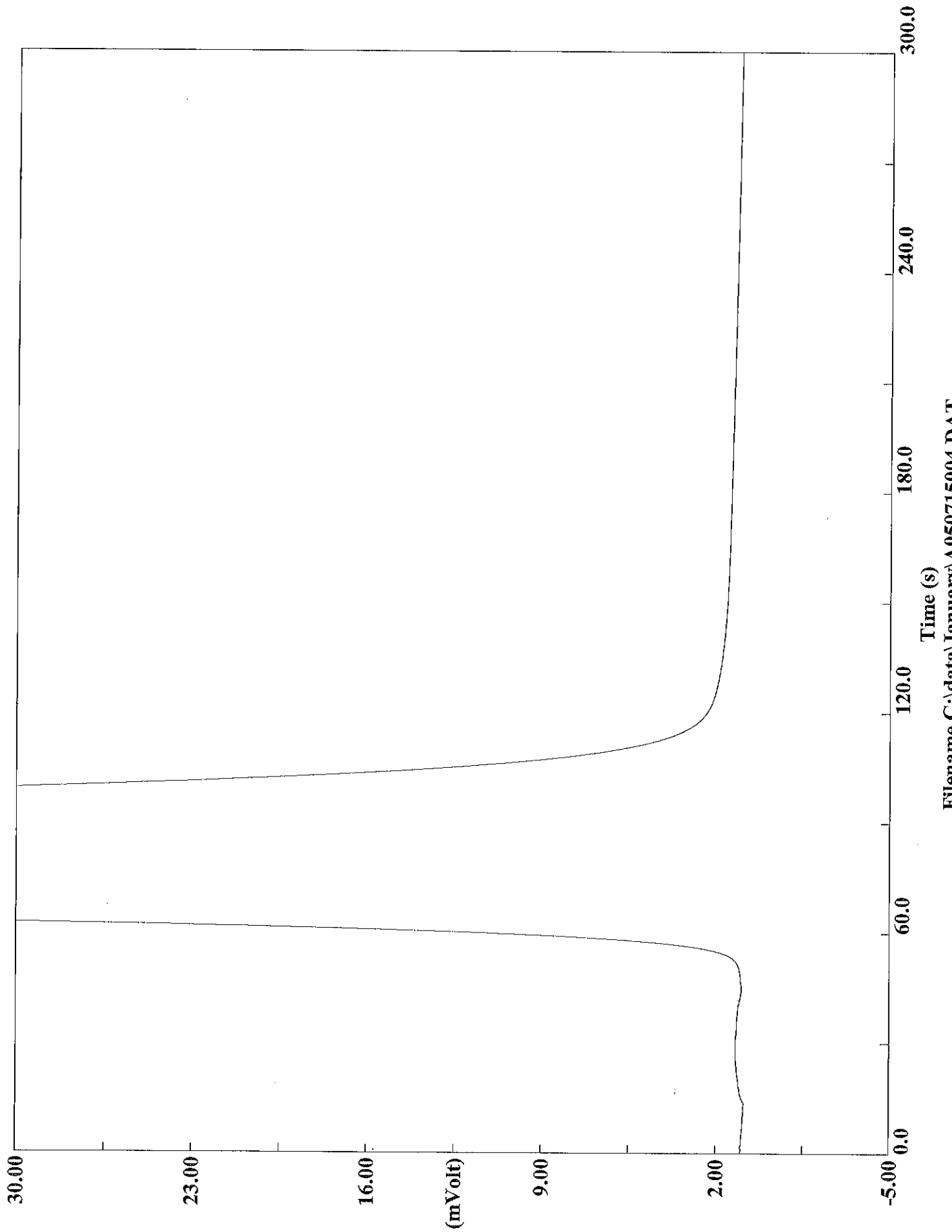
!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|



Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715004.DAT

Sample name : mb OS-2CB0290 Analysed : 05/07/2015 04:16

# Eager 300 Report

Page: 1 Sample: mb OS-2CB0290 (A050715004)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715004  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 04:16 Printed : 5/8/2015 11:22  
Sample ID : mb OS-2CB0290 (# 17)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 20.9

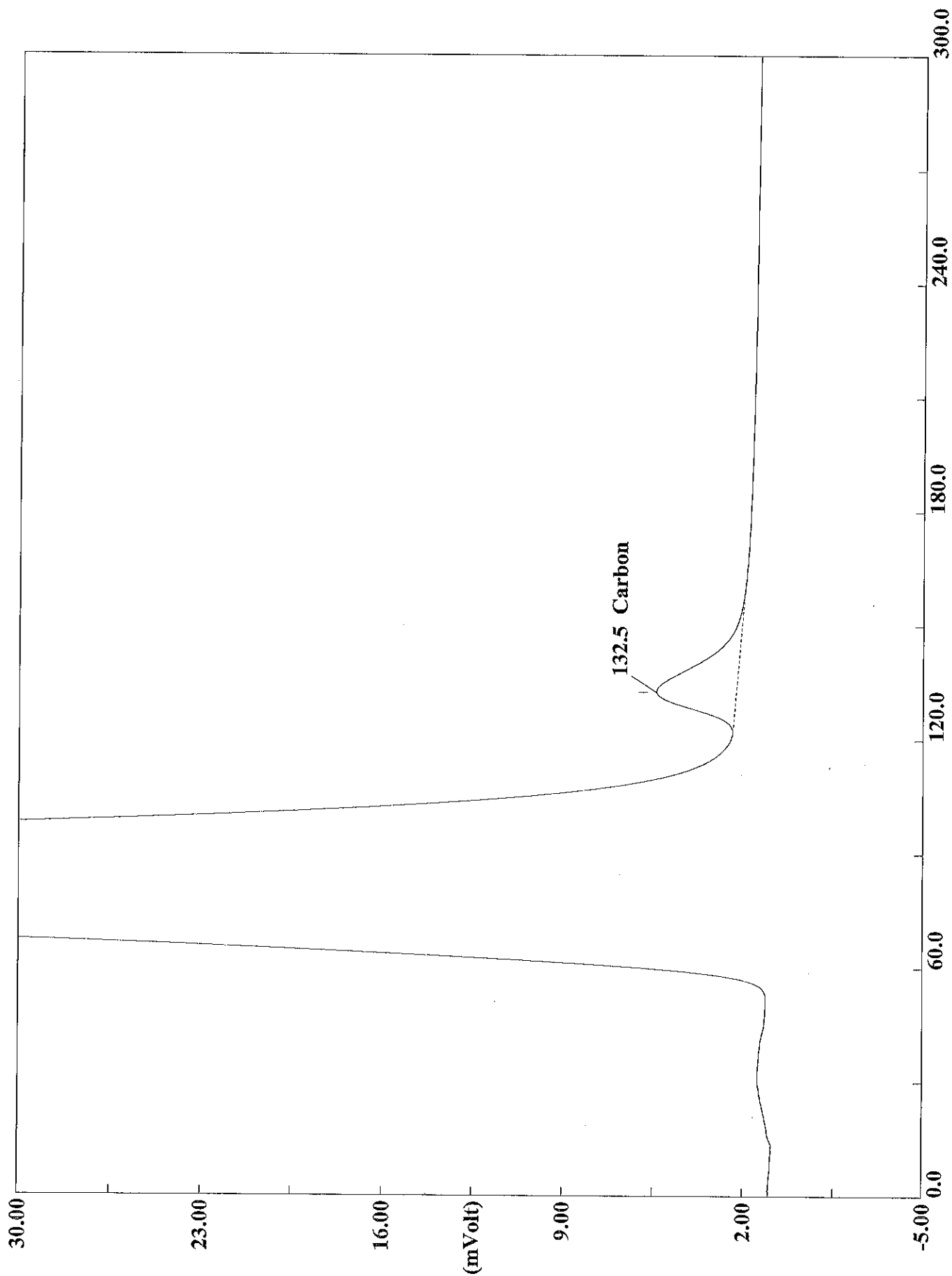
Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715005.DAT  
Sample name :lcs Analysed :05/07/2015 04:25

# Eager 300 Report

Page: 1 Sample: lcs (A050715005)

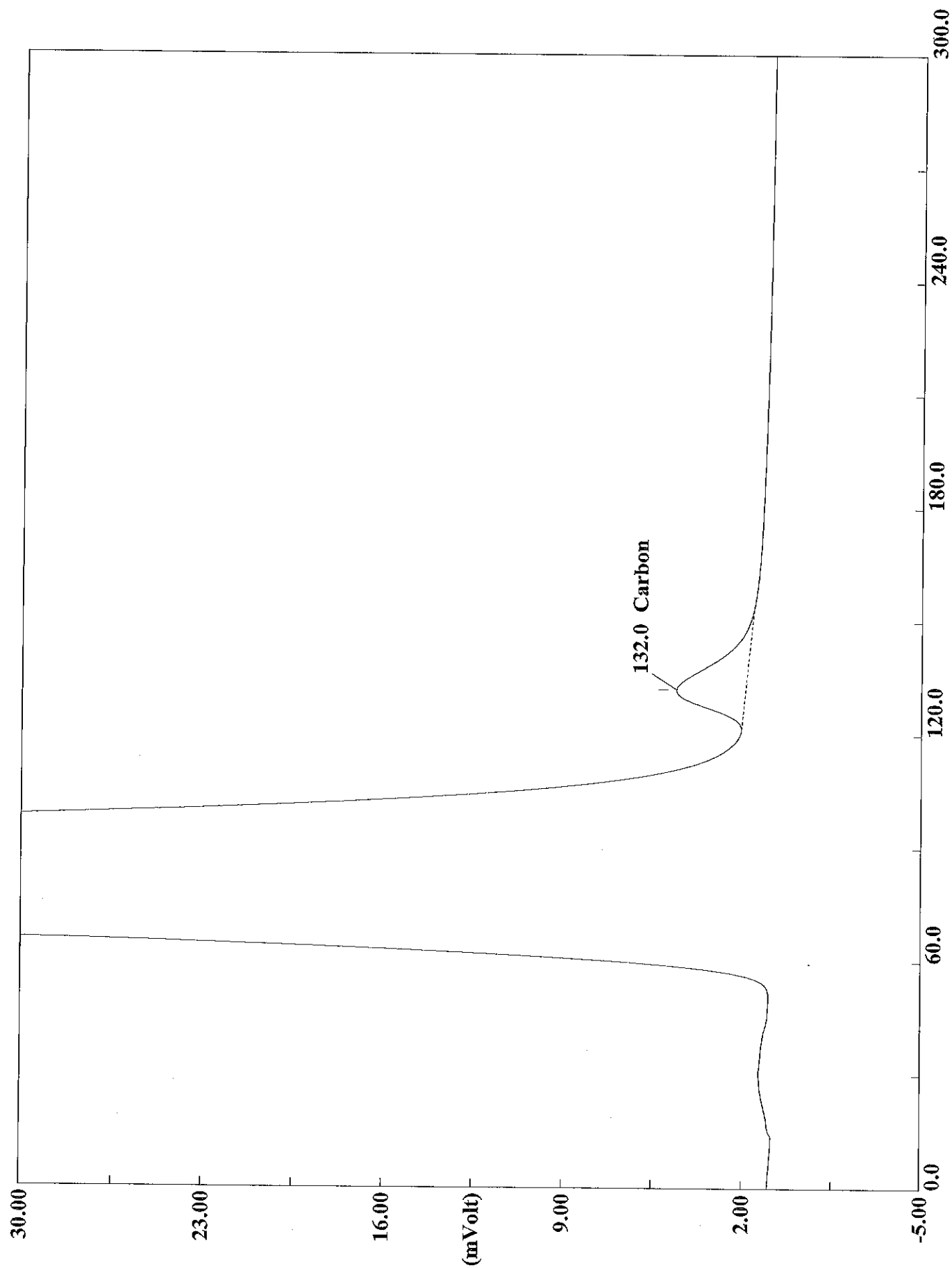
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715005  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 04:25 Printed : 5/8/2015 11:22  
Sample ID : lcs (# 18)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 11

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 2.4264 | 133      | 409274 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715006.DAT  
Sample name : lcs Analysed : 05/07/2015 04:30

# Eager 300 Report

Page: 1 Sample: lcs (A050715006)

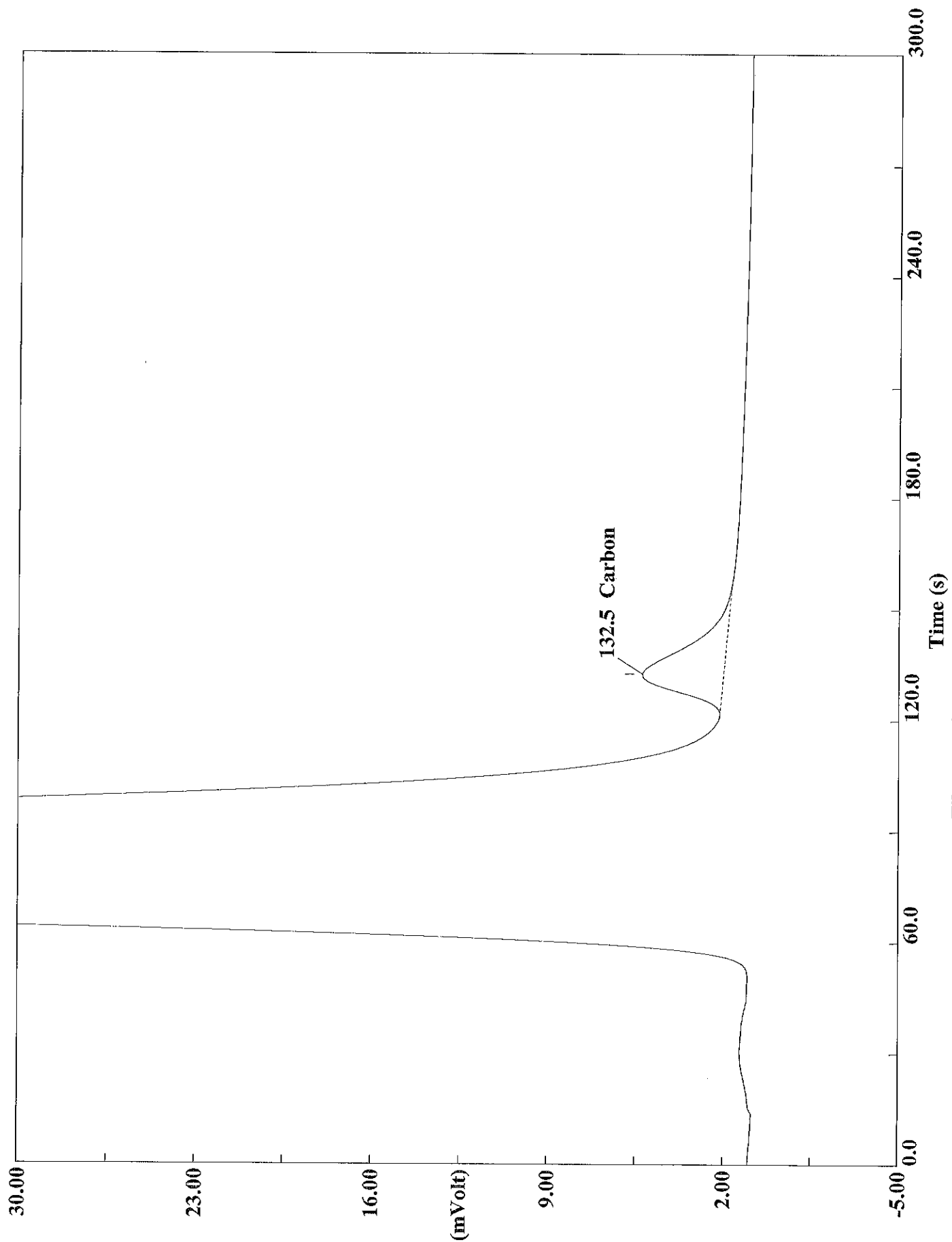
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715006  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 04:30 Printed : 5/8/2015 11:22  
Sample ID : lcs (# 19)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 10.7

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 2.1465 | 132      | 343606 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715007.DAT

Sample name :180-43458-d-2 Analysed :05/07/2015 04:35

# Eager 300 Report

Page: 1 Sample: 180-43458-d-2 (A050715007)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715007  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 04:35 Printed : 5/8/2015 11:22  
Sample ID : 180-43458-d-2 (# 20)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 16.1

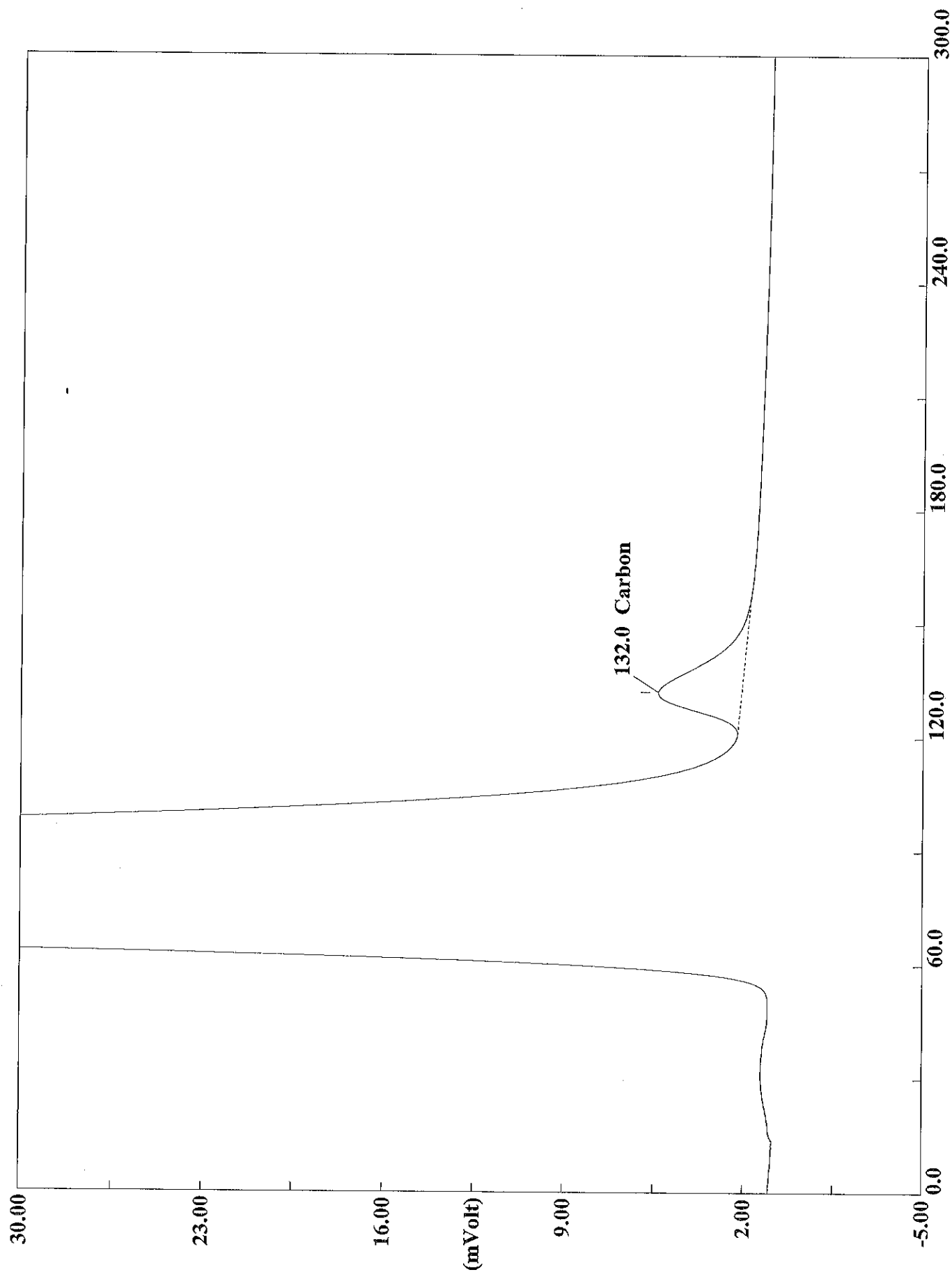
Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 1.7352 | 133      | 431254 | mi | 1.000000   |          |



Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715008.DAT

Sample name :180-43458-d-2 Analysed :05/07/2015 04:40

# Eager 300 Report

Page: 1 Sample: 180-43458-d-2 (A050715008)

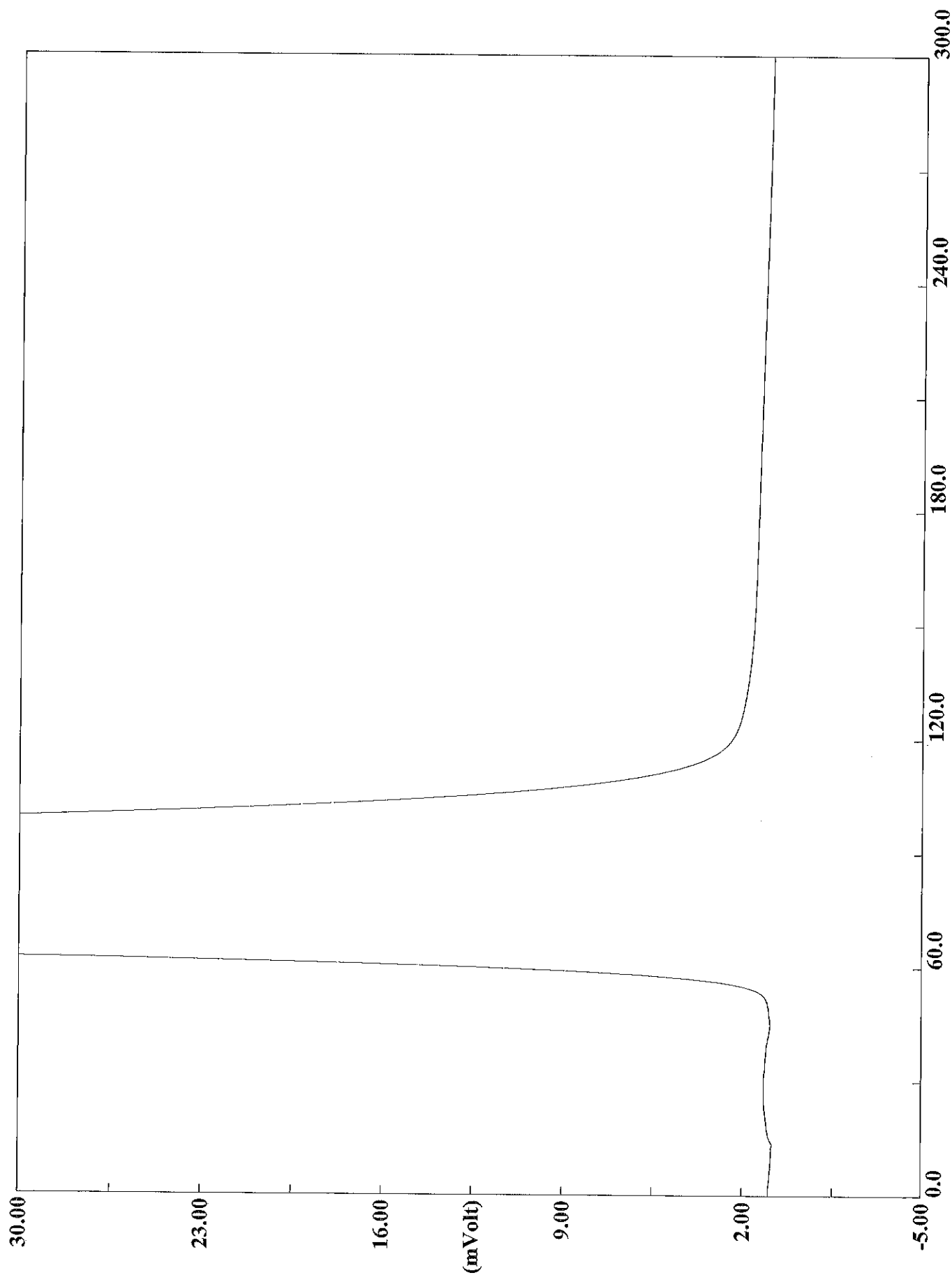
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715008  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 04:40 Printed : 5/8/2015 11:22  
Sample ID : 180-43458-d-2 (# 21)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 16.4

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 1.7384 | 132      | 441385 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715009.DAT

Sample name :rinse Analysed :05/07/2015 04:46

# Eager 300 Report

Page: 1 Sample: rinse (A050715009)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715009  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 04:46 Printed : 5/8/2015 11:22  
Sample ID : rinse (# 22)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 1

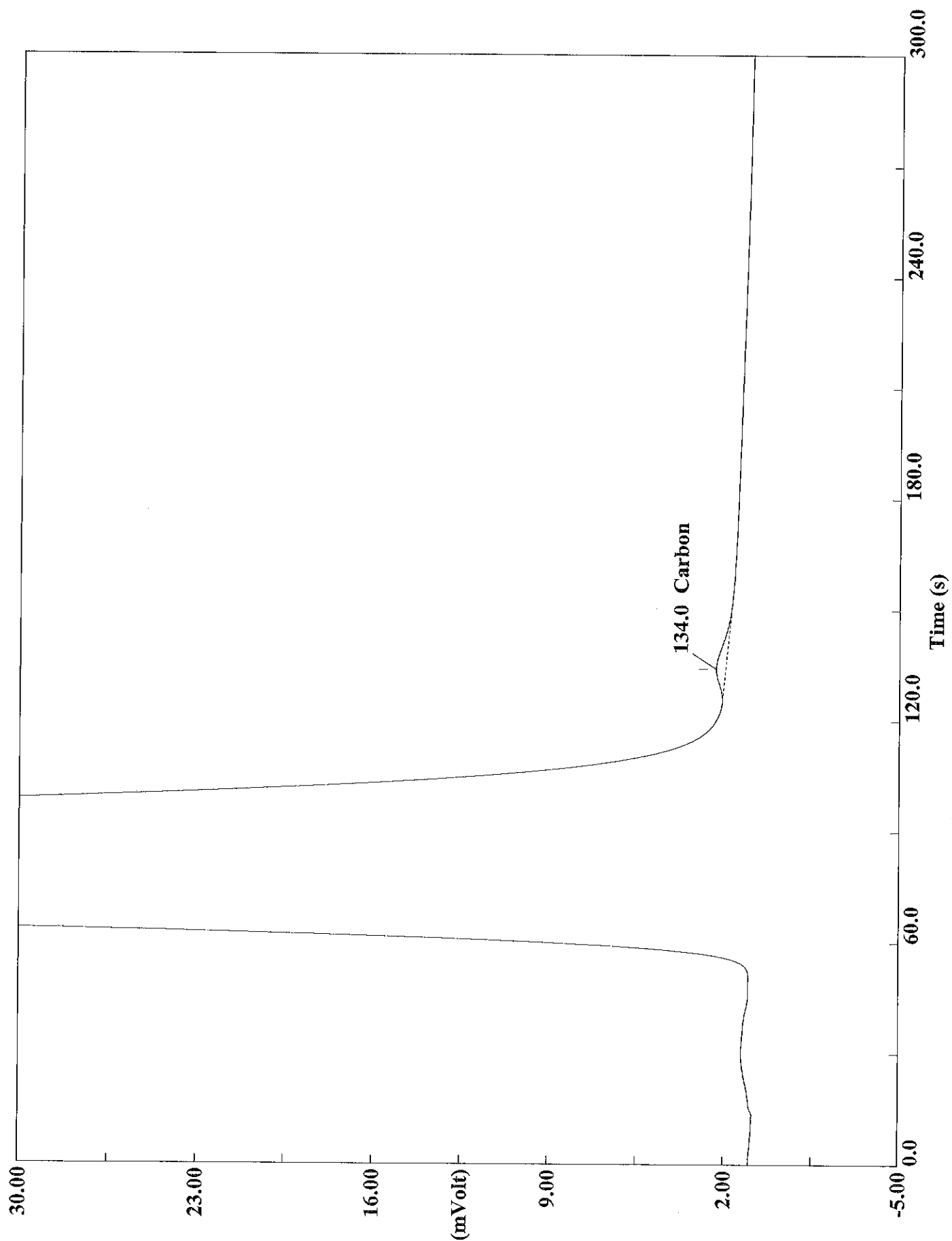
Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715010.DAT

Sample name :180-43458-d-3 Analysed :05/07/2015 04:51

# Eager 300 Report

Page: 1 Sample: 180-43458-d-3 (A050715010)

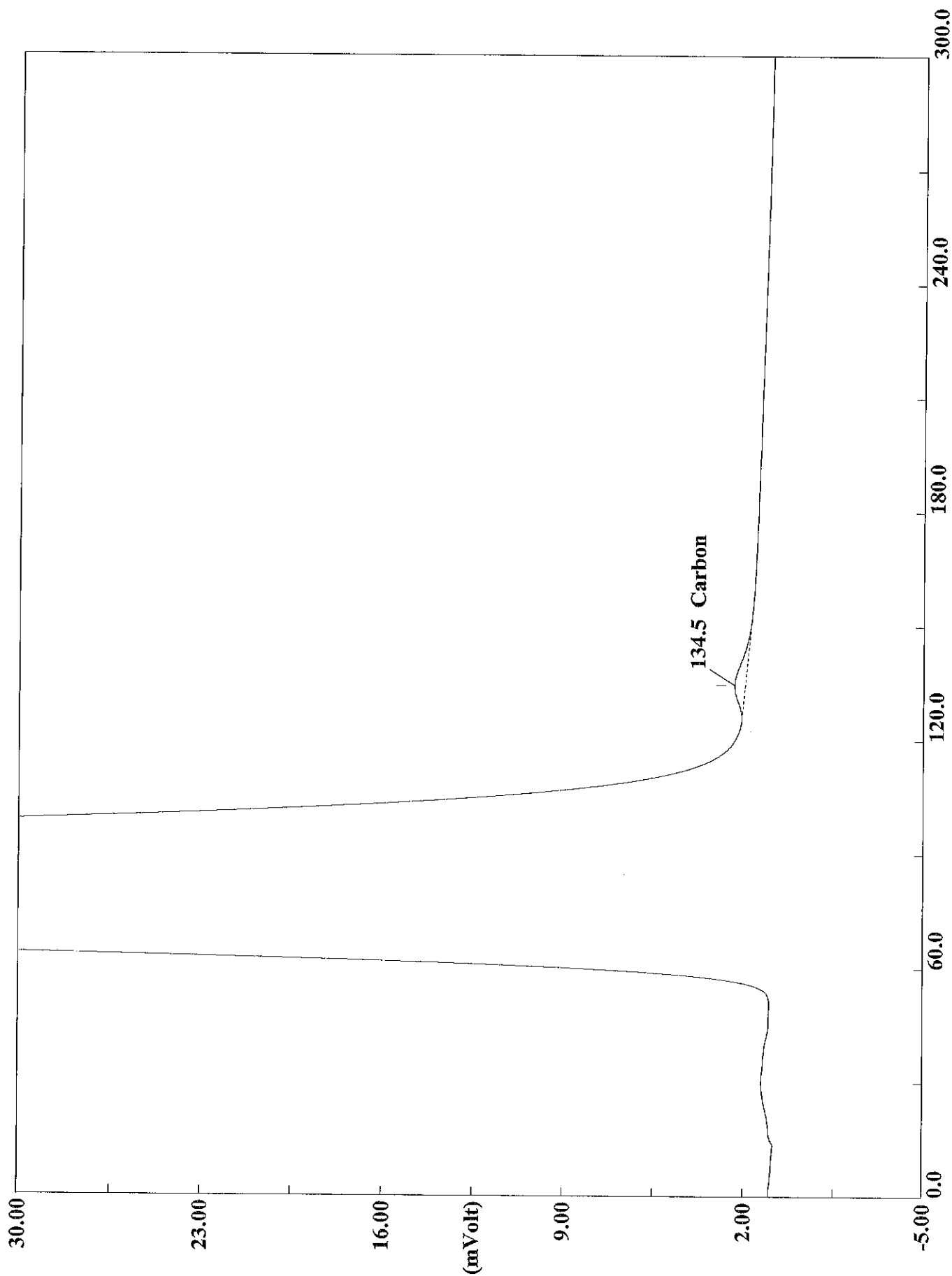
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715010  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 04:51 Printed : 5/8/2015 11:22  
Sample ID : 180-43458-d-3 (# 23)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 20.6

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area  | BC | Area ratio | K factor |
|--------------|--------|----------|-------|----|------------|----------|
| Carbon       | 0.2908 | 134      | 44118 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715011.DAT  
Sample name :180-43458-d-3 Analysed :05/07/2015 04:56

# Eager 300 Report

Page: 1 Sample: 180-43458-d-3 (A050715011)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715011  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 04:56 Printed : 5/8/2015 11:22  
Sample ID : 180-43458-d-3 (# 24)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 21.7

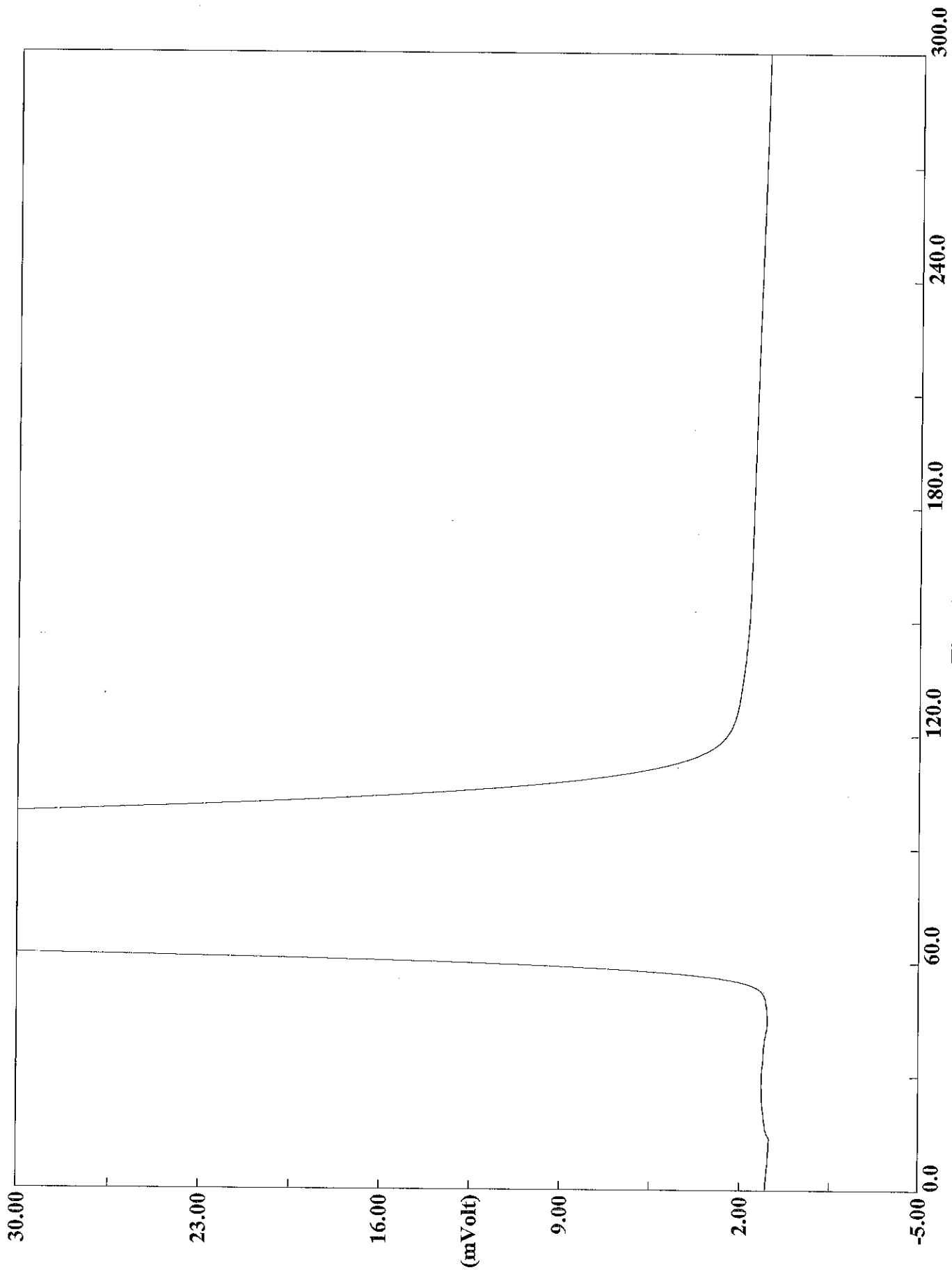
Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area  | BC | Area ratio | K factor |
|--------------|--------|----------|-------|----|------------|----------|
| Carbon       | 0.2879 | 135      | 48648 | mi | 1.000000   |          |



Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715012.DAT  
Sample name :rinse Analysed :05/07/2015 05:01

# Eager 300 Report

Page: 1 Sample: rinse (A050715012)

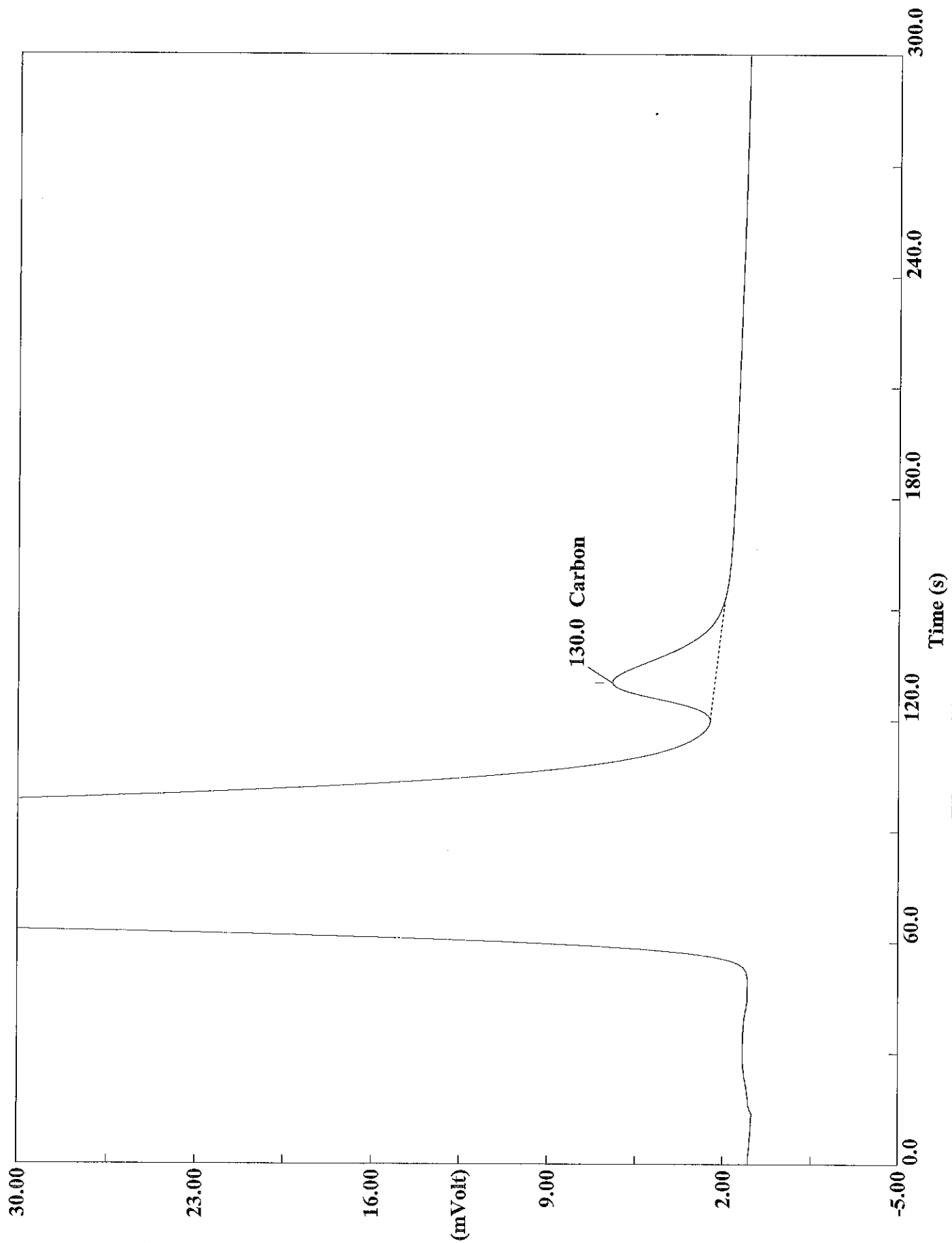
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715012  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 05:01 Printed : 5/8/2015 11:22  
Sample ID : rinse (# 25)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 1

Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|



Filename C:\data\January\A050715013.DAT

Sample name :180-43458-d-4 Analysed :05/07/2015 05:07

# Eager 300 Report

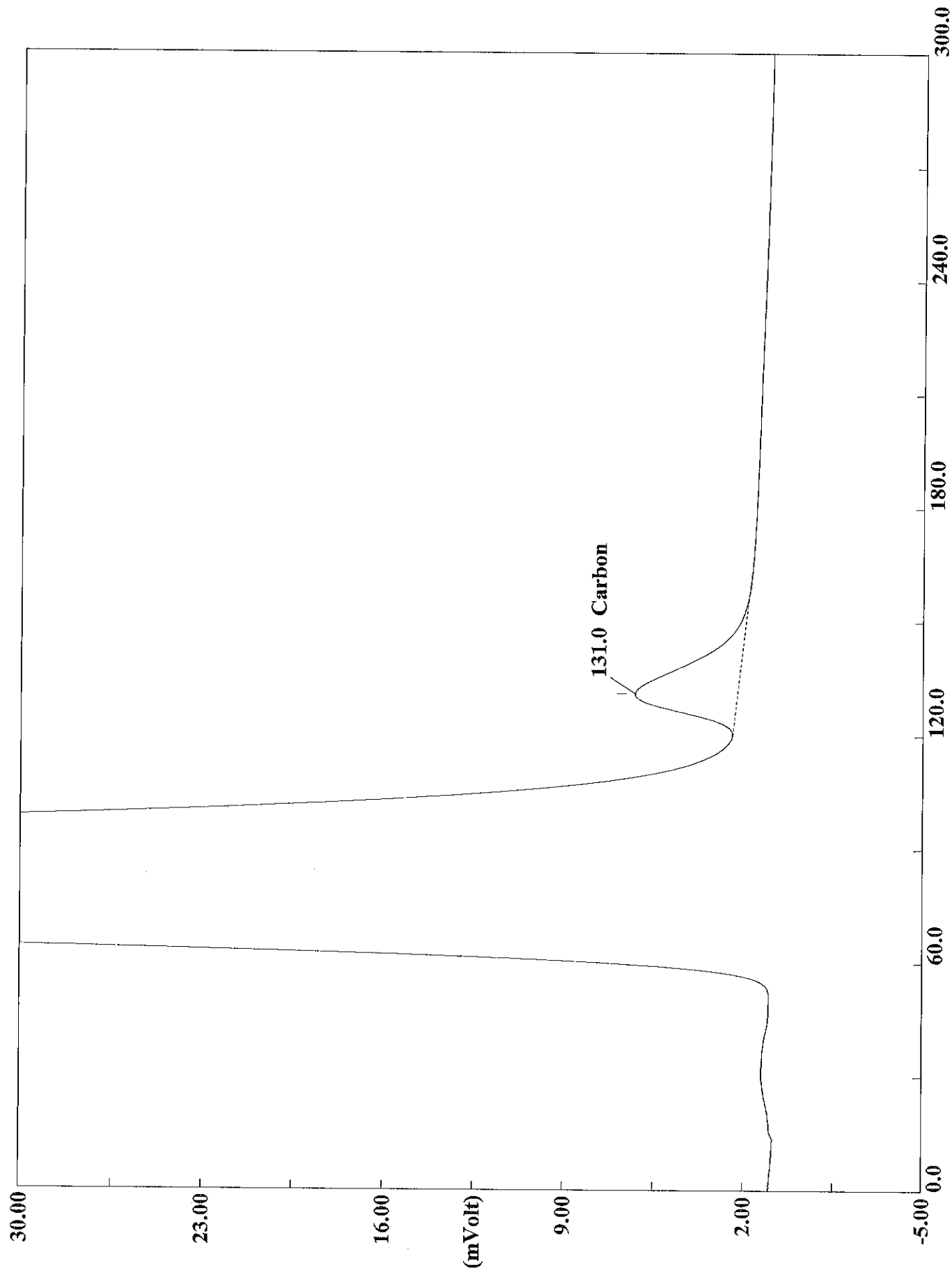
Page: 1 Sample: 180-43458-d-4 (A050715013)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715013  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 05:07 Printed : 5/8/2015 11:22  
Sample ID : 180-43458-d-4 (# 26)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 12

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 2.8266 | 130      | 536810 | mi | 1.000000   |          |



# Eager 300 Report

Page: 1 Sample: 180-43458-d-4 (A050715014)

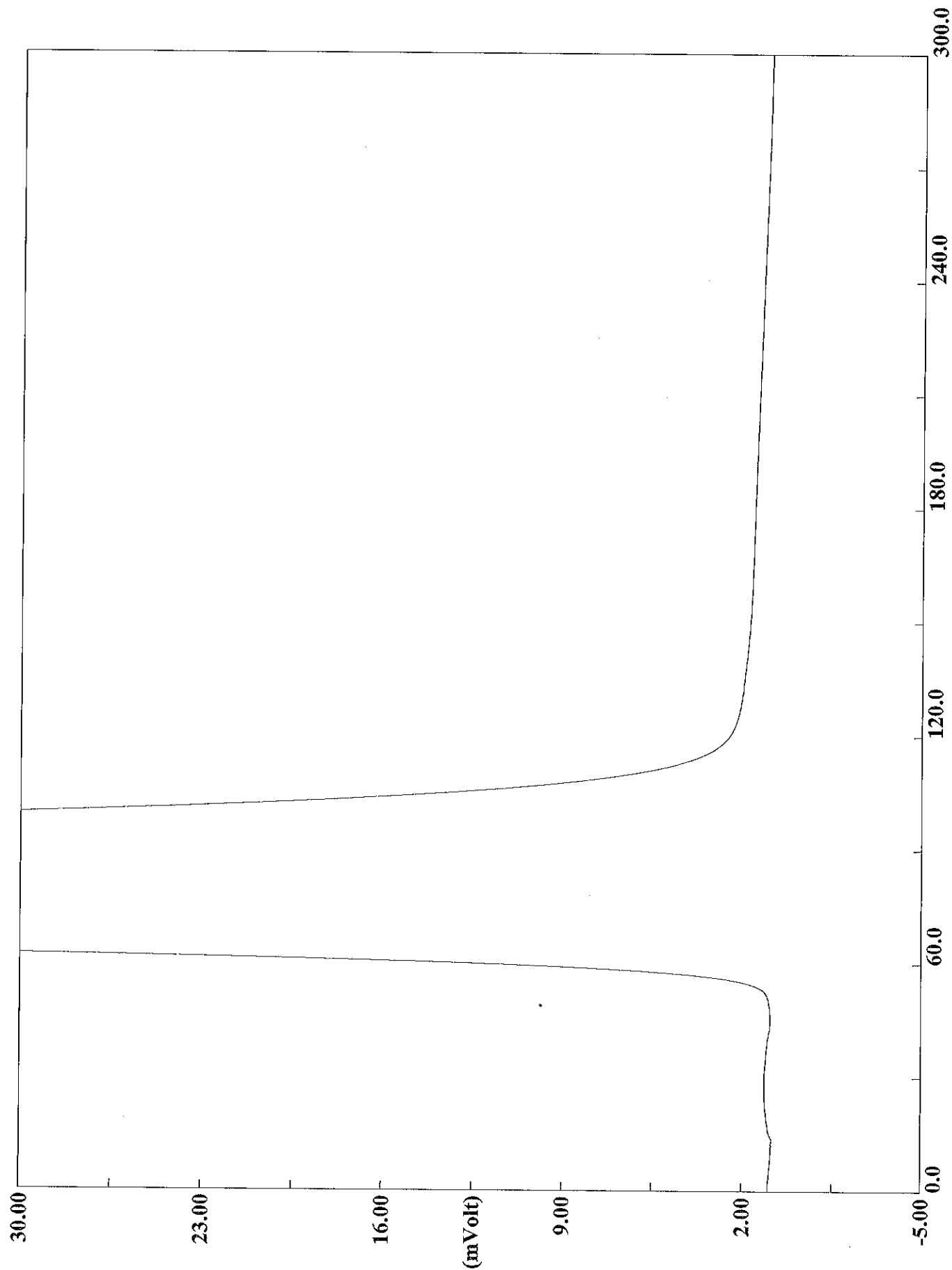
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715014  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 05:12 Printed : 5/8/2015 11:22  
Sample ID : 180-43458-d-4 (# 27)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 11.8

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 2.9599 | 131      | 554576 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715015.DAT  
Sample name :rinse Analysed :05/07/2015 05:17

# Eager 300 Report

Page: 1 Sample: rinse (A050715015)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715015  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 05:17 Printed : 5/8/2015 11:22  
Sample ID : rinse (# 28)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 1

Calib. method : using 'Least Squares to Linear fit'

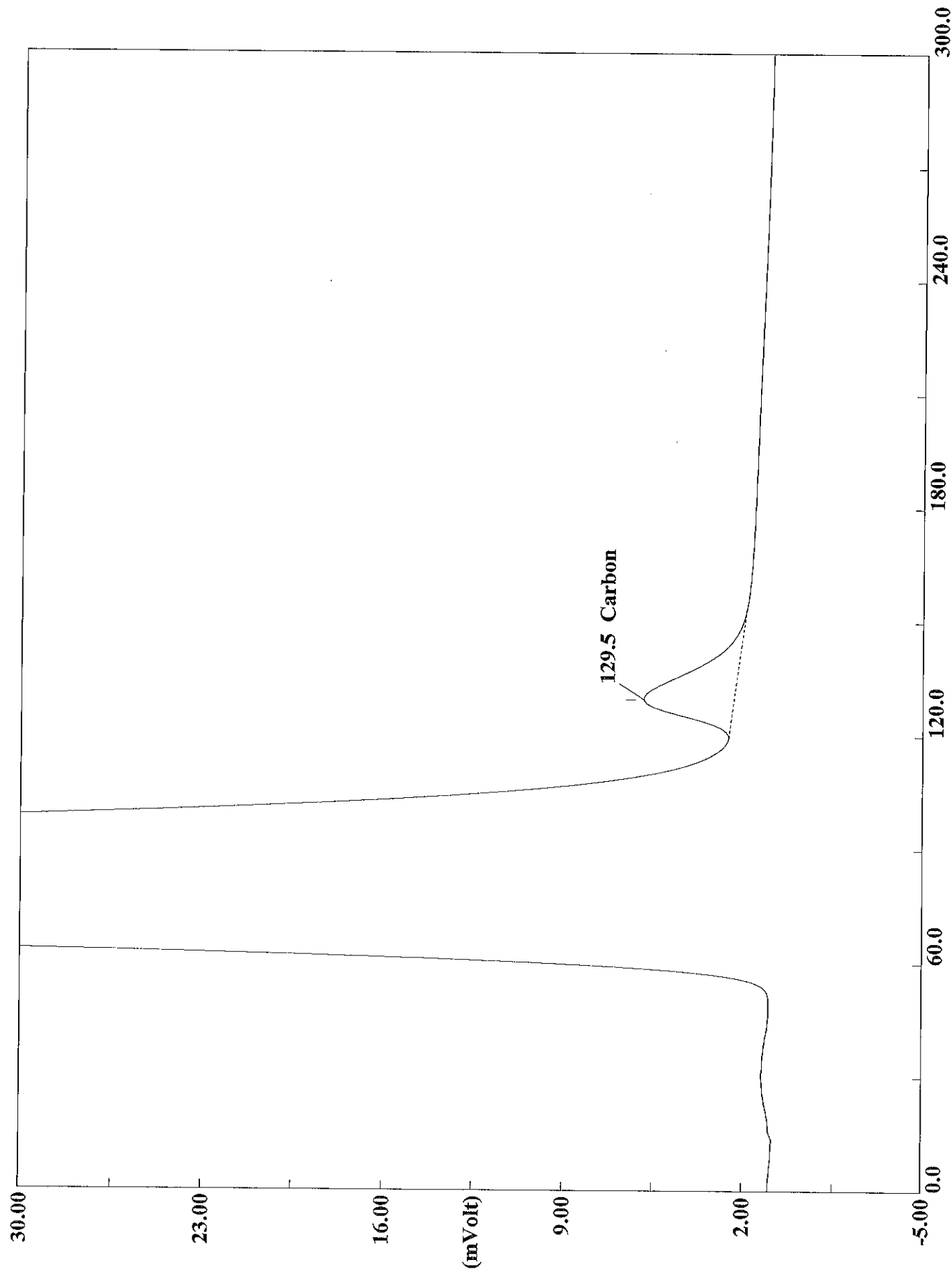
!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|



Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715016.DAT  
Sample name : 180-43458-d-5    Analysed : 05/07/2015 05:22

# Eager 300 Report

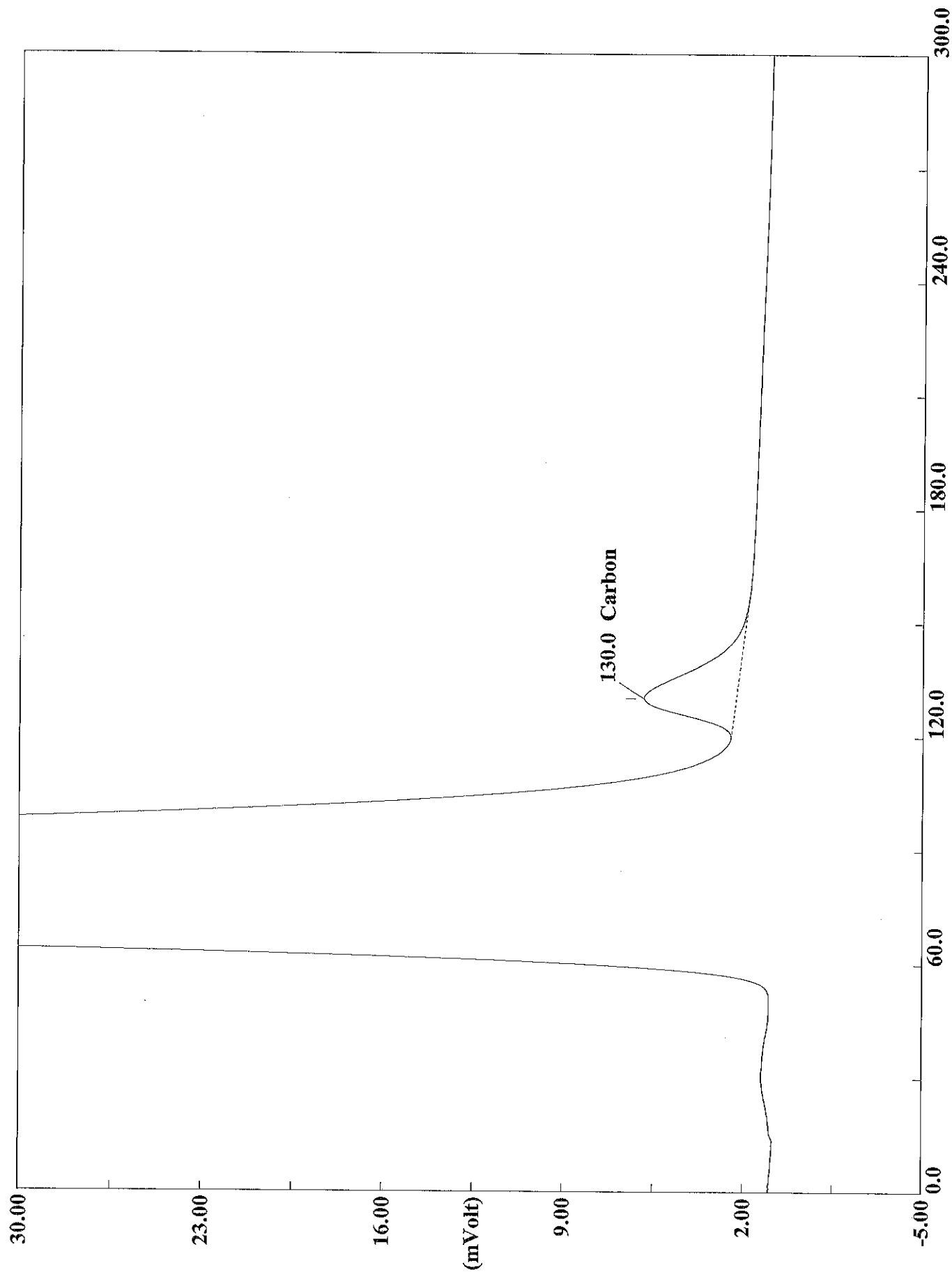
Page: 1 Sample: 180-43458-d-5 (A050715016)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715016  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 05:22 Printed : 5/8/2015 11:22  
Sample ID : 180-43458-d-5 (# 29)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 15.3

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 1.9457 | 130      | 463588 | mi | 1.000000   |          |



# Eager 300 Report

Page: 1 Sample: 180-43458-d-5 (A050715017)

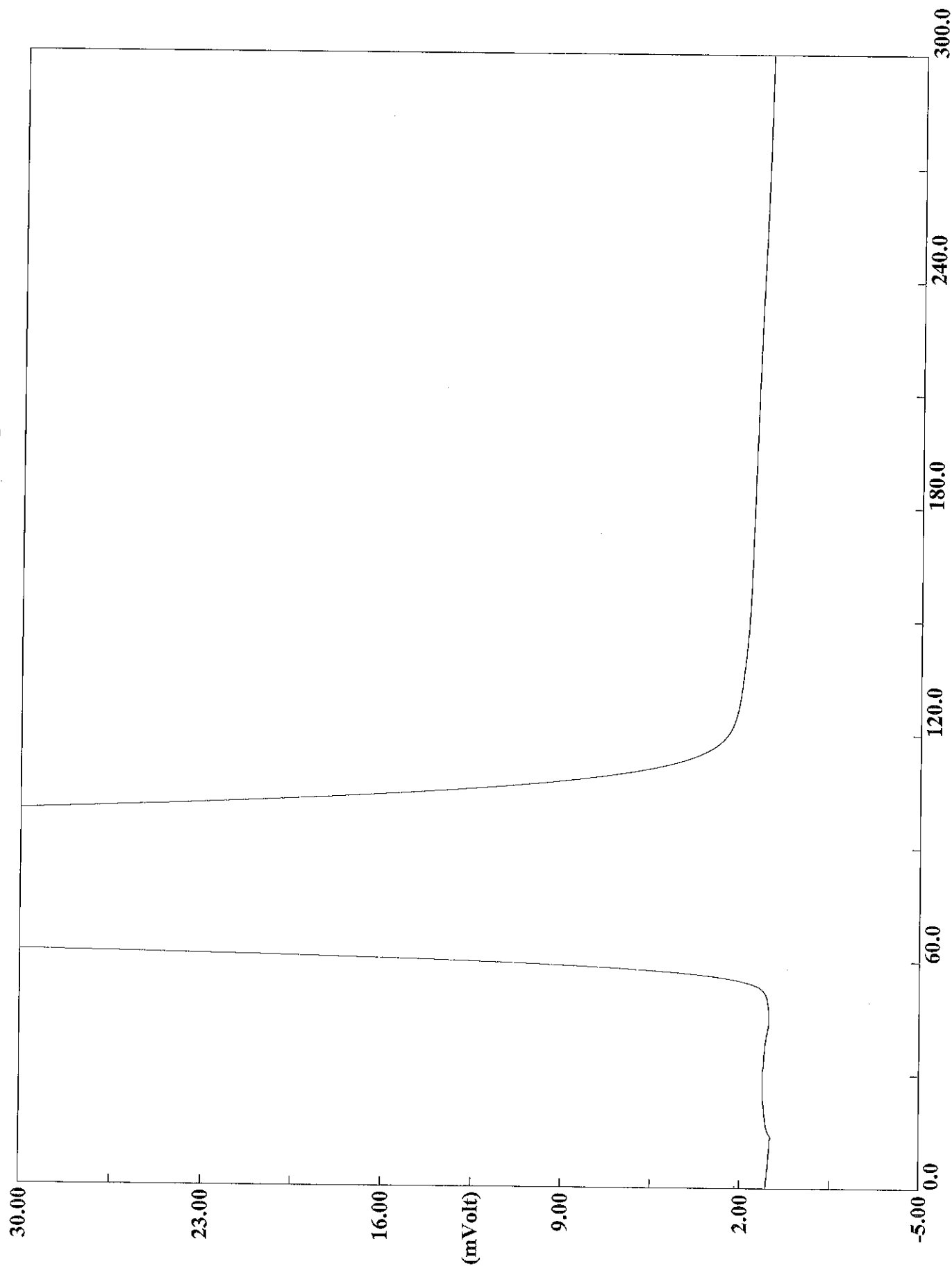
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715017  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 05:28 Printed : 5/8/2015 11:22  
Sample ID : 180-43458-d-5 (# 30)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 14.5

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 2.0866 | 130      | 472187 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715018.DAT  
Sample name :rinse Analysed :05/07/2015 05:33

# Eager 300 Report

Page: 1 Sample: rinse (A050715018)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715018  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 05:33 Printed : 5/8/2015 11:22  
Sample ID : rinse (# 31)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 1

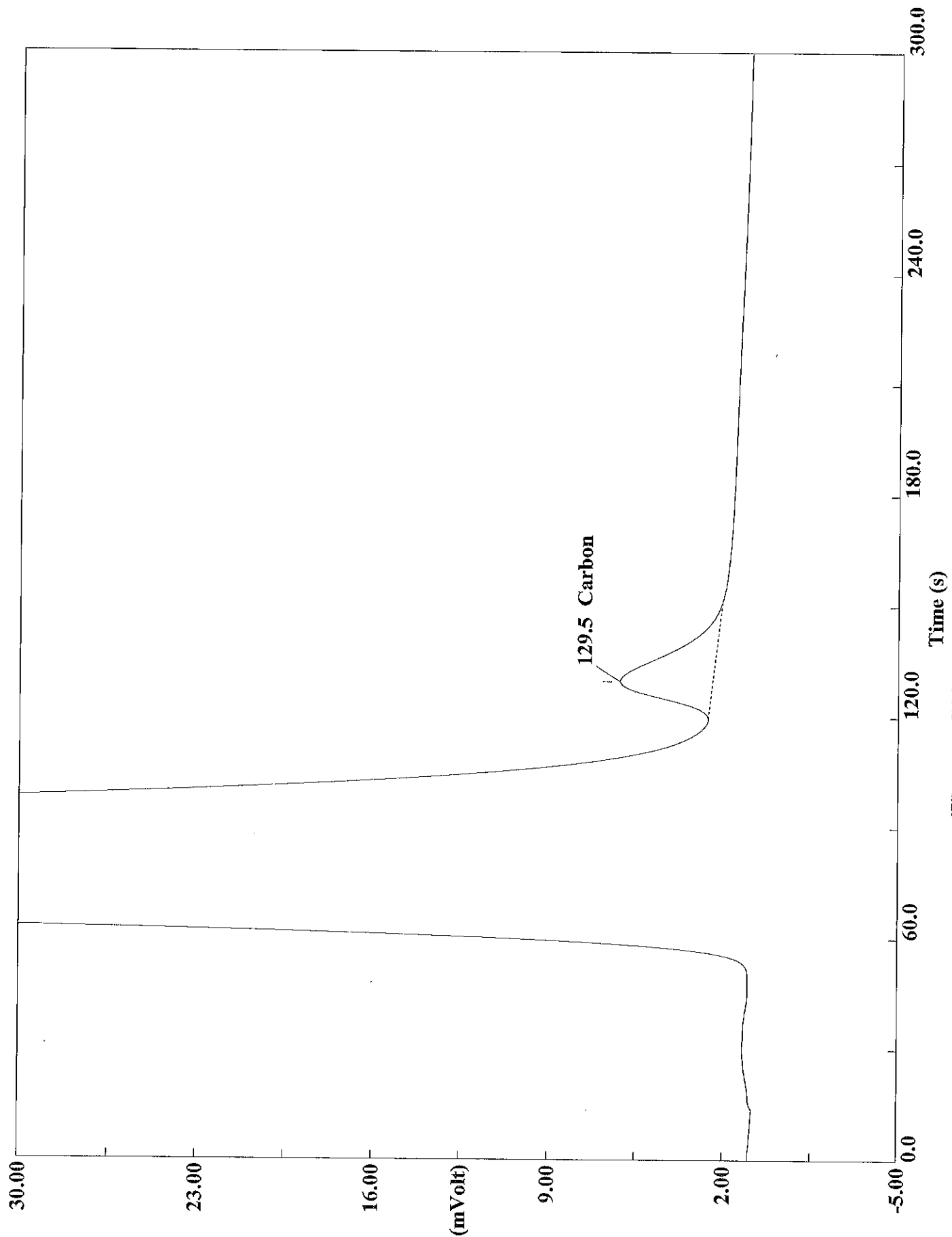
Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715019.DAT

Sample name :180-43458-m-6 Analysed :05/07/2015 05:38

# Eager 300 Report

Page: 1 Sample: 180-43458-m-6 (A050715019)

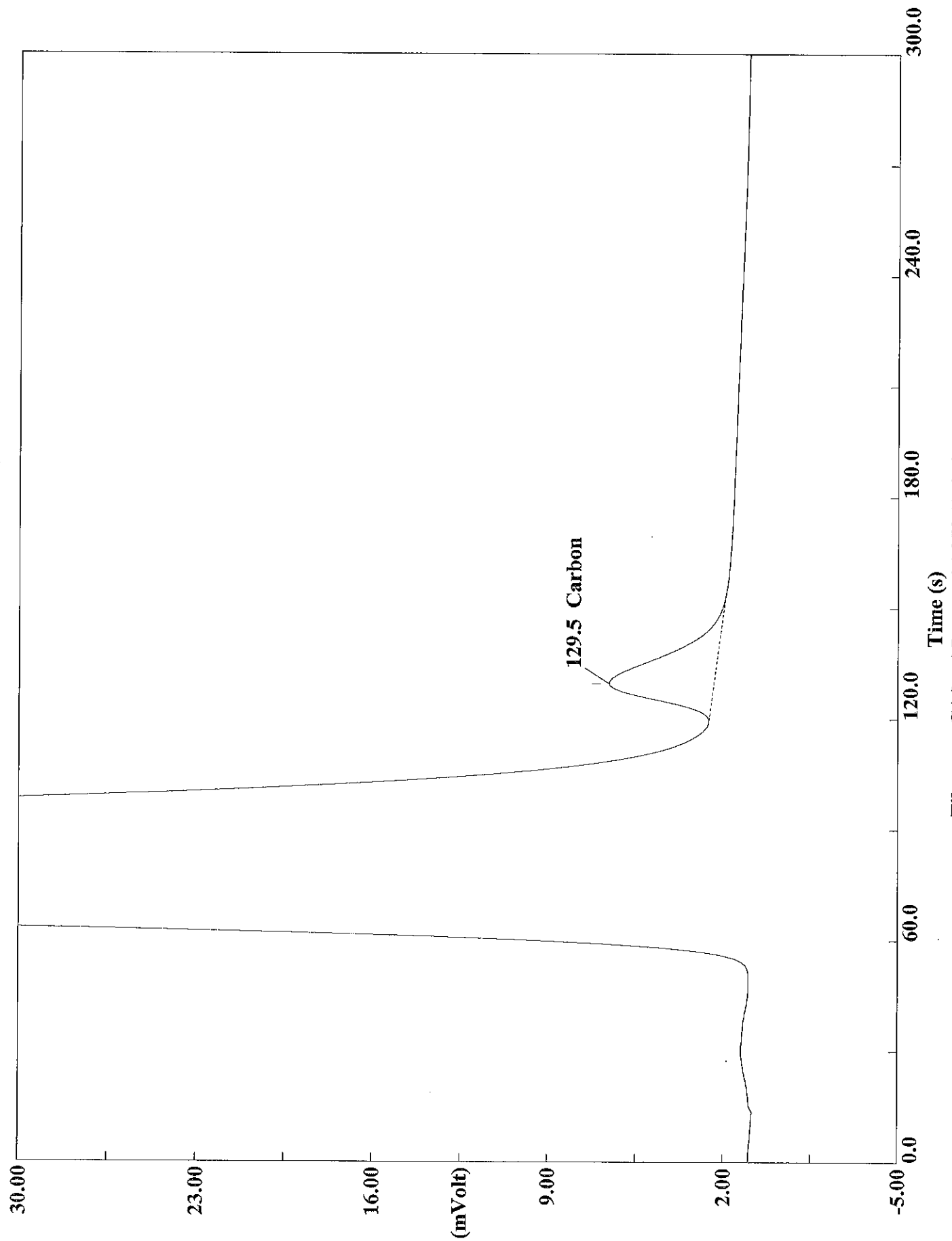
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715019  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 05:38 Printed : 5/8/2015 11:22  
Sample ID : 180-43458-m-6 (# 32)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 15.4

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 2.0306 | 130      | 490082 | mi | 1.000000   |          |





Filename C:\data\January\A050715020.DAT  
Sample name :180-43458-m-6 Analysed :05/07/2015 05:44

# Eager 300 Report

Page: 1 Sample: 180-43458-m-6 (A050715020)

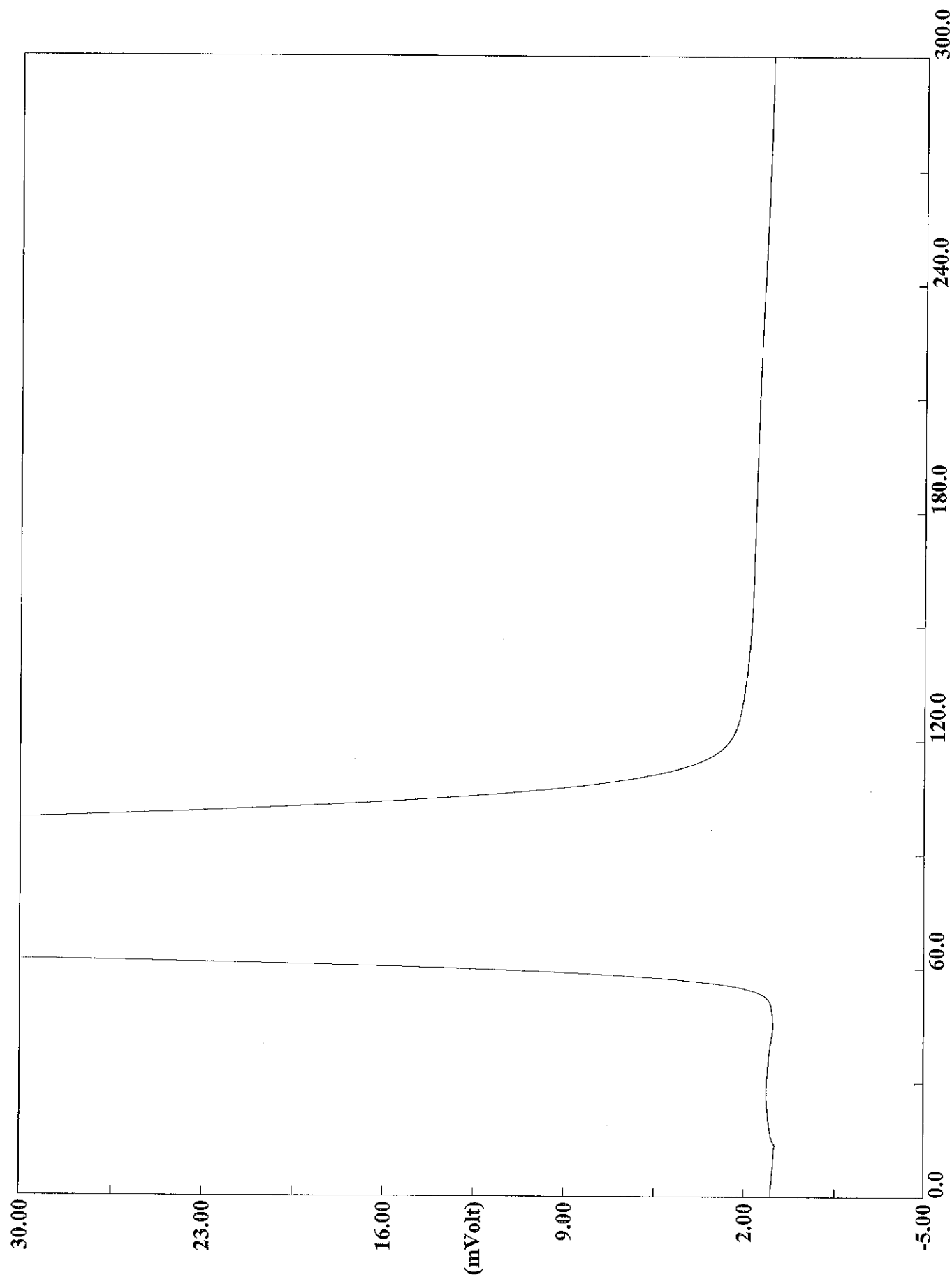
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715020  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 05:44 Printed : 5/8/2015 11:22  
Sample ID : 180-43458-m-6 (# 33)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 15.3

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 2.2554 | 130      | 547184 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Time (s)  
Filename C:\data\January\A050715021.DAT  
Sample name :rinse Analysed :05/07/2015 05:49

# Eager 300 Report

Page: 1 Sample: rinse (A050715021)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715021  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 05:49 Printed : 5/8/2015 11:22  
Sample ID : rinse (# 34)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 1

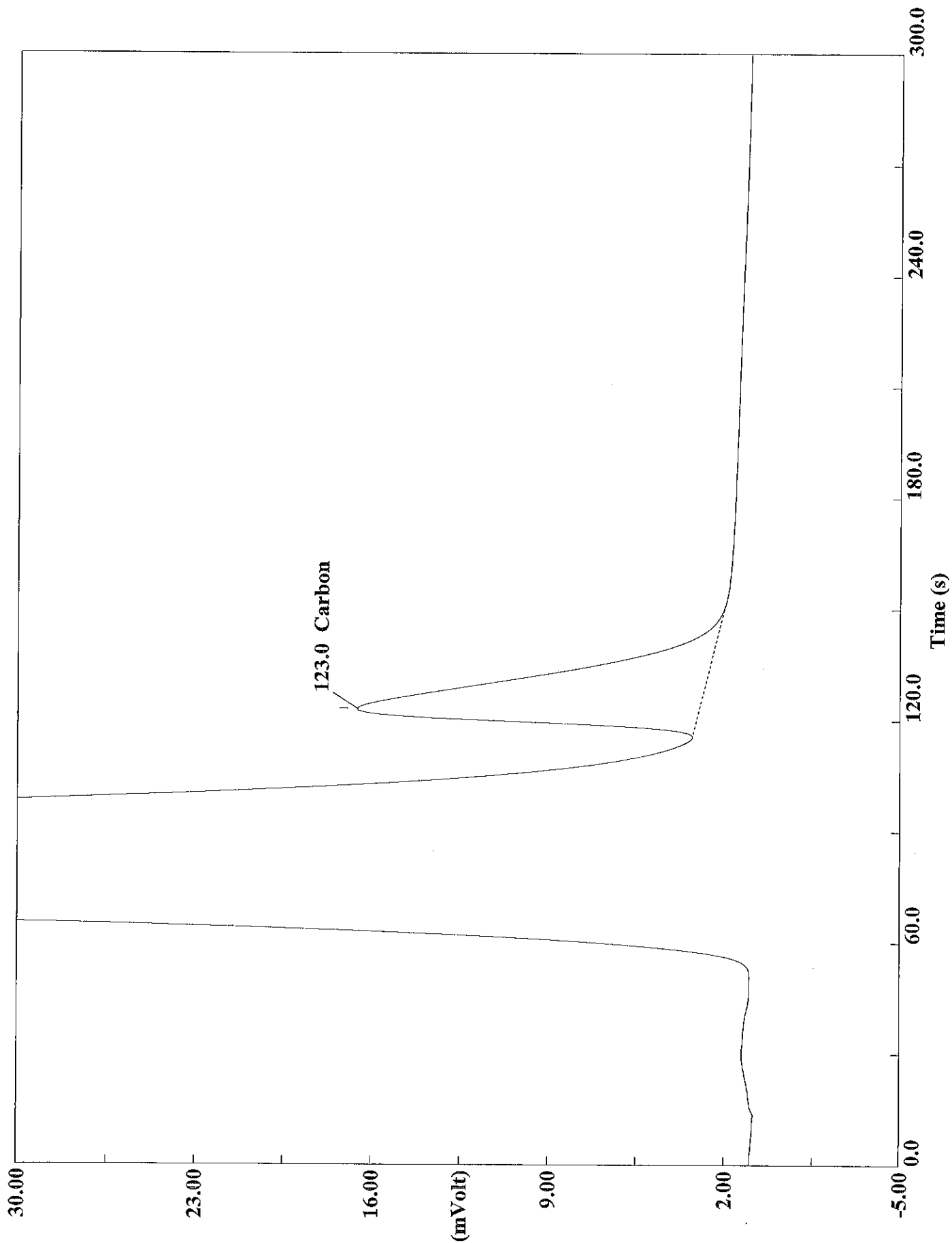
Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715022.DAT  
Sample name :ccv Analysed :05/07/2015 05:54

# Eager 300 Report

Page: 1 Sample: ccv (A050715022)

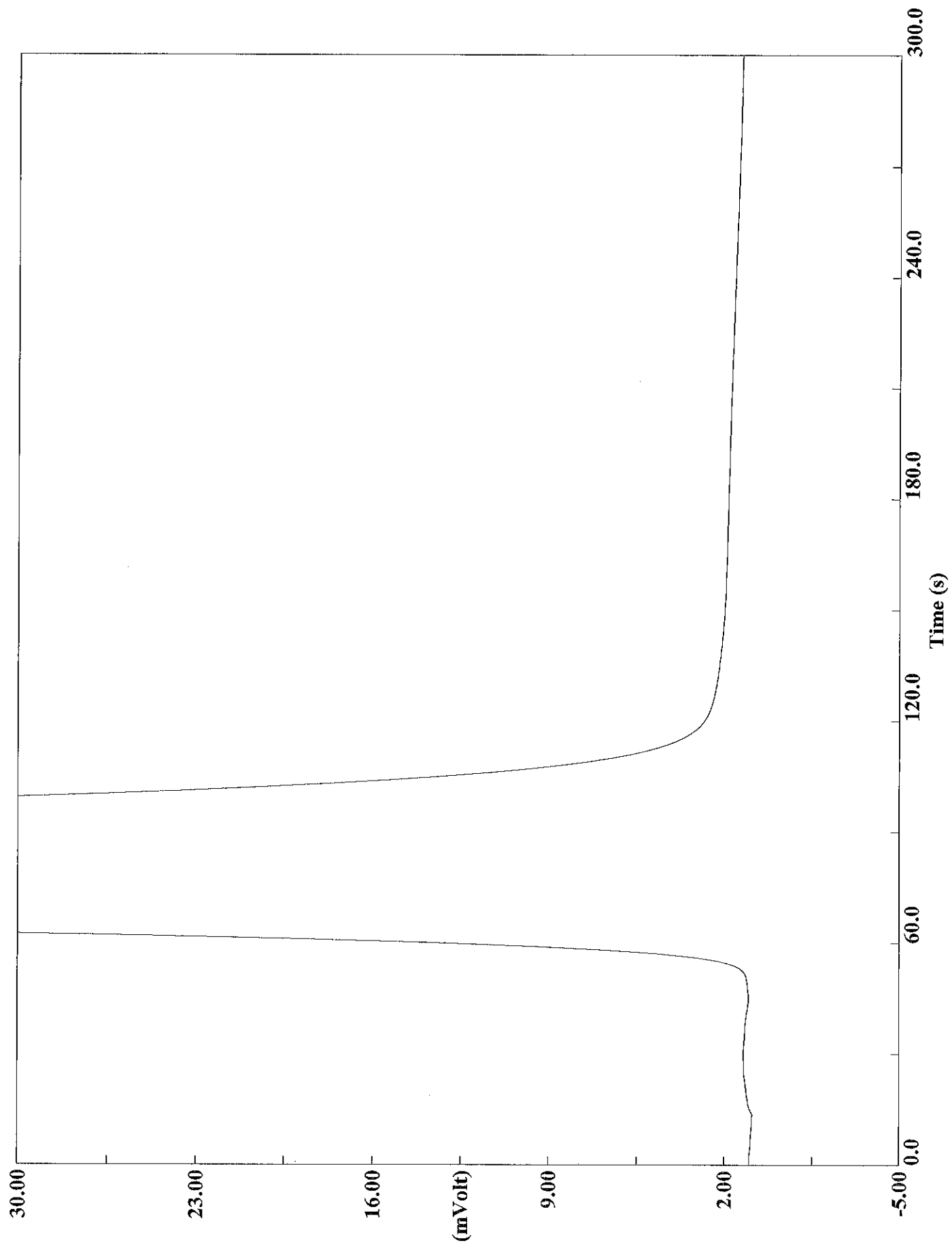
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715022  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 05:54 Printed : 5/8/2015 11:22  
Sample ID : ccv (# 35)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 100

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area    | BC | Area ratio | K factor |
|--------------|--------|----------|---------|----|------------|----------|
| Carbon       | 1.0452 | 123      | 1782289 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715023.DAT  
Sample name :ccb Analysed :05/07/2015 06:00

# Eager 300 Report

Page: 1 Sample: ccb (A050715023)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715023  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 06:00 Printed : 5/8/2015 11:22  
Sample ID : ccb (# 36)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 20

Calib. method : using 'Least Squares to Linear fit'

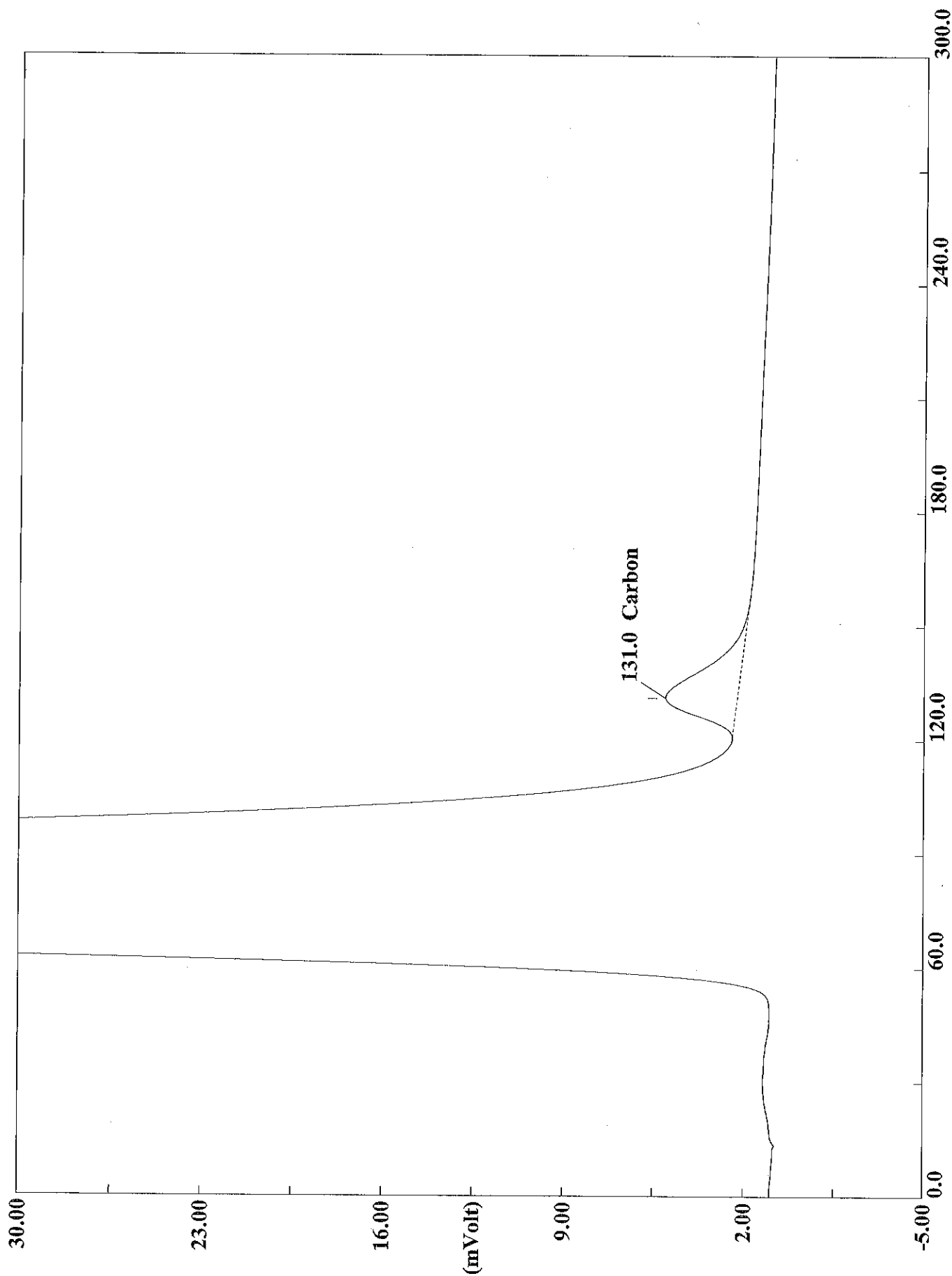
!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|



Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715024.DAT

Sample name :180-43458-d-7 Analysed :05/07/2015 06:06

# Eager 300 Report

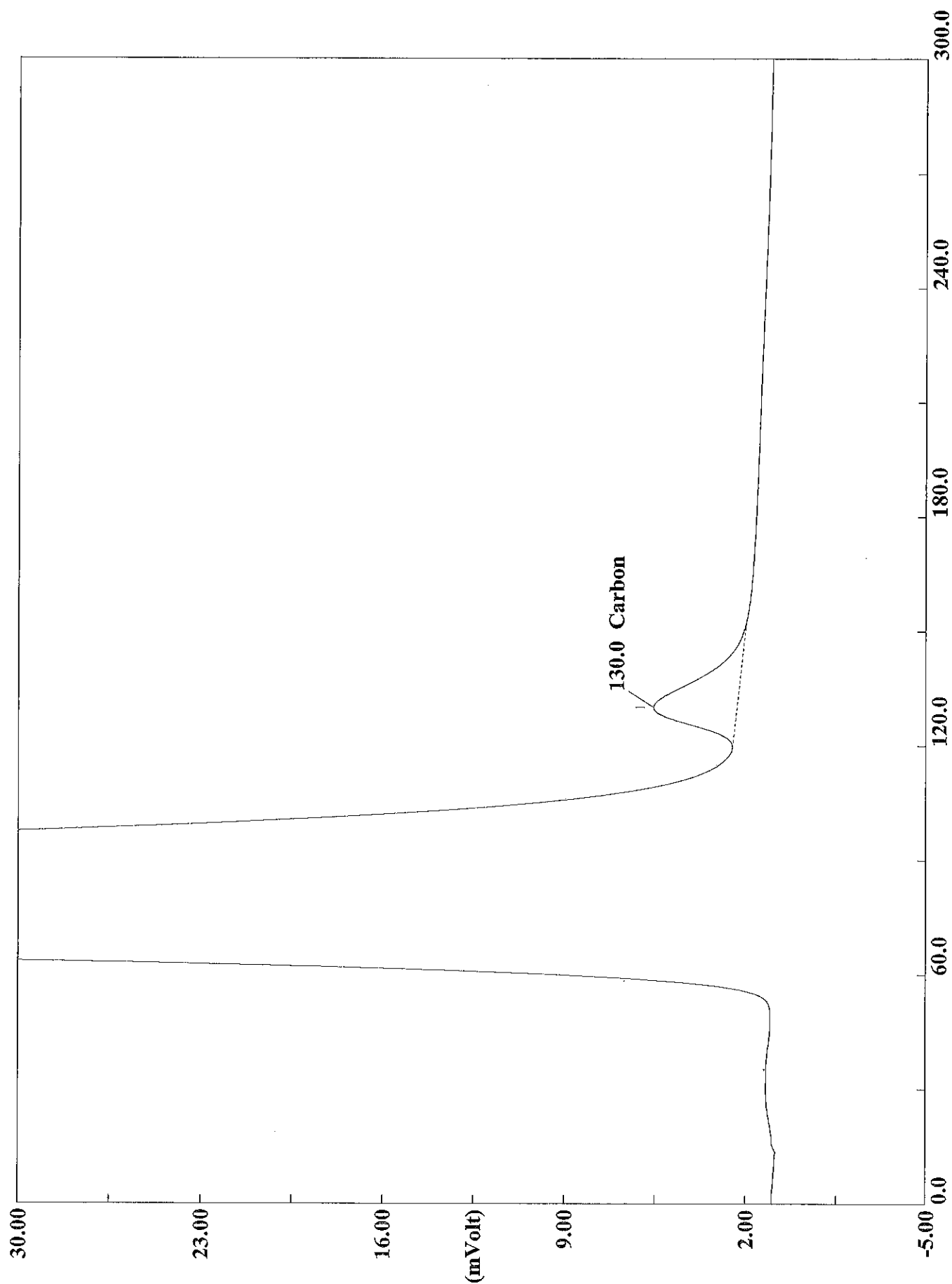
Page: 1 Sample: 180-43458-d-7 (A050715024)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715024  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 06:06 Printed : 5/8/2015 11:22  
Sample ID : 180-43458-d-7 (# 37)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 13

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 1.9141 | 131      | 377408 | mi | 1.000000   |          |



Filename C:\data\January\A050715025.DAT  
Sample name :180-43458-d-7 Analysed :05/07/2015 06:11

# Eager 300 Report

Page: 1 Sample: 180-43458-d-7 (A050715025)

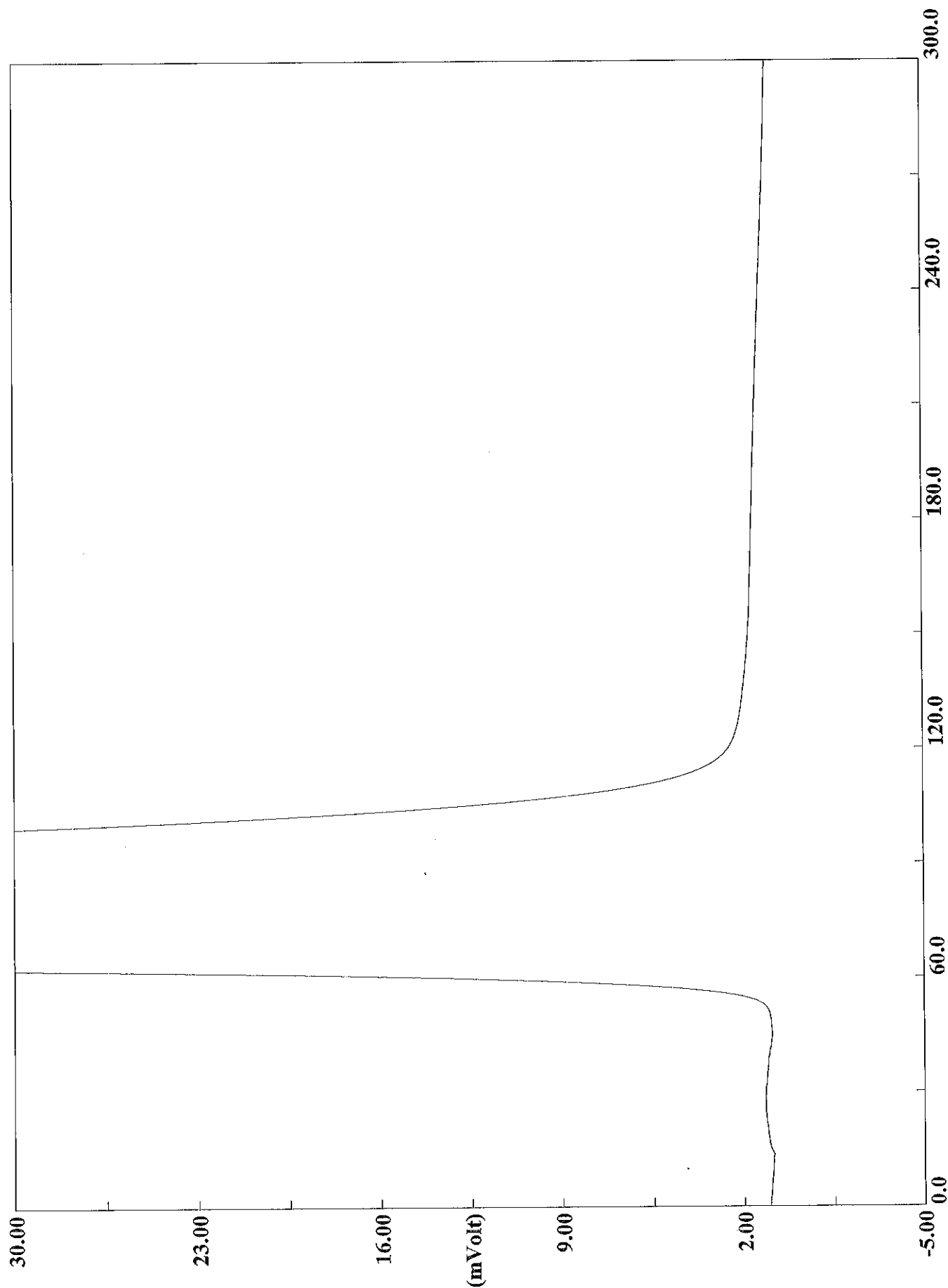
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715025  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 06:11 Printed : 5/8/2015 11:22  
Sample ID : 180-43458-d-7 (# 38)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 13.8

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 1.9847 | 130      | 421608 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715026.DAT  
Sample name :rinse Analysed :05/07/2015 06:16

# Eager 300 Report

Page: 1 Sample: rinse (A050715026)

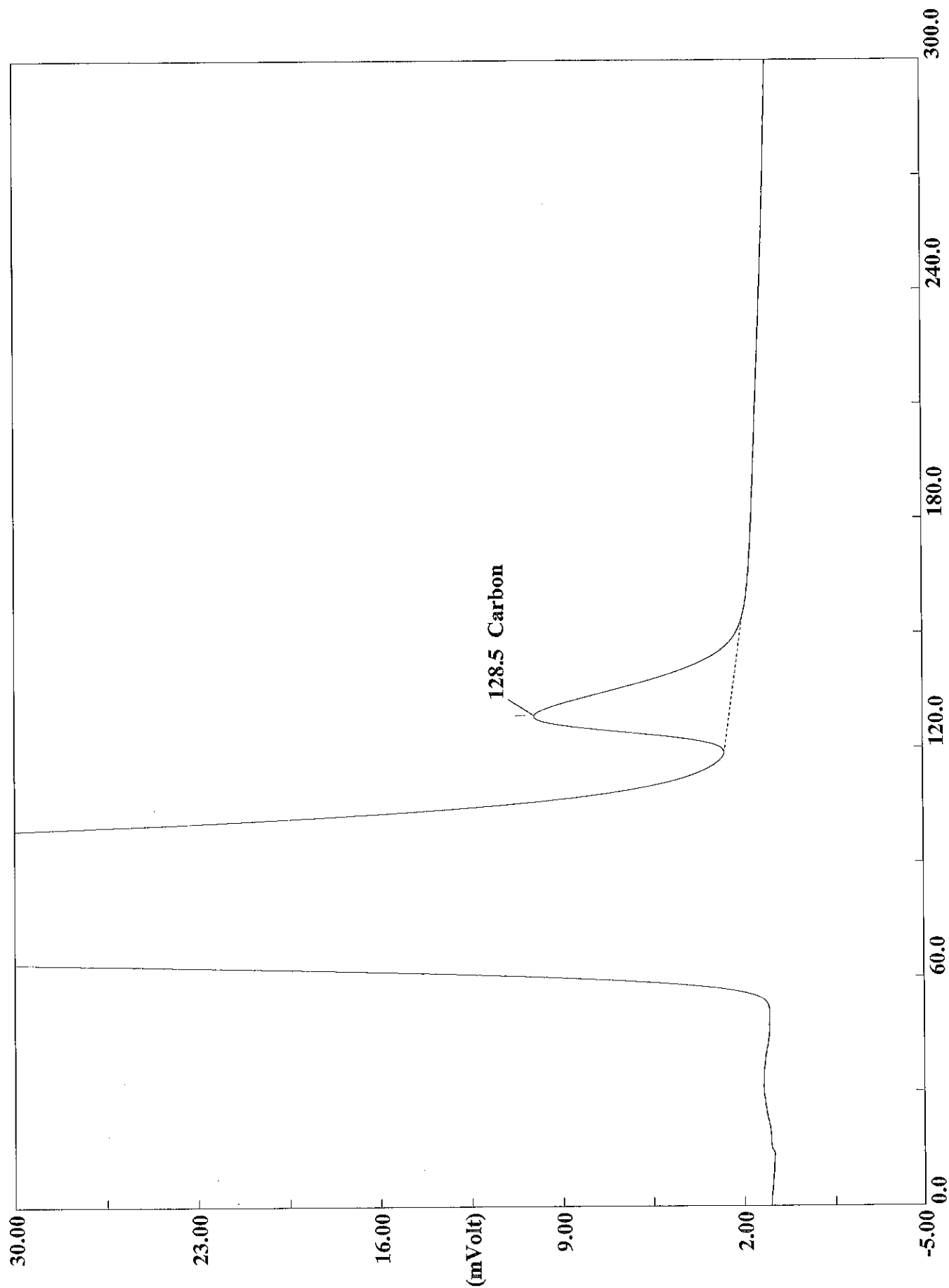
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715026  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 06:16 Printed : 5/8/2015 11:22  
Sample ID : rinse (# 39)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 1

Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|



Filename C:\data\January\A050715027.DAT  
Sample name :180-43458-d-7 ms Analysed :05/07/2015 06:21

# Eager 300 Report

Page: 1 Sample: 180-43458-d-7 ms (A050715027)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715027  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 06:21 Printed : 5/8/2015 11:22  
Sample ID : 180-43458-d-7 ms (# 40)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 14.3

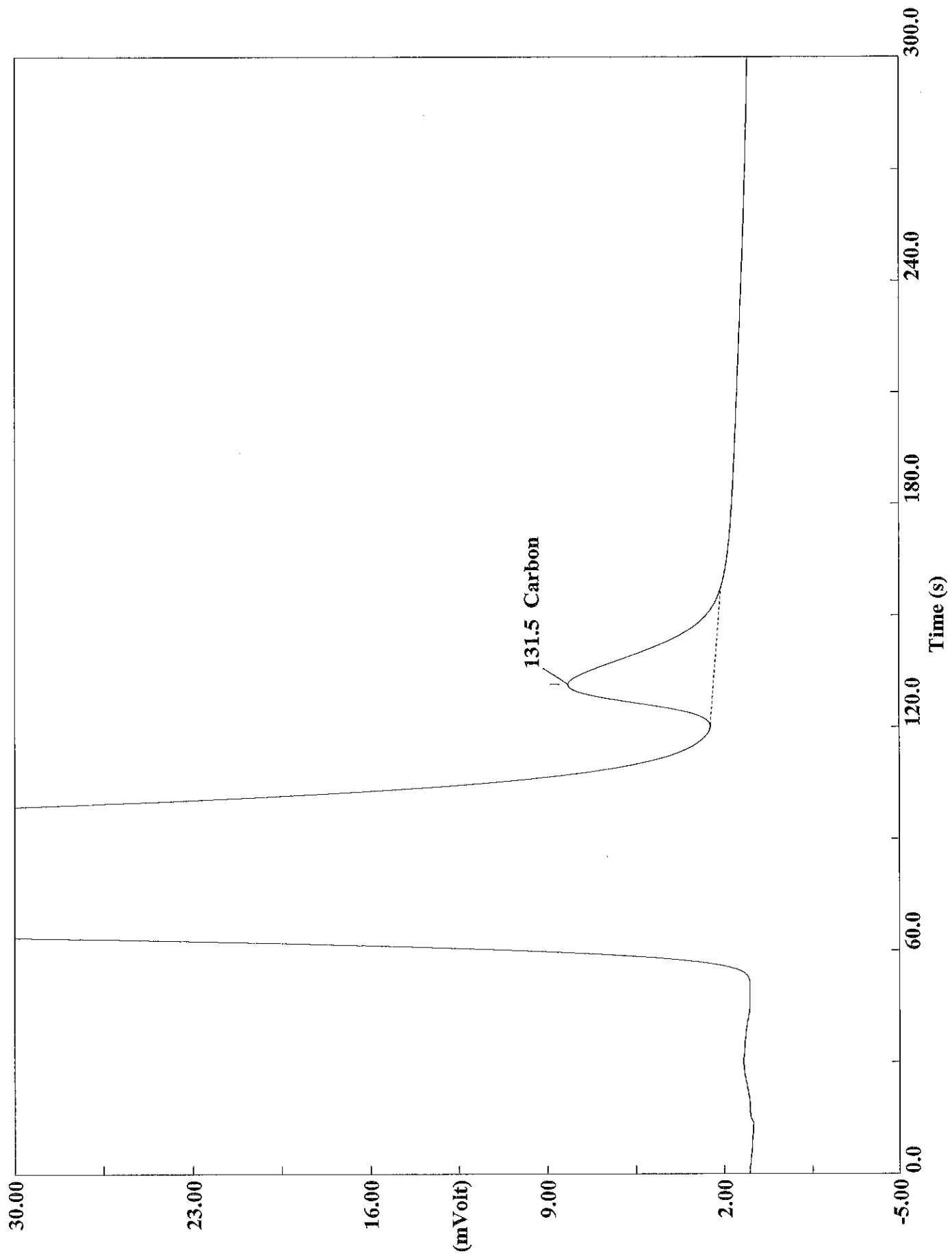
Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area    | BC | Area ratio | K factor |
|--------------|--------|----------|---------|----|------------|----------|
| Carbon       | 4.2980 | 129      | 1022697 | mi | 1.000000   |          |



Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715028.DAT  
Sample name : 180-43458-d-7 ms Analysed : 05/07/2015 06:27

# Eager 300 Report

Page: 1 Sample: 180-43458-d-7 ms (A050715028)

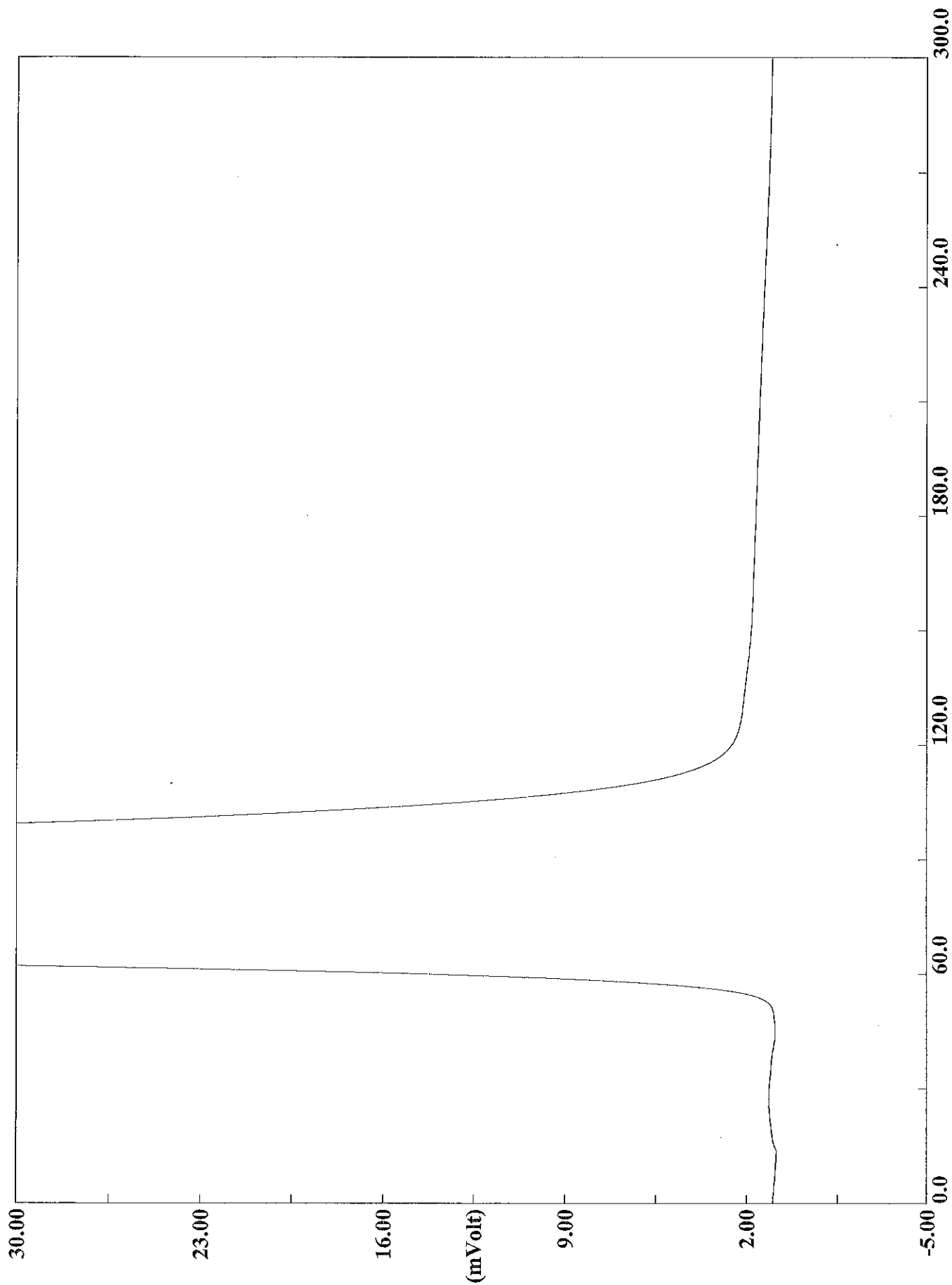
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715028  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 06:27 Printed : 5/8/2015 11:22  
Sample ID : 180-43458-d-7 ms (# 41)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 13.4

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 3.9093 | 132      | 862553 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715029.DAT  
Sample name :rinse Analysed :05/07/2015 06:32

# Eager 300 Report

Page: 1 Sample: rinse (A050715029)

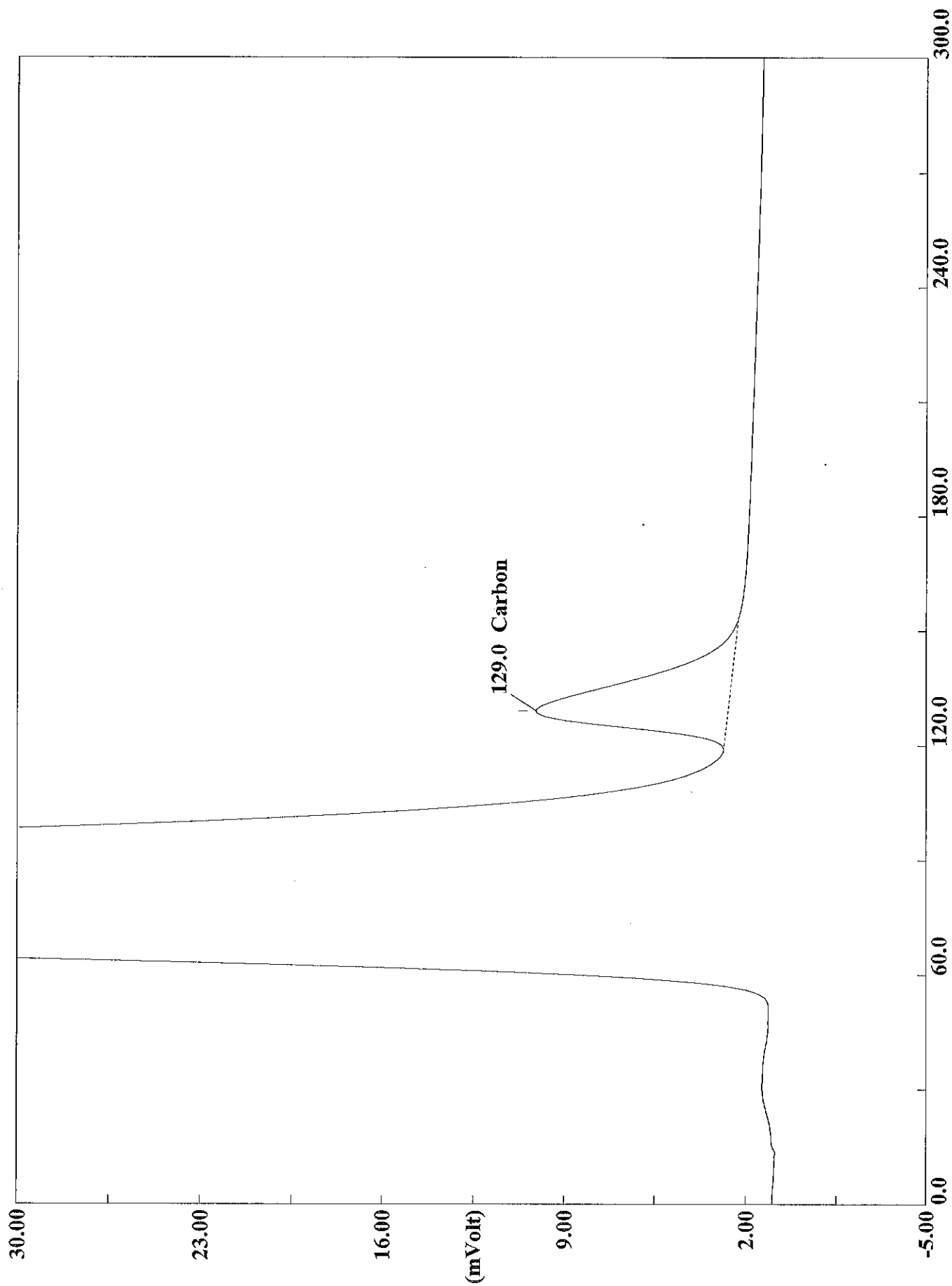
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715029  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 06:32 Printed : 5/8/2015 11:22  
Sample ID : rinse (# 42)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 1

Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|



Filename C:\data\January\A050715030.DAT  
Sample name : 180-43458-d-7 msd Analysed : 05/07/2015 06:39

# Eager 300 Report

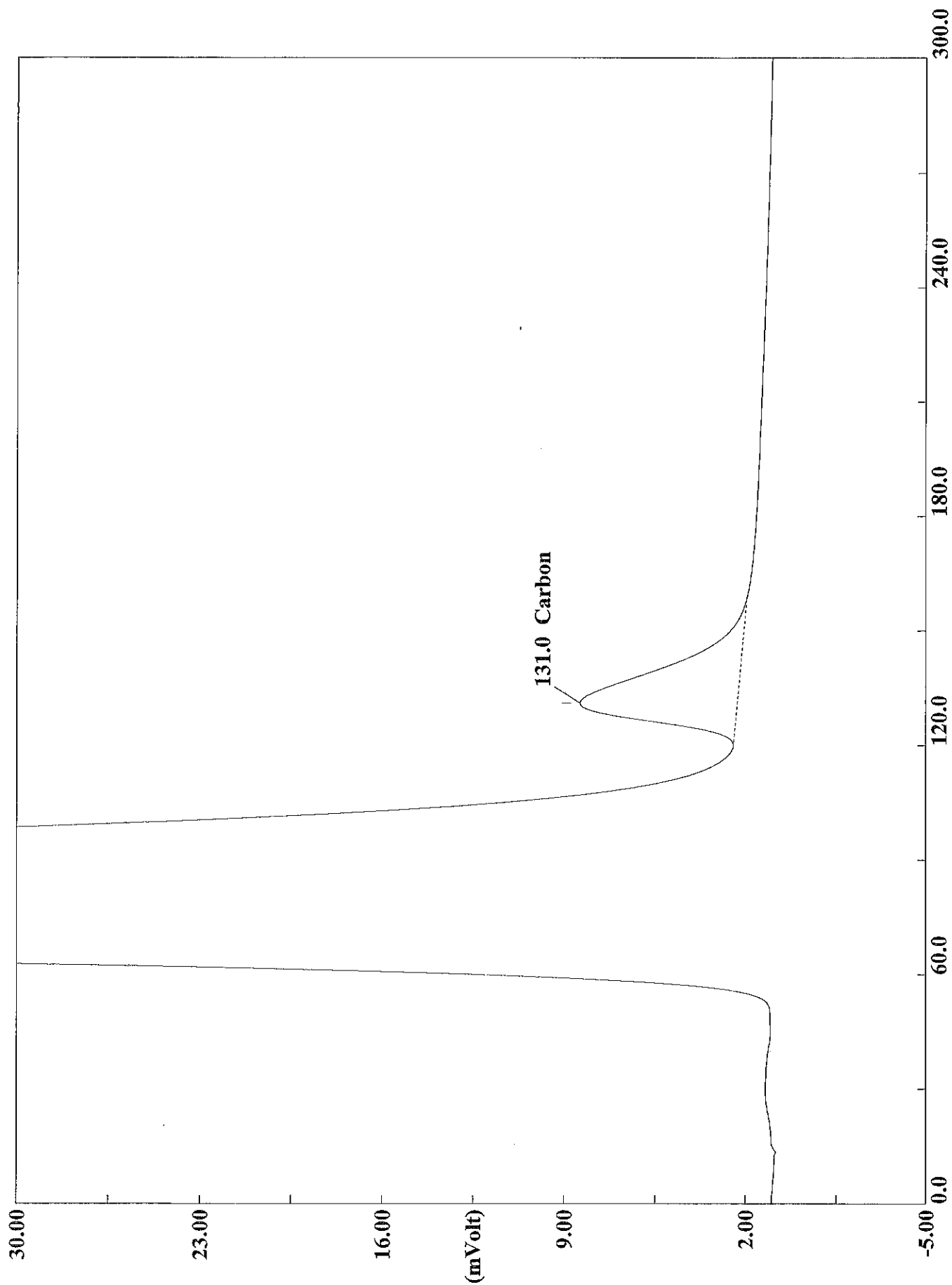
Page: 1 Sample: 180-43458-d-7 msd (A050715030)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715030  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 06:39 Printed : 5/8/2015 11:22  
Sample ID : 180-43458-d-7 msd (# 43)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 14.4

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 4.1614 | 129      | 995578 | mi | 1.000000   |          |



Filename C:\data\January\A050715031.DAT  
Sample name :180-43458-d-7 msd Analysed :05/07/2015 06:44

# Eager 300 Report

Page: 1 Sample: 180-43458-d-7 msd (A050715031)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715031  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 06:44 Printed : 5/8/2015 11:22  
Sample ID : 180-43458-d-7 msd (# 44)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 14.1

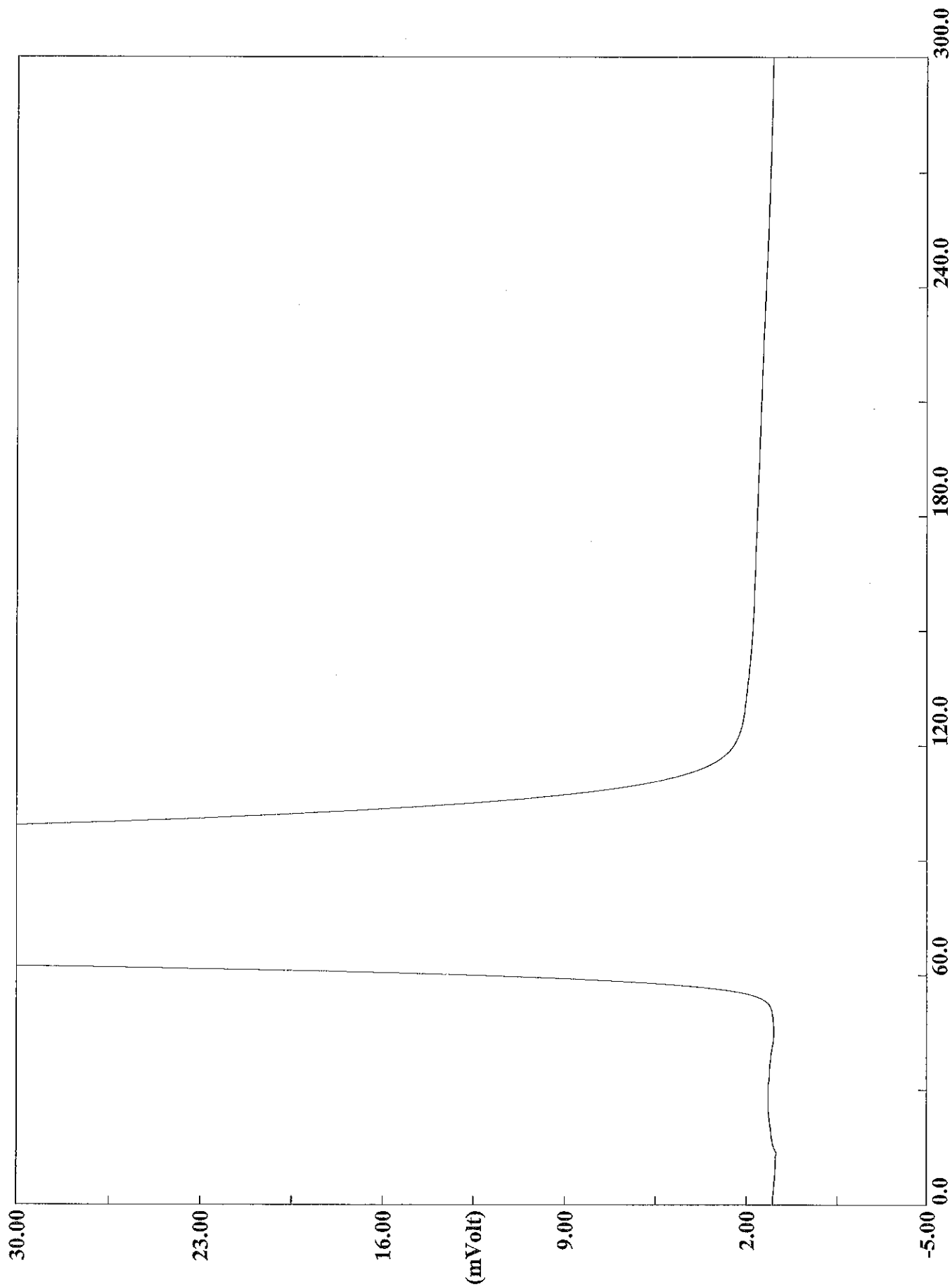
Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 3.9160 | 131      | 912512 | mi | 1.000000   |          |



Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715032.DAT  
Sample name :rinse Analysed :05/07/2015 06:49

# Eager 300 Report

Page: 1 Sample: rinse (A050715032)

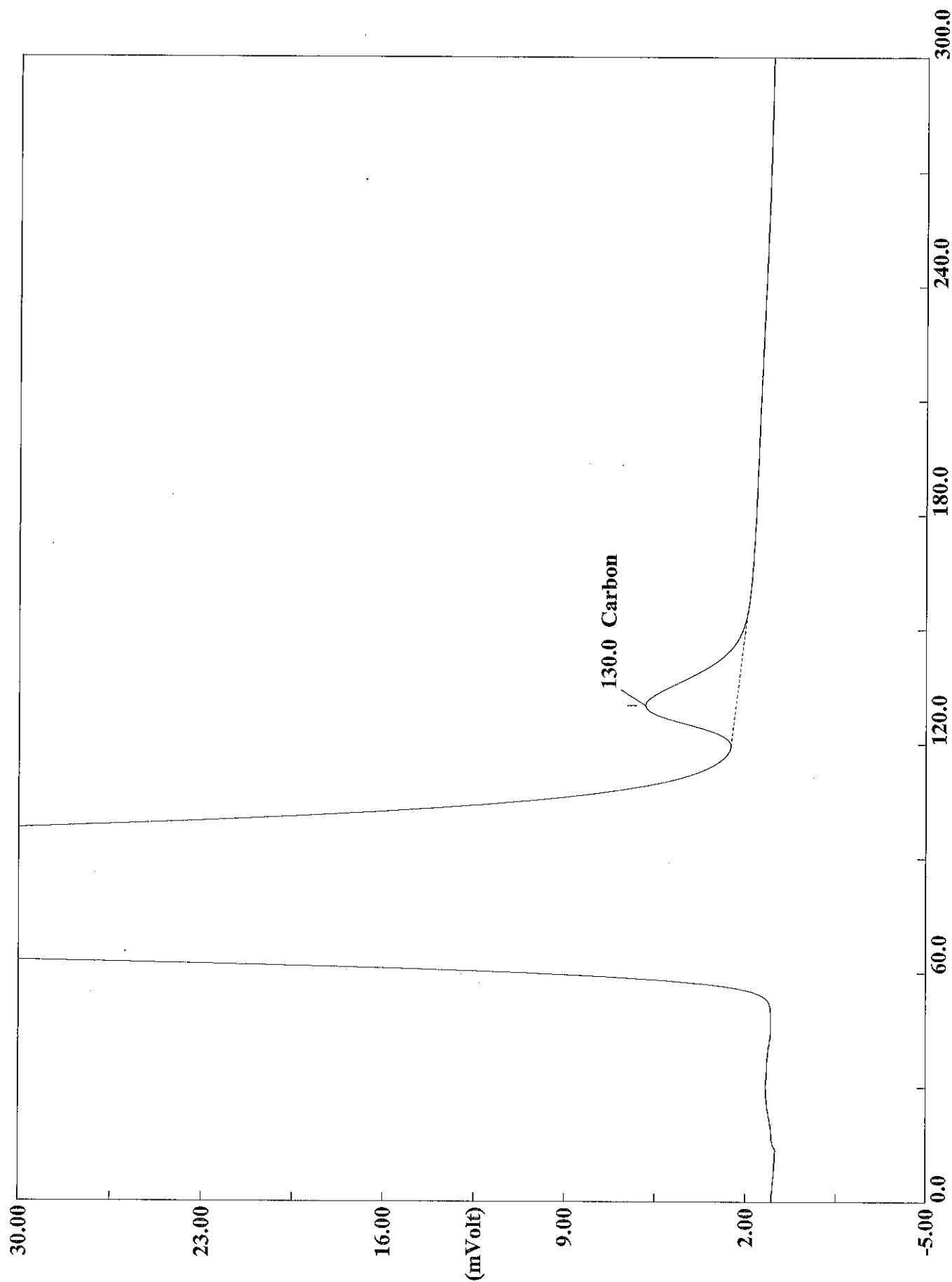
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715032  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 06:49 Printed : 5/8/2015 11:22  
Sample ID : rinse (# 45)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 1

Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|



Filename C:\data\January\A050715033.DAT

Sample name :180-43458-d-7 du Analysed :05/07/2015 06:55

# Eager 300 Report

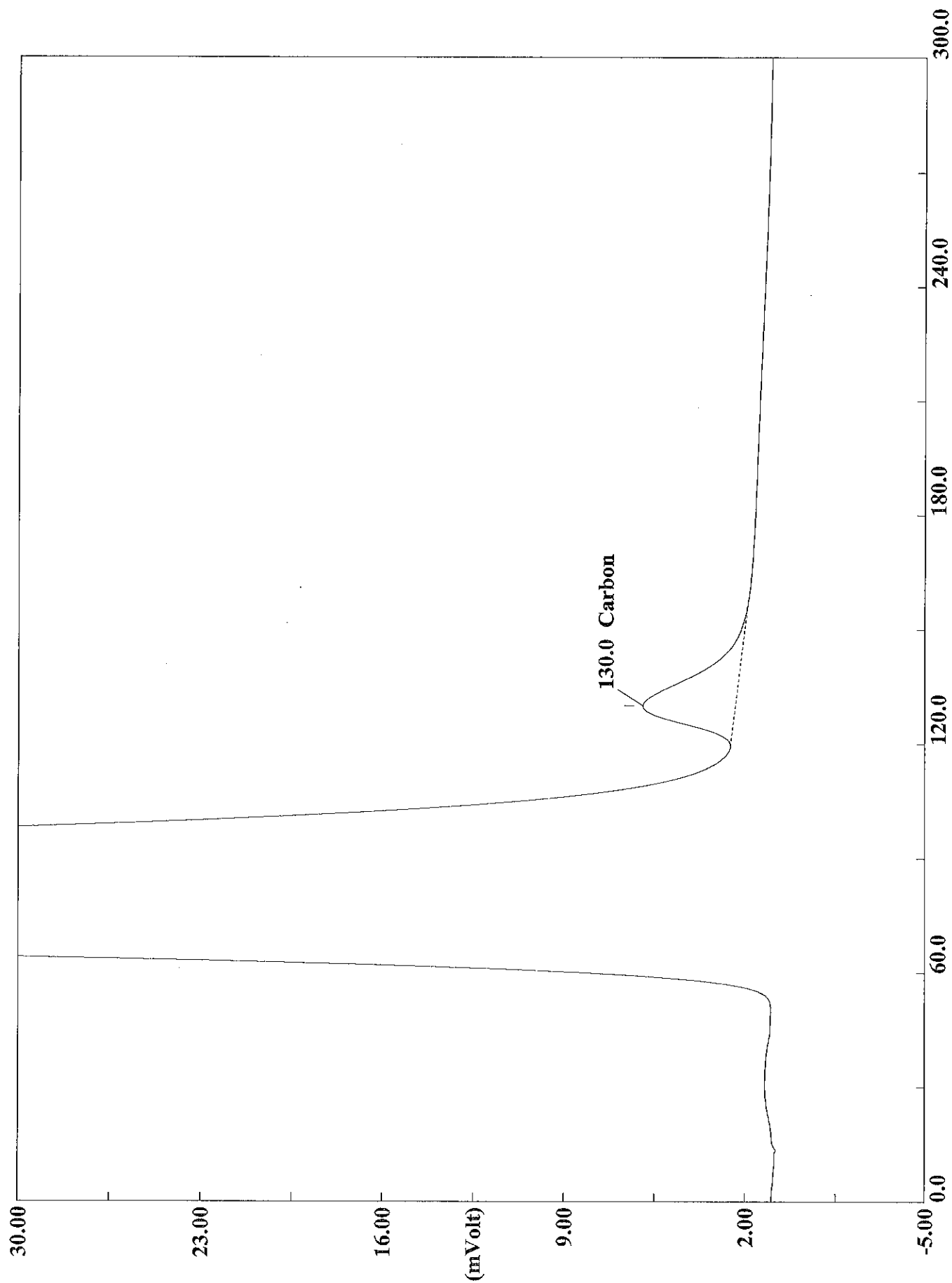
Page: 1 Sample: 180-43458-d-7 du (A050715033)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715033  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 06:55 Printed : 5/8/2015 11:22  
Sample ID : 180-43458-d-7 du (# 46)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 14.1

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 2.1770 | 130      | 479936 | mi | 1.000000   |          |



Filename C:\data\January\A050715034.DAT

Sample name : 180-43458-d-7 du Analysed : 05/07/2015 07:00

# Eager 300 Report

Page: 1 Sample: 180-43458-d-7 du (A050715034)

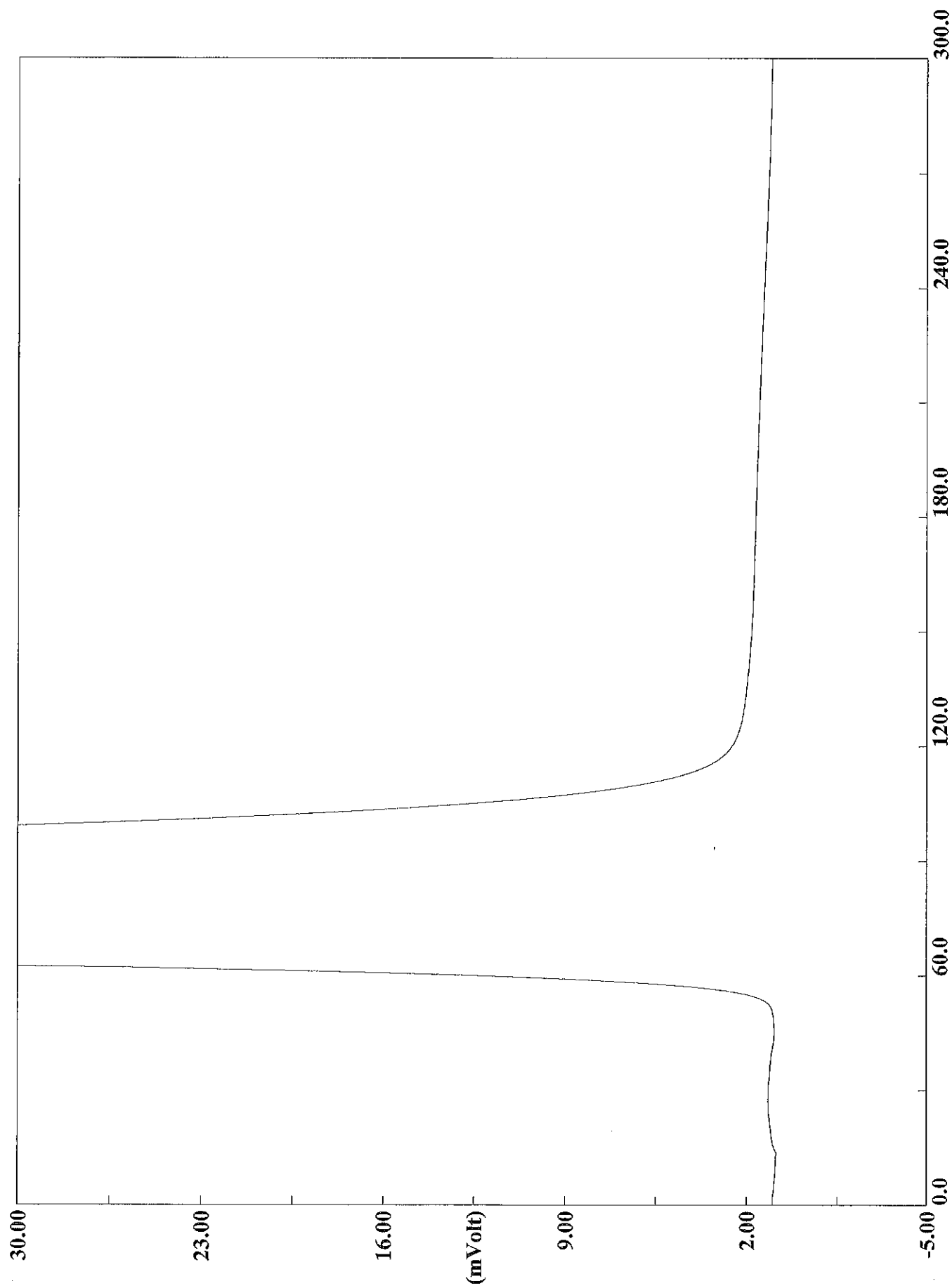
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715034  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 07:00 Printed : 5/8/2015 11:22  
Sample ID : 180-43458-d-7 du (# 47)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 13.7

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 2.2729 | 130      | 487765 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715035.DAT  
Sample name :rinse Analysed :05/07/2015 07:05

# Eager 300 Report

Page: 1 Sample: rinse (A050715035)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715035  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 07:05 Printed : 5/8/2015 11:22  
Sample ID : rinse (# 48)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 1

Calib. method : using 'Least Squares to Linear fit'

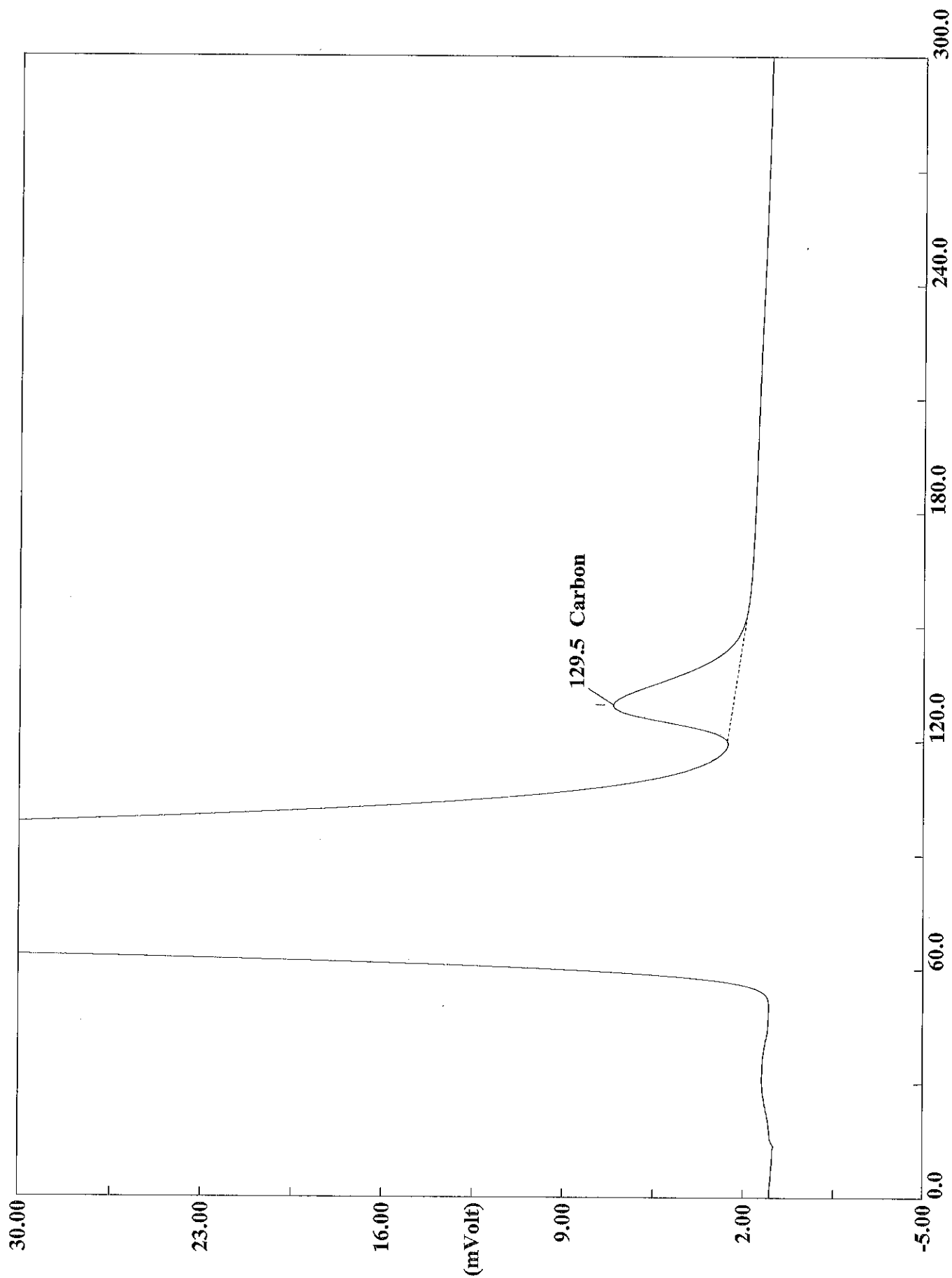
!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|



Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715036.DAT

Sample name :180-43458-d-8 Analysed :05/07/2015 07:10

# Eager 300 Report

Page: 1 Sample: 180-43458-d-8 (A050715036)

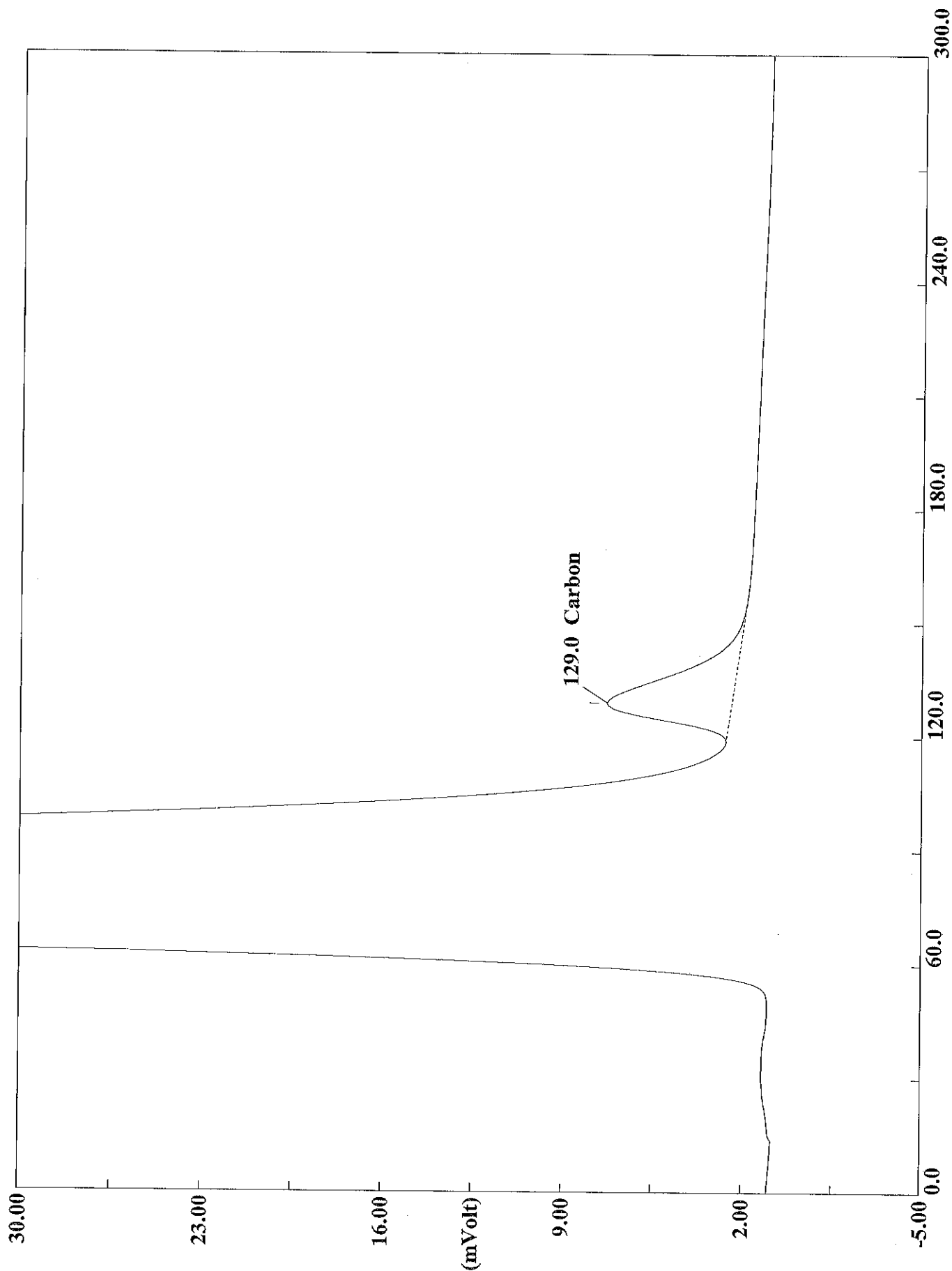
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715036  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 07:10 Printed : 5/8/2015 11:22  
Sample ID : 180-43458-d-8 (# 49)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 17.3

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 2.1847 | 130      | 605174 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715037.DAT

Sample name : 180-43458-d-8 Analysed : 05/07/2015 07:16

# Eager 300 Report

Page: 1 Sample: 180-43458-d-8 (A050715037)

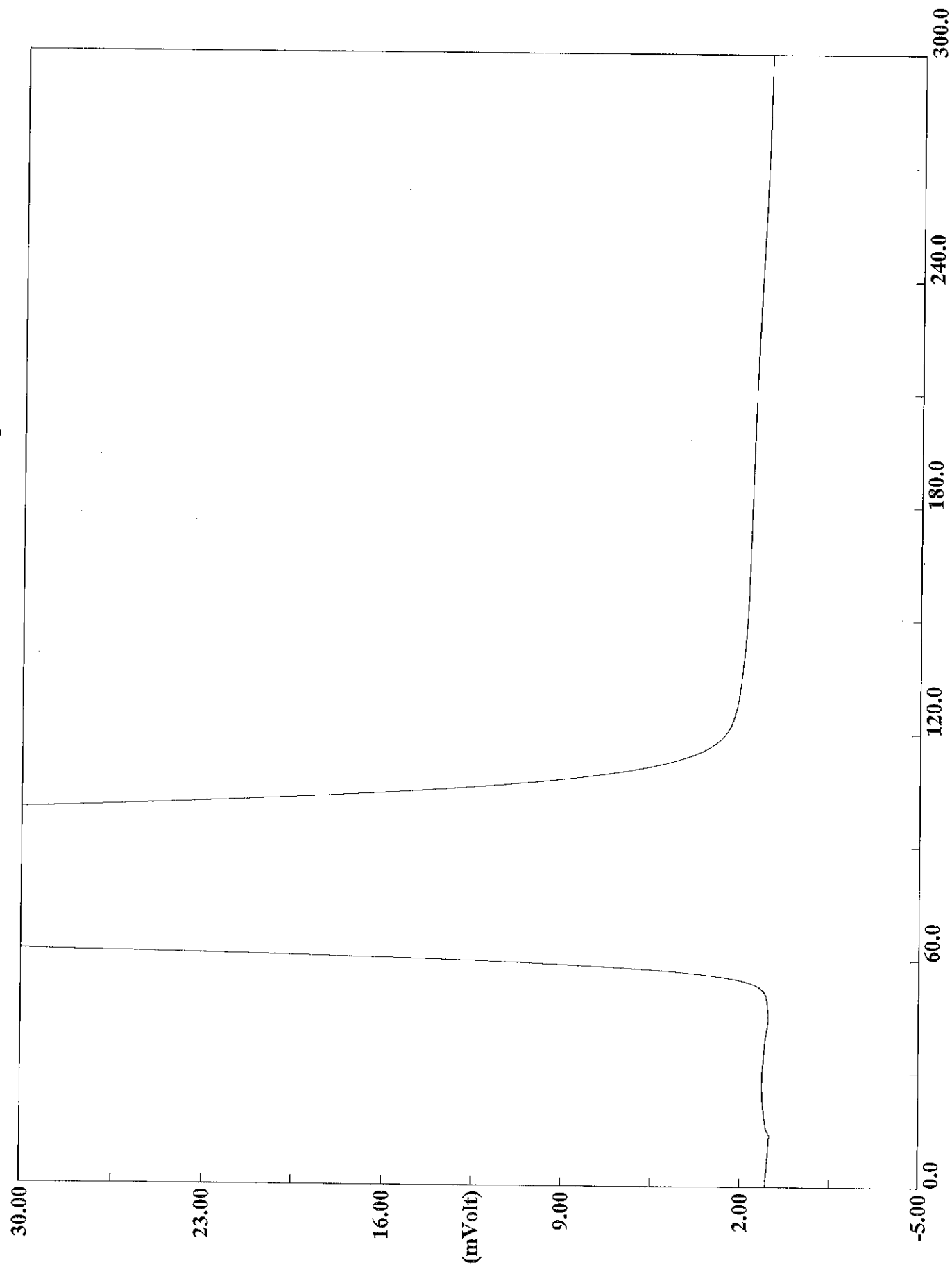
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715037  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 07:16 Printed : 5/8/2015 11:22  
Sample ID : 180-43458-d-8 (# 50)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 17.5

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 2.2528 | 129      | 633913 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715038.DAT  
Sample name :rinse Analysed :05/07/2015 07:21

# Eager 300 Report

Page: 1 Sample: rinse (A050715038)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715038  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 07:21 Printed : 5/8/2015 11:22  
Sample ID : rinse (# 51)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 1

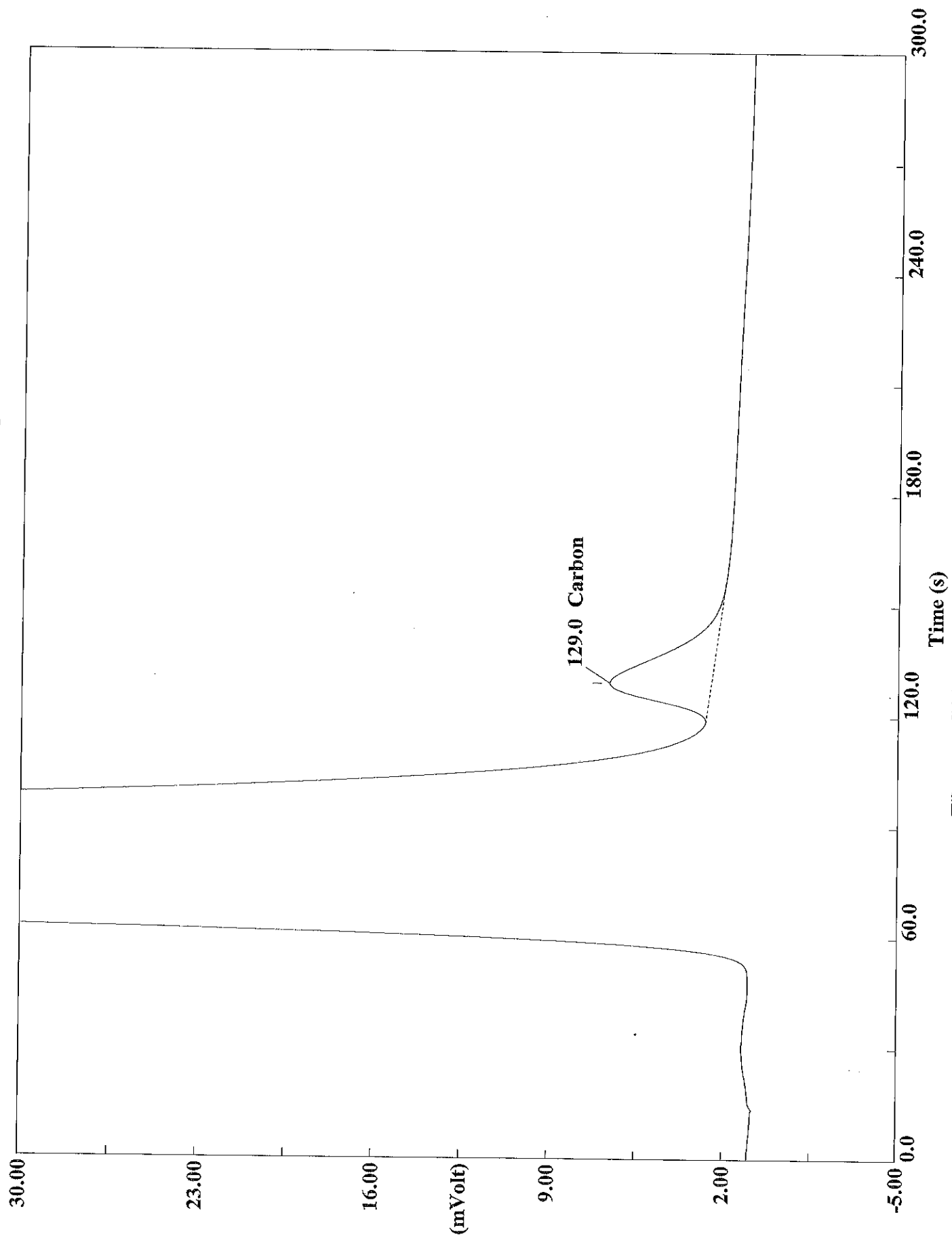
Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715039.DAT

Sample name : 180-43458-n-9 Analysed : 05/07/2015 07:26

# Eager 300 Report

Page: 1 Sample: 180-43458-n-9 (A050715039)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715039  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 07:26 Printed : 5/8/2015 11:22  
Sample ID : 180-43458-n-9 (# 52)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 13.6

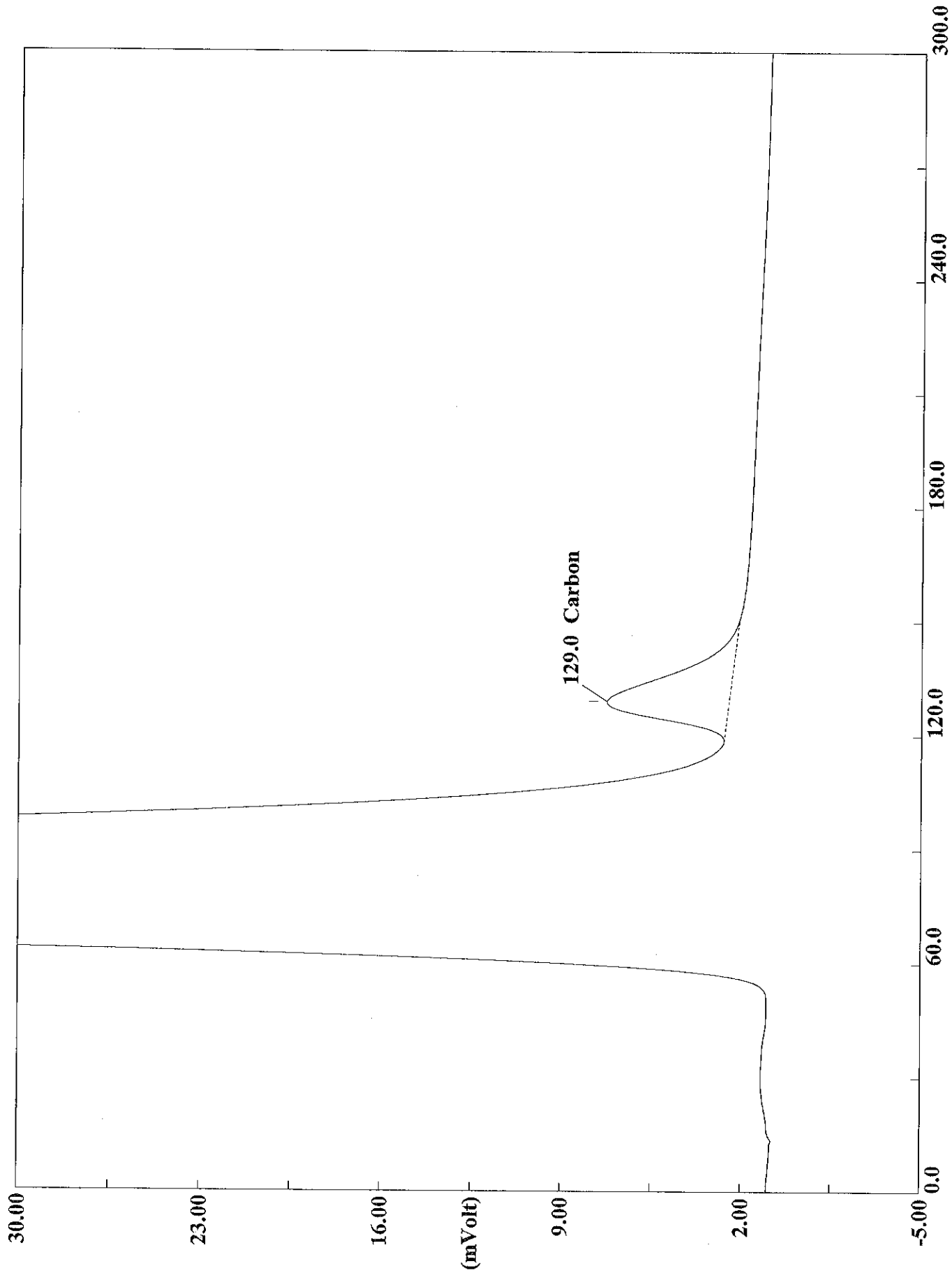
Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area      | BC | Area ratio | K factor |
|--------------|--------|----------|-----------|----|------------|----------|
| Carbon       | 2.5941 | 129      | 560814 mi |    | 1.000000   |          |



Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715040.DAT  
Sample name :180-43458-n-9 Analysed :05/07/2015 07:31

# Eager 300 Report

Page: 1 Sample: 180-43458-n-9 (A050715040)

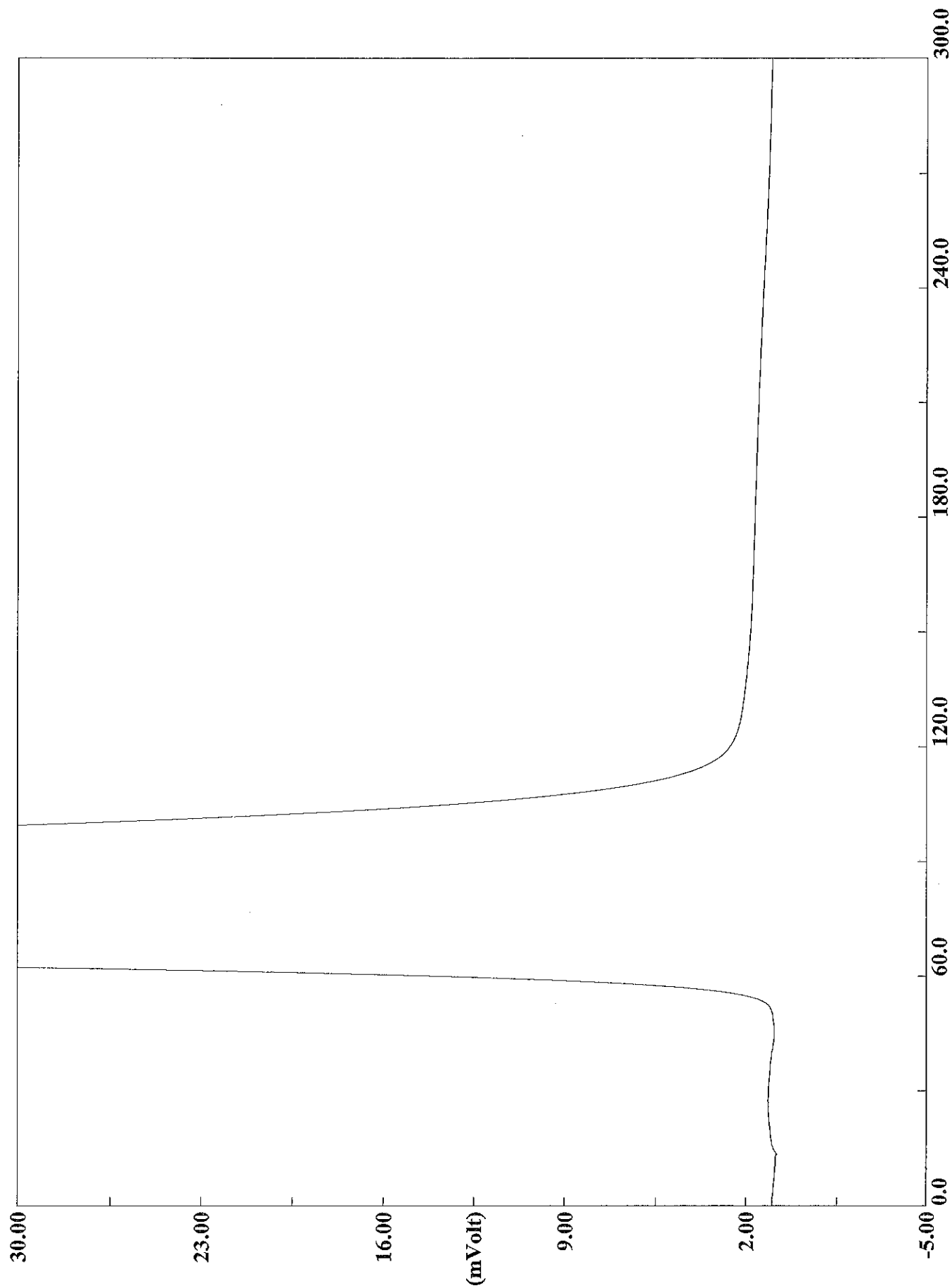
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715040  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 07:31 Printed : 5/8/2015 11:22  
Sample ID : 180-43458-n-9 (# 53)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 14

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 2.7064 | 129      | 606839 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715041.DAT  
Sample name :rinse Analysed :05/07/2015 07:36

# Eager 300 Report

Page: 1 Sample: rinse (A050715041)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715041  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 07:36 Printed : 5/8/2015 11:22  
Sample ID : rinse (# 54)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 1

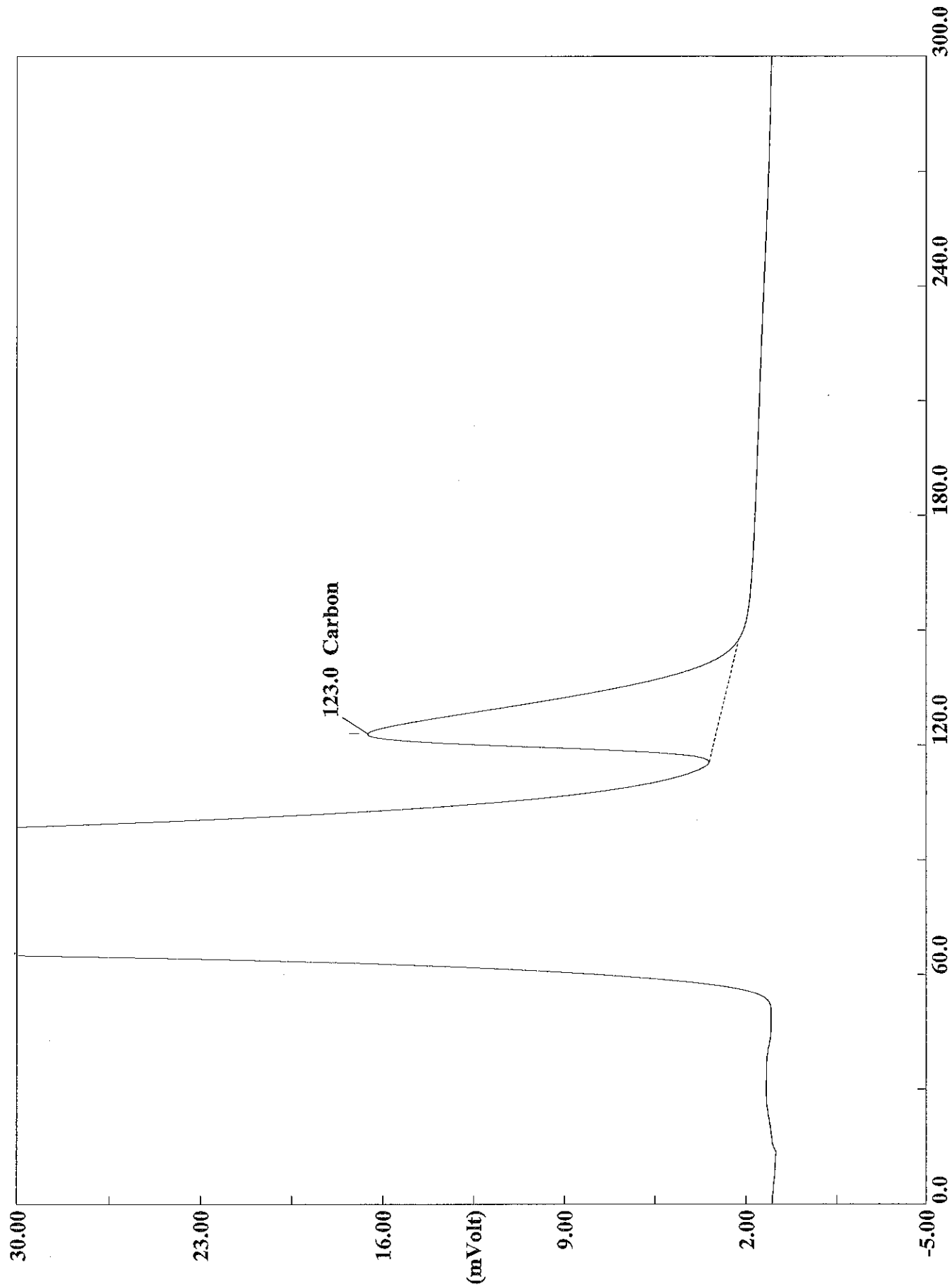
Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715042.DAT  
Sample name :ccv Analysed :05/07/2015 07:42

# Eager 300 Report

Page: 1 Sample: ccv (A050715042)

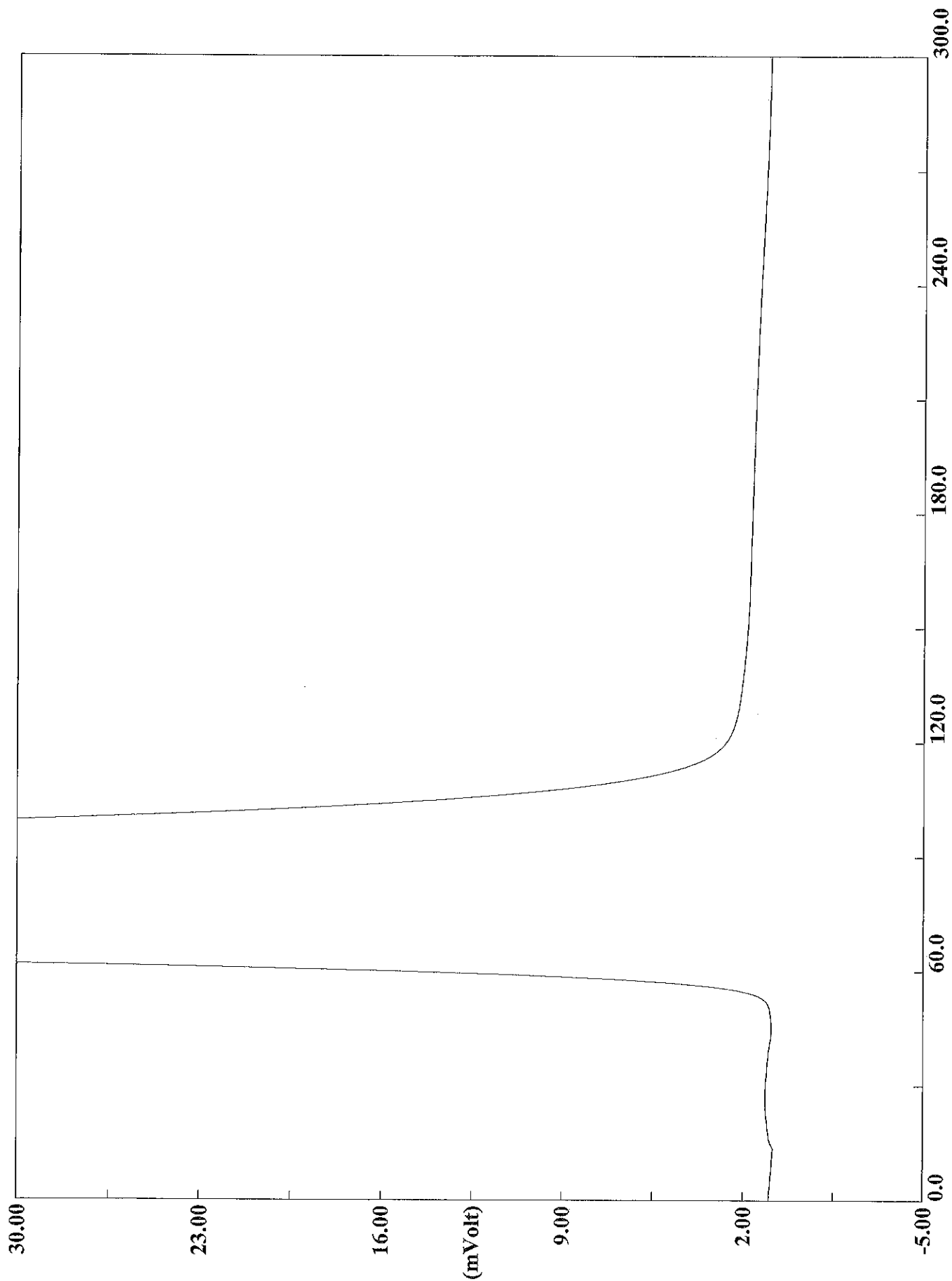
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715042  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 07:42 Printed : 5/8/2015 11:22  
Sample ID : ccv (# 55)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 100

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area    | BC | Area ratio | K factor |
|--------------|--------|----------|---------|----|------------|----------|
| Carbon       | 1.0220 | 123      | 1741287 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715043.DAT  
Sample name :ccb Analysed :05/07/2015 07:47

# Eager 300 Report

Page: 1 Sample: ccb (A050715043)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715043  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 07:47 Printed : 5/8/2015 11:22  
Sample ID : ccb (# 56)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 20

Calib. method : using 'Least Squares to Linear fit'

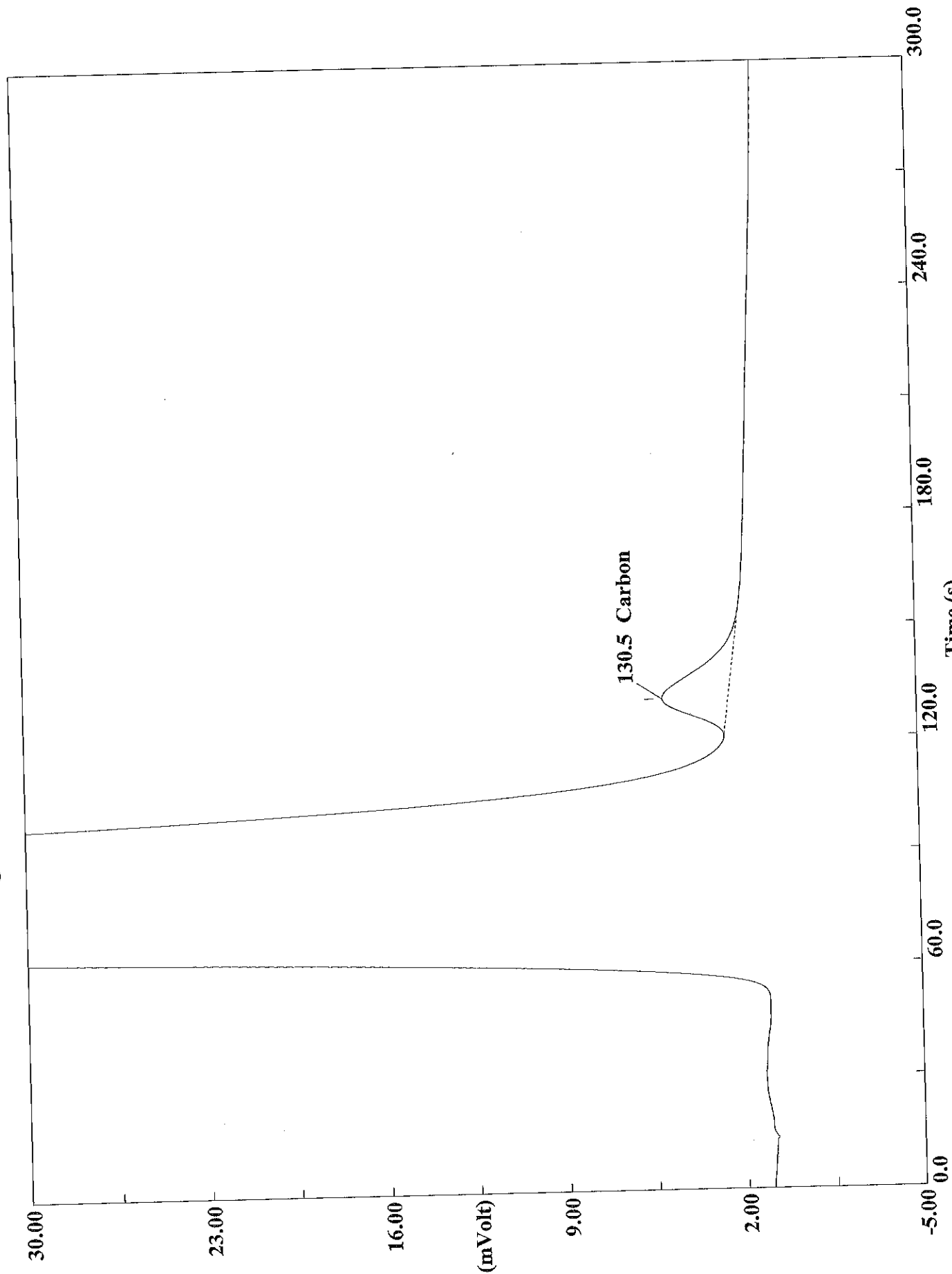
!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|



Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715044.DAT  
Sample name : 180-43458-d-10 Analysed : 05/07/2015 07:52

# Eager 300 Report

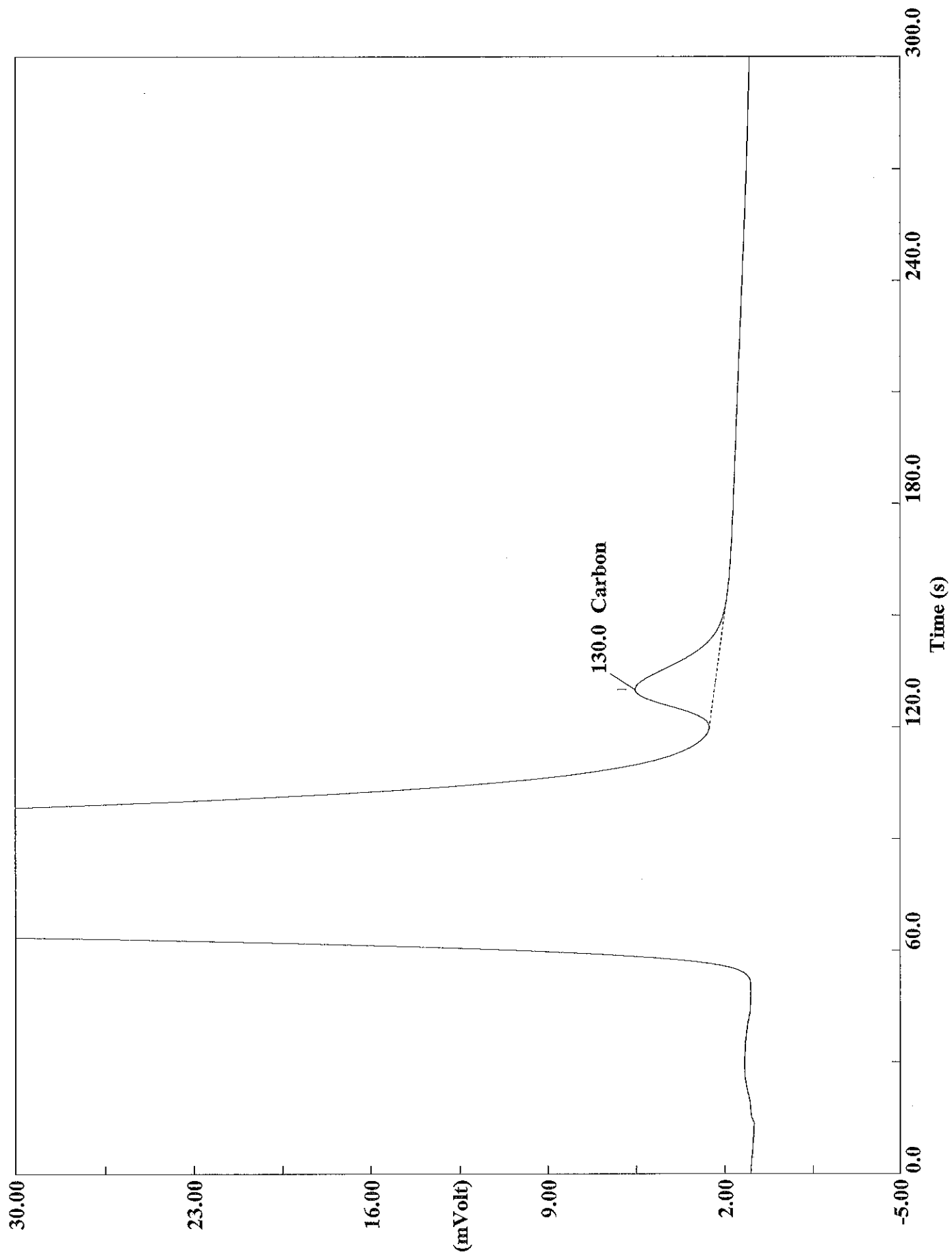
Page: 1 Sample: 180-43458-d-10 (A050715044)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715044  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 07:52 Printed : 5/8/2015 11:22  
Sample ID : 180-43458-d-10 (# 57)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 16

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 1.4277 | 131      | 341397 | mi | 1.000000   |          |



Filename C:\data\January\A050715045.DAT  
Sample name :180-43458-d-10 Analysed :05/07/2015 07:57

# Eager 300 Report

Page: 1    Sample: 180-43458-d-10 (A050715045)

```

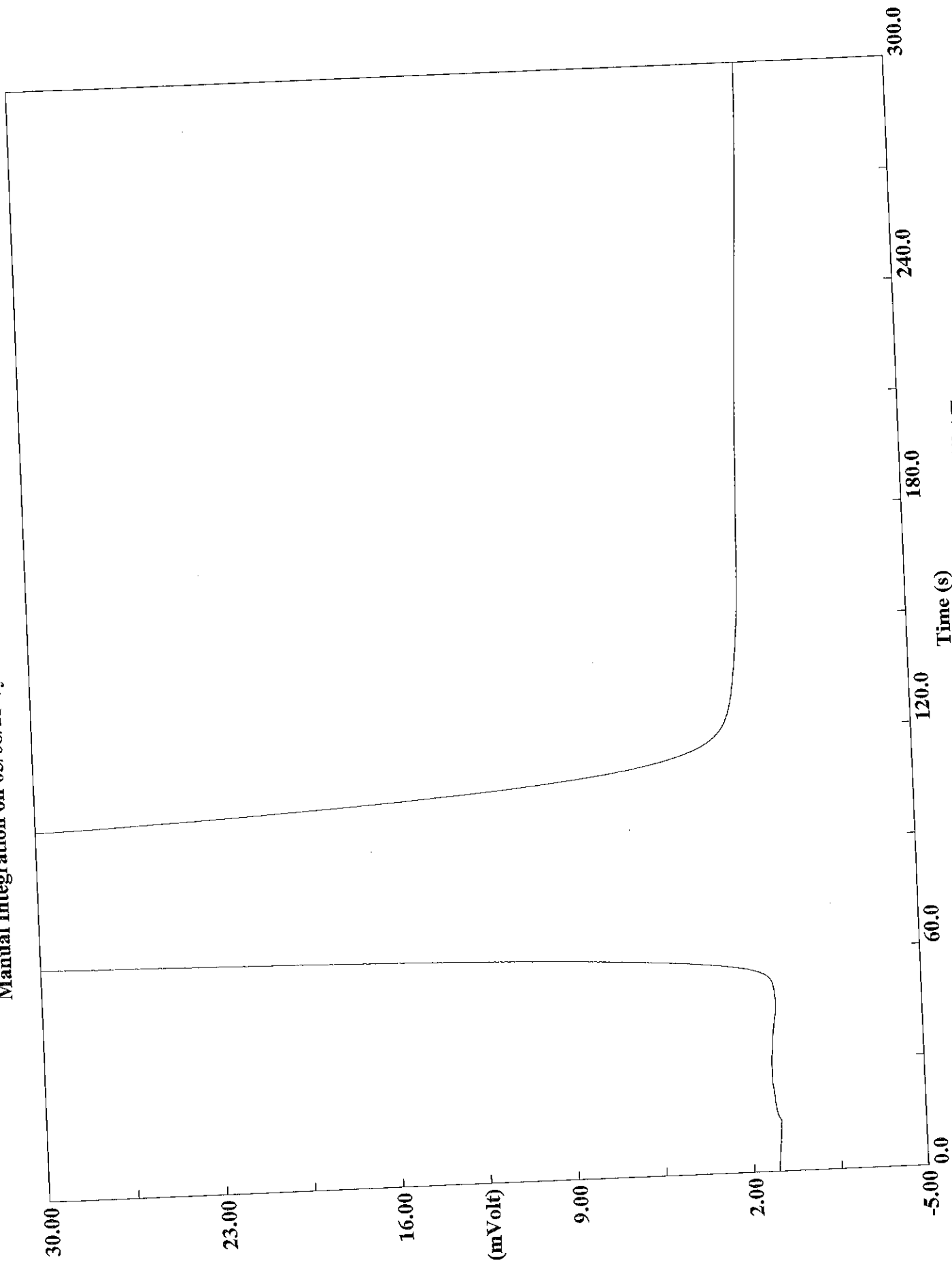
Method Name       : Lloyd Kahn
Method File      : C:\data\January\050715.mth
Chromatogram     : A050715045
Operator ID      : James DeRubeis
Company Name     : TestAmerica Pitt
Analysed         : 05/07/2015 07:57
Printed          : 5/8/2015 11:22
Sample ID        : 180-43458-d-10 (# 58)
Instrument N.    : Instrument #1
Analysis Type    : UnkNown (Area)
Sample weight    : 17.3
    
```

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 1.5152 | 130      | 400847 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715046.DAT  
Sample name :rinse Analysed :05/07/2015 08:03

# Eager 300 Report

Page: 1 Sample: rinse (A050715046)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715046  
Operator ID : James DeRubeis  
Analysed : 05/07/2015 08:03  
Sample ID : rinse (# 59)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area)  
Company Name : TestAmerica Pitt  
Printed : 5/8/2015 11:22  
Sample weight : 1

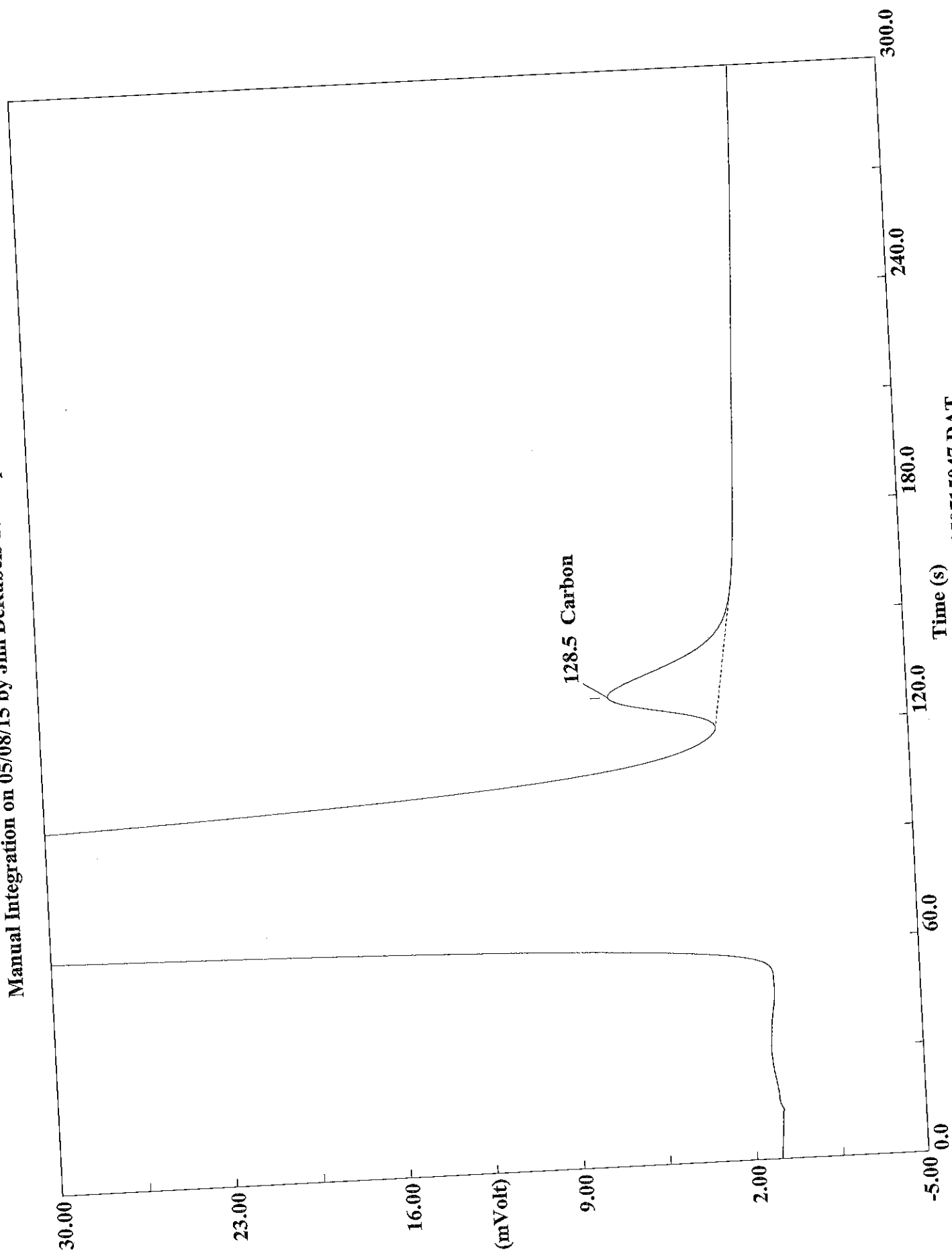
Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715047.DAT  
Sample name :180-43458-d-11 Analysed :05/07/2015 08:08

# Eager 300 Report

Page: 1 Sample: 180-43458-d-11 (A050715047)

Method Name : Lloyd Kahn  
 Method File : C:\data\January\050715.mth  
 Chromatogram : A050715047  
 Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
 Analysed : 05/07/2015 08:08 Printed : 5/8/2015 11:22  
 Sample ID : 180-43458-d-11 (# 60)  
 Instrument N. : Instrument #1  
 Analysis Type : UnkNown (Area) Sample weight : 14

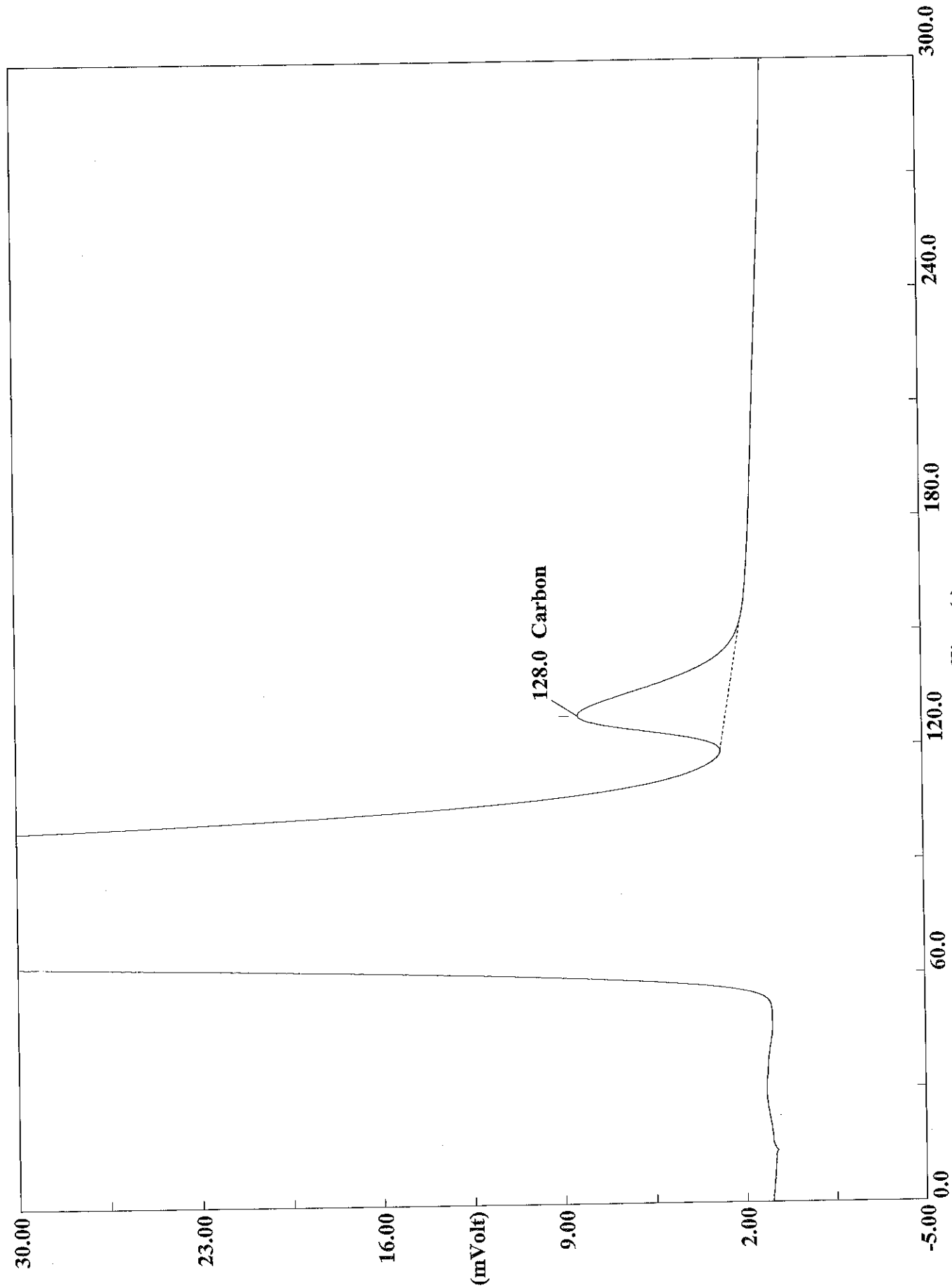
Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 2.6784 | 129      | 599926 | mi | 1.000000   |          |



Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715048.DAT  
Sample name :180-43458-d-11 Analysed :05/07/2015 08:13

# Eager 300 Report

Page: 1 Sample: 180-43458-d-11 (A050715048)

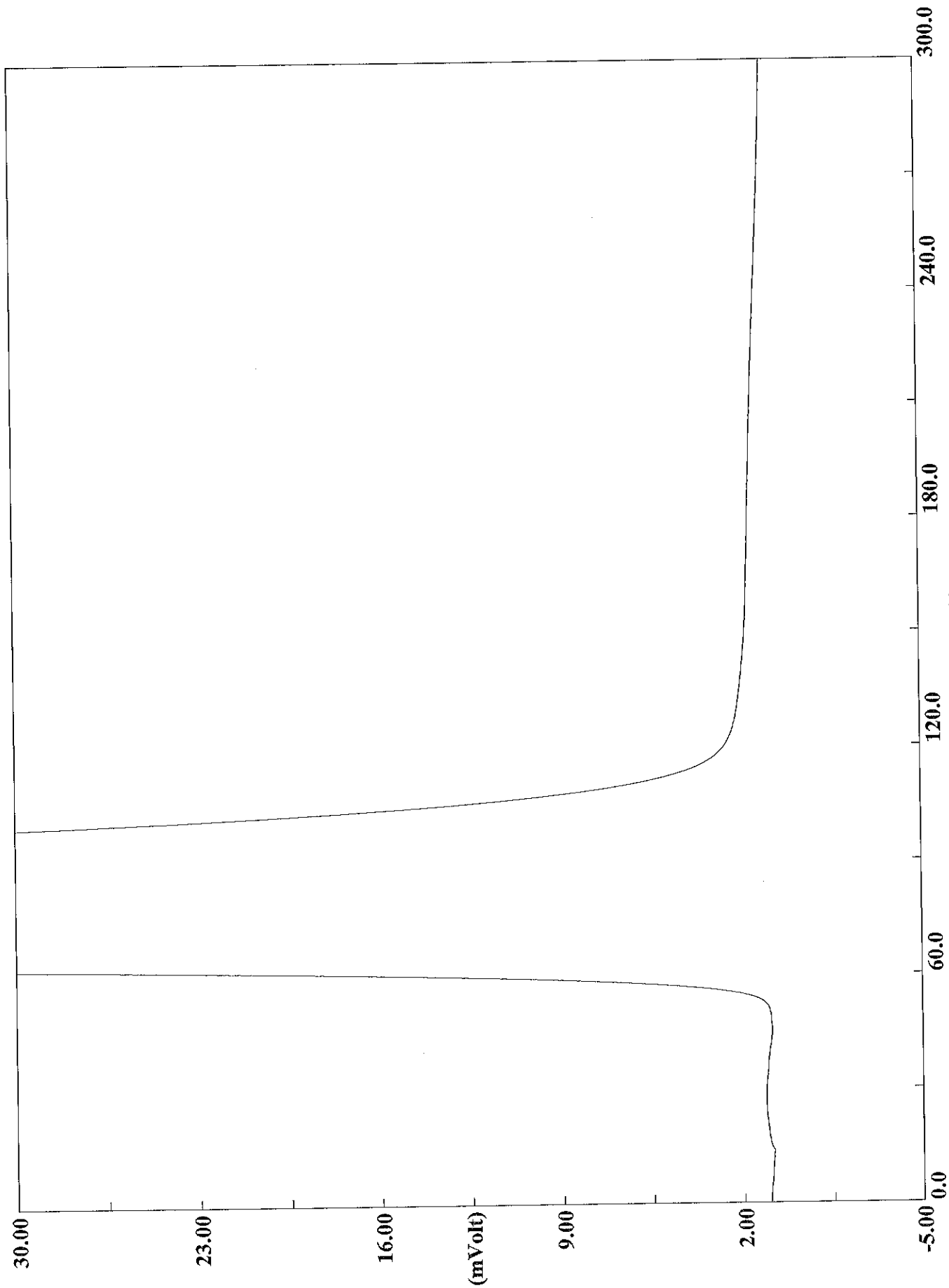
Method Name : Lloyd Kahn  
 Method File : C:\data\January\050715.mth  
 Chromatogram : A050715048  
 Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
 Analysed : 05/07/2015 08:13 Printed : 5/8/2015 11:22  
 Sample ID : 180-43458-d-11 (# 61)  
 Instrument N. : Instrument #1  
 Analysis Type : UnkNown (Area) Sample weight : 14.9

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 3.1359 | 128      | 762711 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715049.DAT  
Sample name :rinse Analysed :05/07/2015 08:18

# Eager 300 Report

Page: 1 Sample: rinse (A050715049)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715049  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 08:18 Printed : 5/8/2015 11:22  
Sample ID : rinse (# 62)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 1

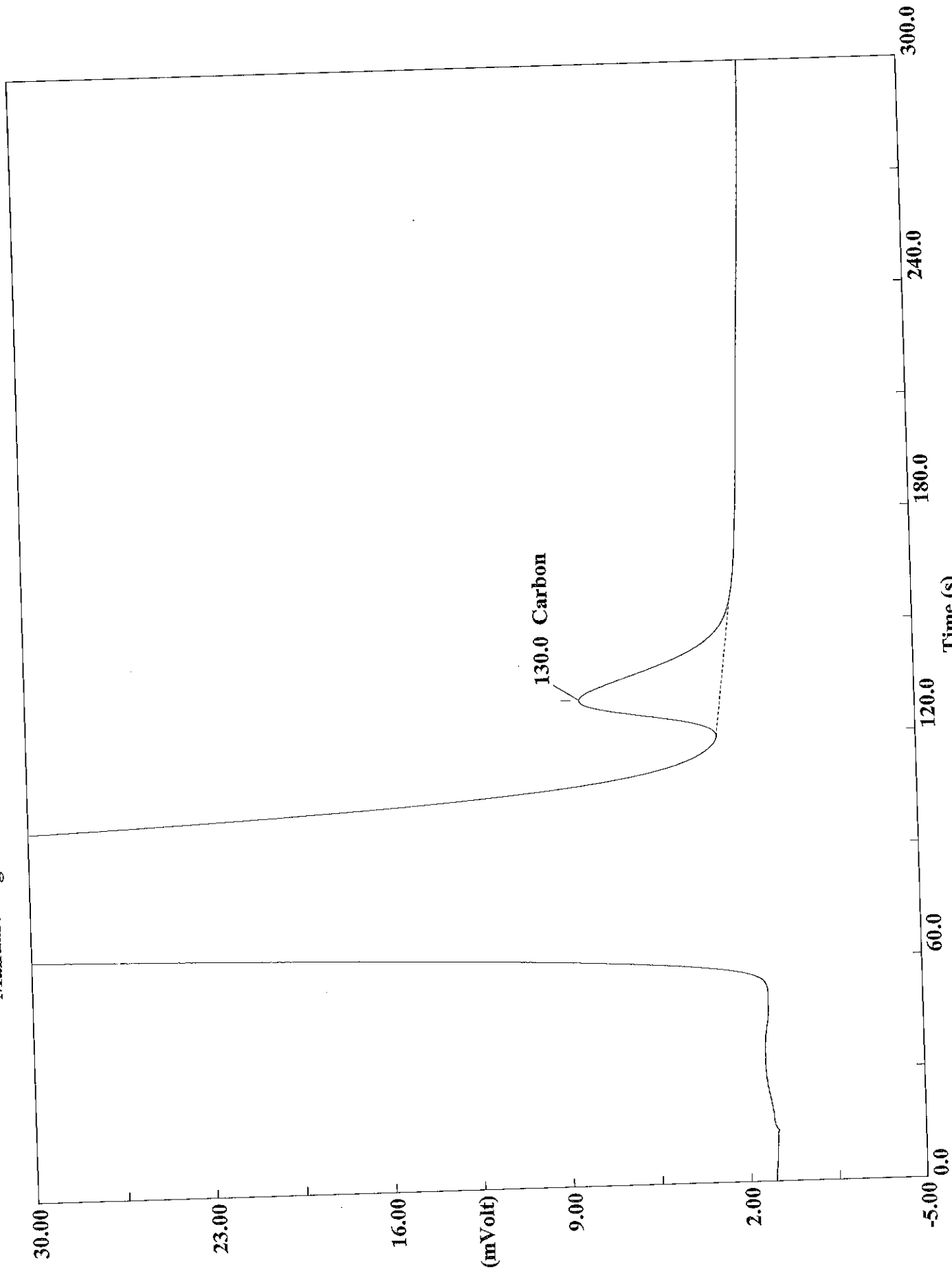
Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715050.DAT  
Sample name :180-43458-d-12 Analysed :05/07/2015 08:25

# Eager 300 Report

Page: 1 Sample: 180-43458-d-12 (A050715050)

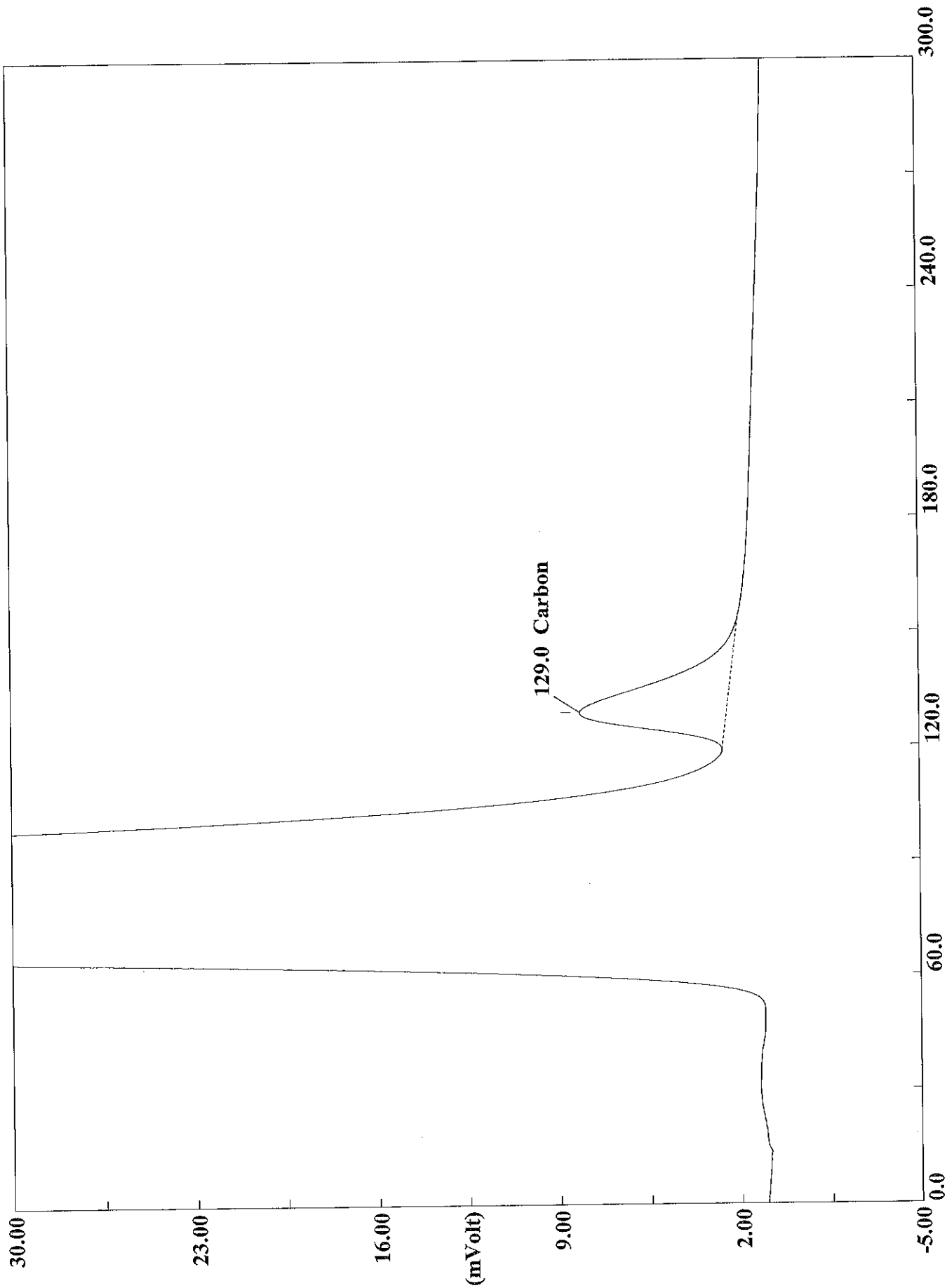
Method Name : Lloyd Kahn  
 Method File : C:\data\January\050715.mth  
 Chromatogram : A050715050  
 Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
 Analysed : 05/07/2015 08:25 Printed : 5/8/2015 11:22  
 Sample ID : 180-43458-d-12 (# 63)  
 Instrument N. : Instrument #1  
 Analysis Type : UnkNown (Area) Sample weight : 14.1

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 3.3575 | 130      | 773570 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715051.DAT  
Sample name :180-43458-d-12 Analysed :05/07/2015 08:30

# Eager 300 Report

Page: 1 Sample: 180-43458-d-12 (A050715051)

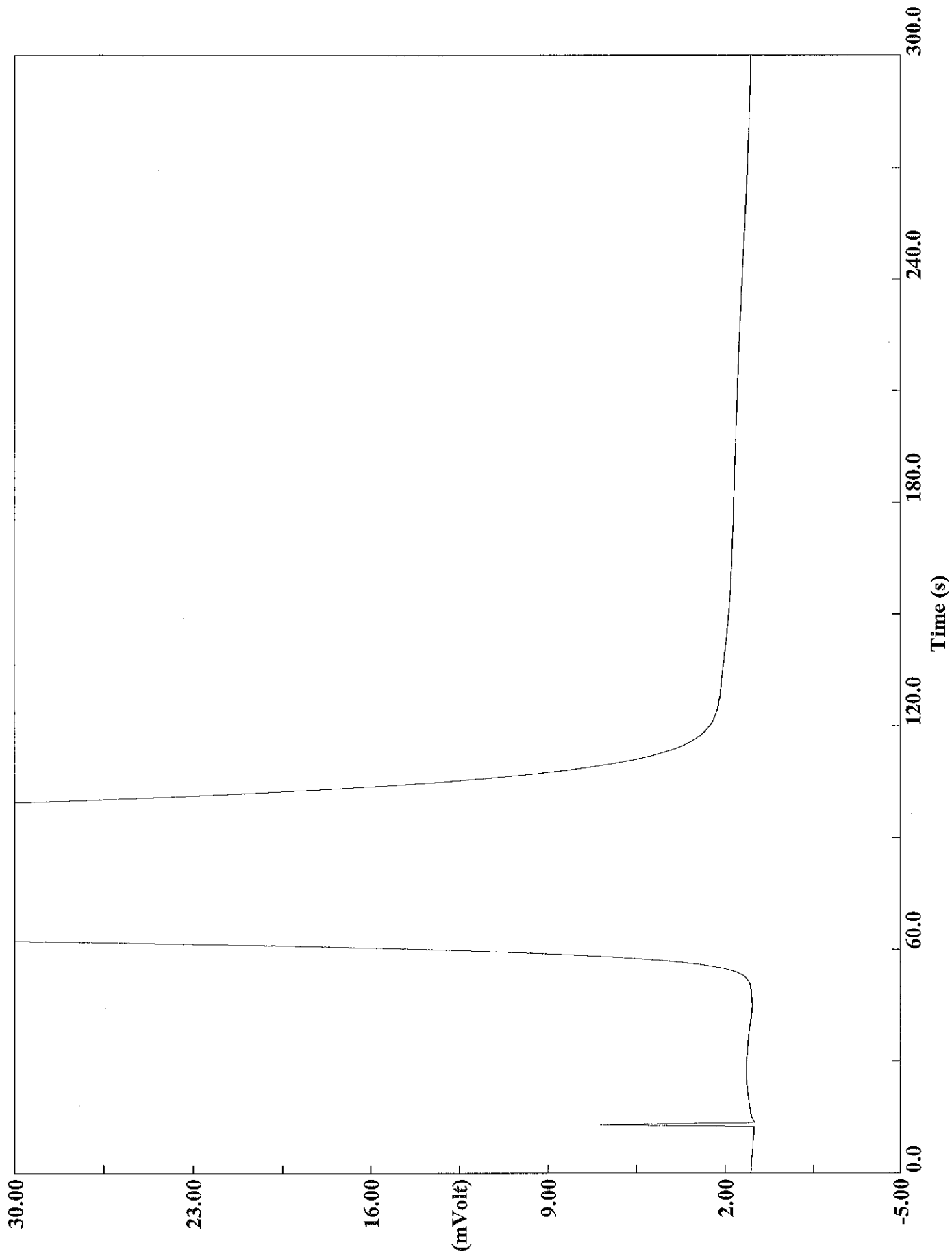
Method Name : Lloyd Kahn  
 Method File : C:\data\January\050715.mth  
 Chromatogram : A050715051  
 Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
 Analysed : 05/07/2015 08:30 Printed : 5/8/2015 11:22  
 Sample ID : 180-43458-d-12 (# 64)  
 Instrument N. : Instrument #1  
 Analysis Type : UnkNown (Area) Sample weight : 13.8

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 3.3433 | 129      | 752360 | mi | 1.000000   |          |





Filename C:\data\January\A050715052.DAT  
Sample name :rinse Analysed :05/07/2015 08:35

# Eager 300 Report

Page: 1 Sample: rinse (A050715052)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715052  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 08:35 Printed : 5/8/2015 11:22  
Sample ID : rinse (# 65)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 1

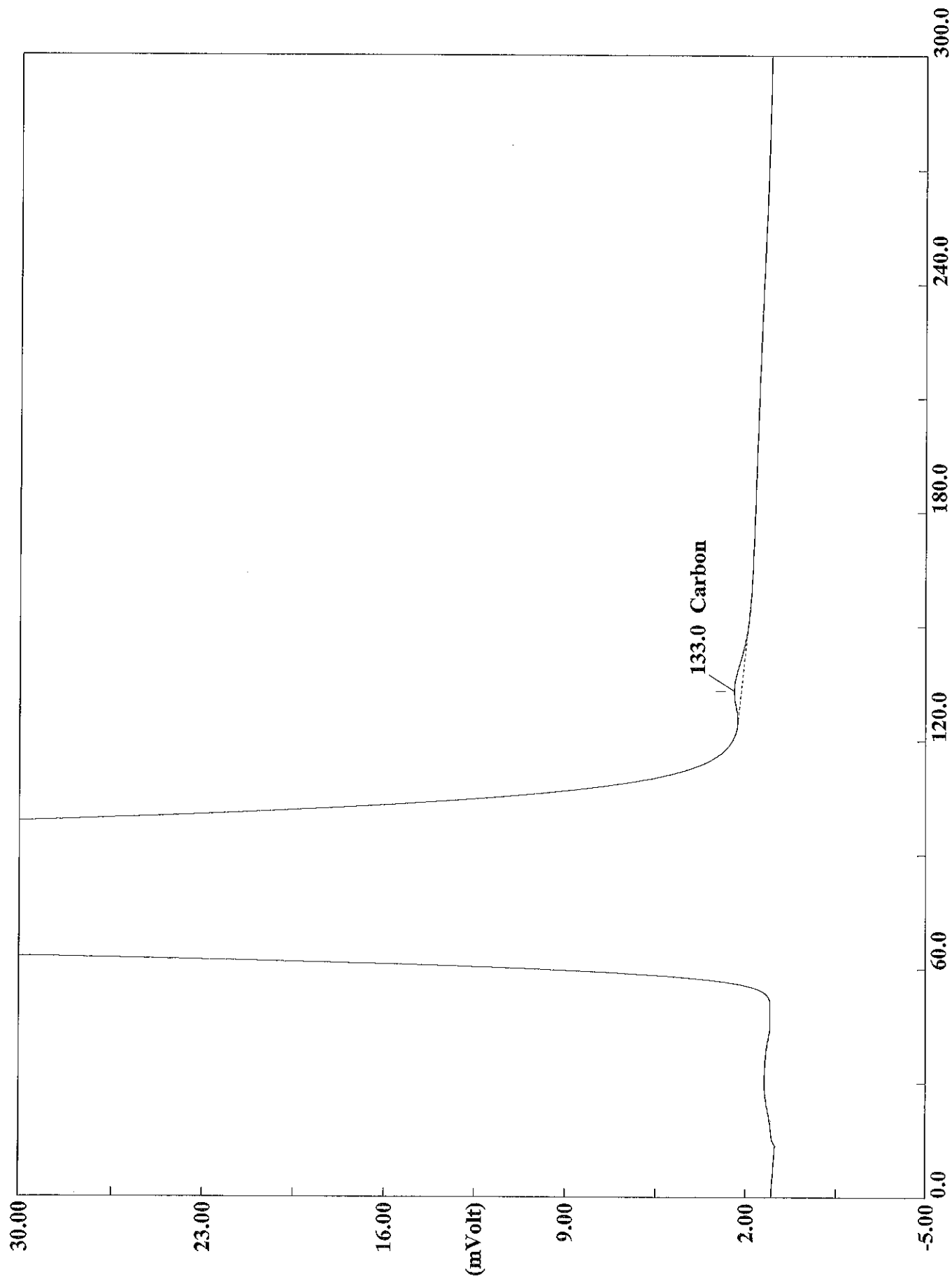
Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715053.DAT

Sample name : 180-43411-a-1 Analysed : 05/07/2015 08:41

# Eager 300 Report

Page: 1 Sample: 180-43411-a-1 (A050715053)

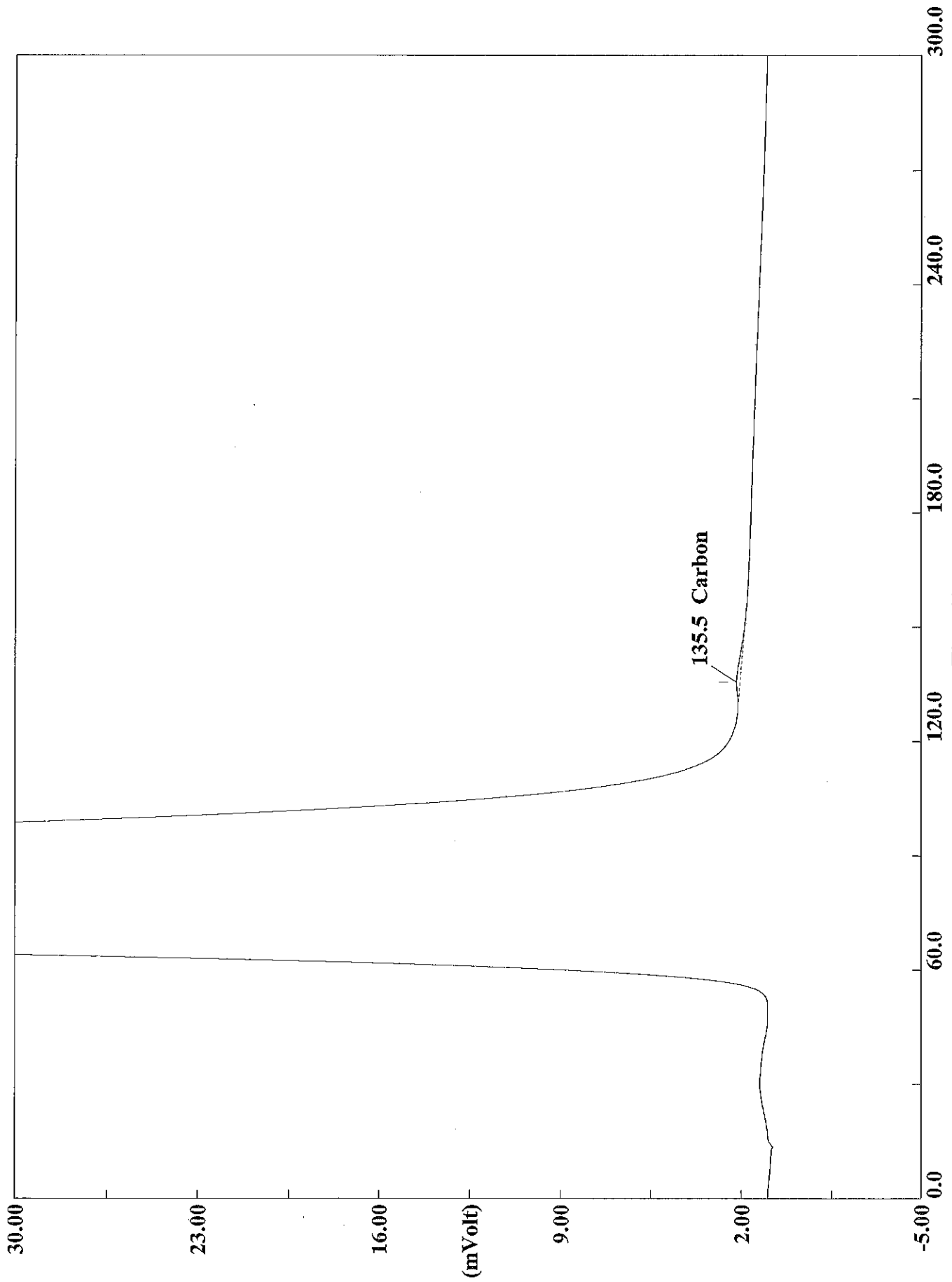
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715053  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 08:41 Printed : 5/8/2015 11:22  
Sample ID : 180-43411-a-1 (# 66)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 21.7

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area  | BC | Area ratio | K factor |
|--------------|--------|----------|-------|----|------------|----------|
| Carbon       | 0.2490 | 133      | 33750 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715054.DAT  
Sample name :180-43411-a-1 Analysed :05/07/2015 08:46

# Eager 300 Report

Page: 1 Sample: 180-43411-a-1 (A050715054)

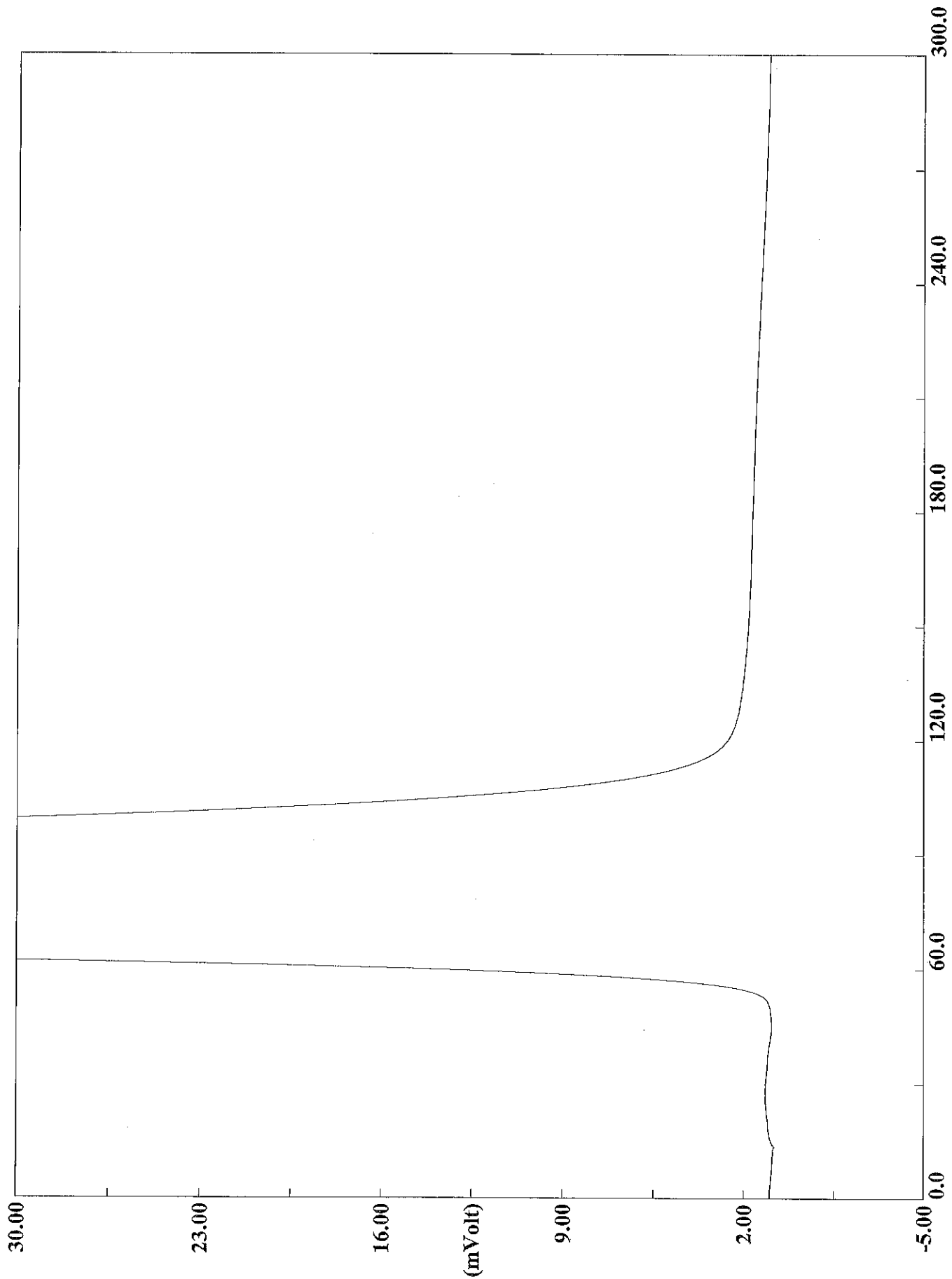
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715054  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 08:46 Printed : 5/8/2015 11:23  
Sample ID : 180-43411-a-1 (# 67)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 20

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area  | BC | Area ratio | K factor |
|--------------|--------|----------|-------|----|------------|----------|
| Carbon       | 0.2162 | 136      | 14712 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715055.DAT  
Sample name :rinse Analysed :05/07/2015 08:51

# Eager 300 Report

Page: 1 Sample: rinse (A050715055)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715055  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 08:51 Printed : 5/8/2015 11:23  
Sample ID : rinse (# 68)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 1

Calib. method : using 'Least Squares to Linear fit'

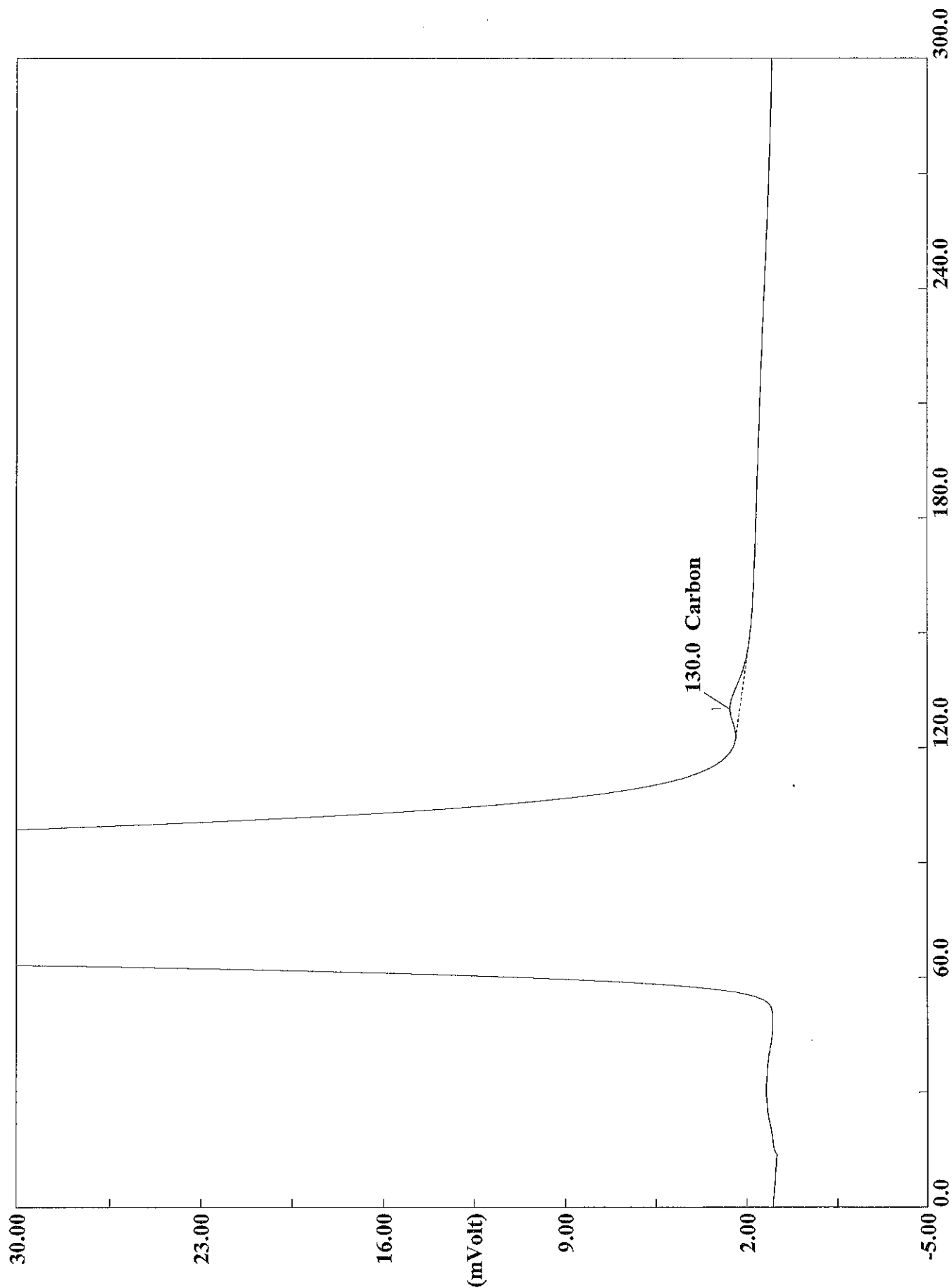
!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|



Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715056.DAT

Sample name : 180-43411-a-2 Analysed : 05/07/2015 08:56

# Eager 300 Report

Page: 1 Sample: 180-43411-a-2 (A050715056)

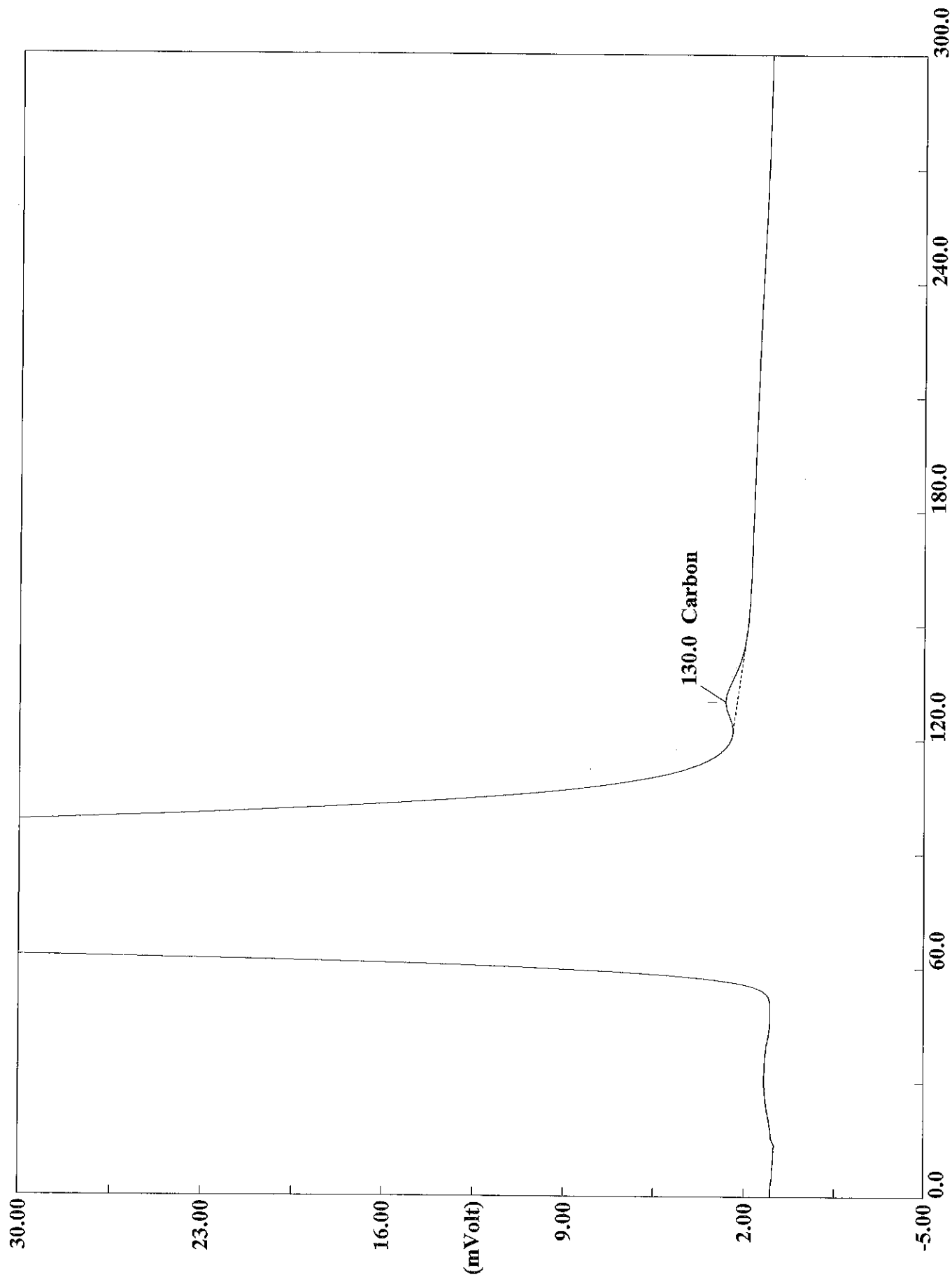
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715056  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 08:56 Printed : 5/8/2015 11:23  
Sample ID : 180-43411-a-2 (# 69)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 4.8

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area  | BC | Area ratio | K factor |
|--------------|--------|----------|-------|----|------------|----------|
| Carbon       | 1.2171 | 130      | 41485 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715057.DAT

Sample name : 180-43411-a-2 Analysed : 05/07/2015 09:02

# Eager 300 Report

Page: 1 Sample: 180-43411-a-2 (A050715057)

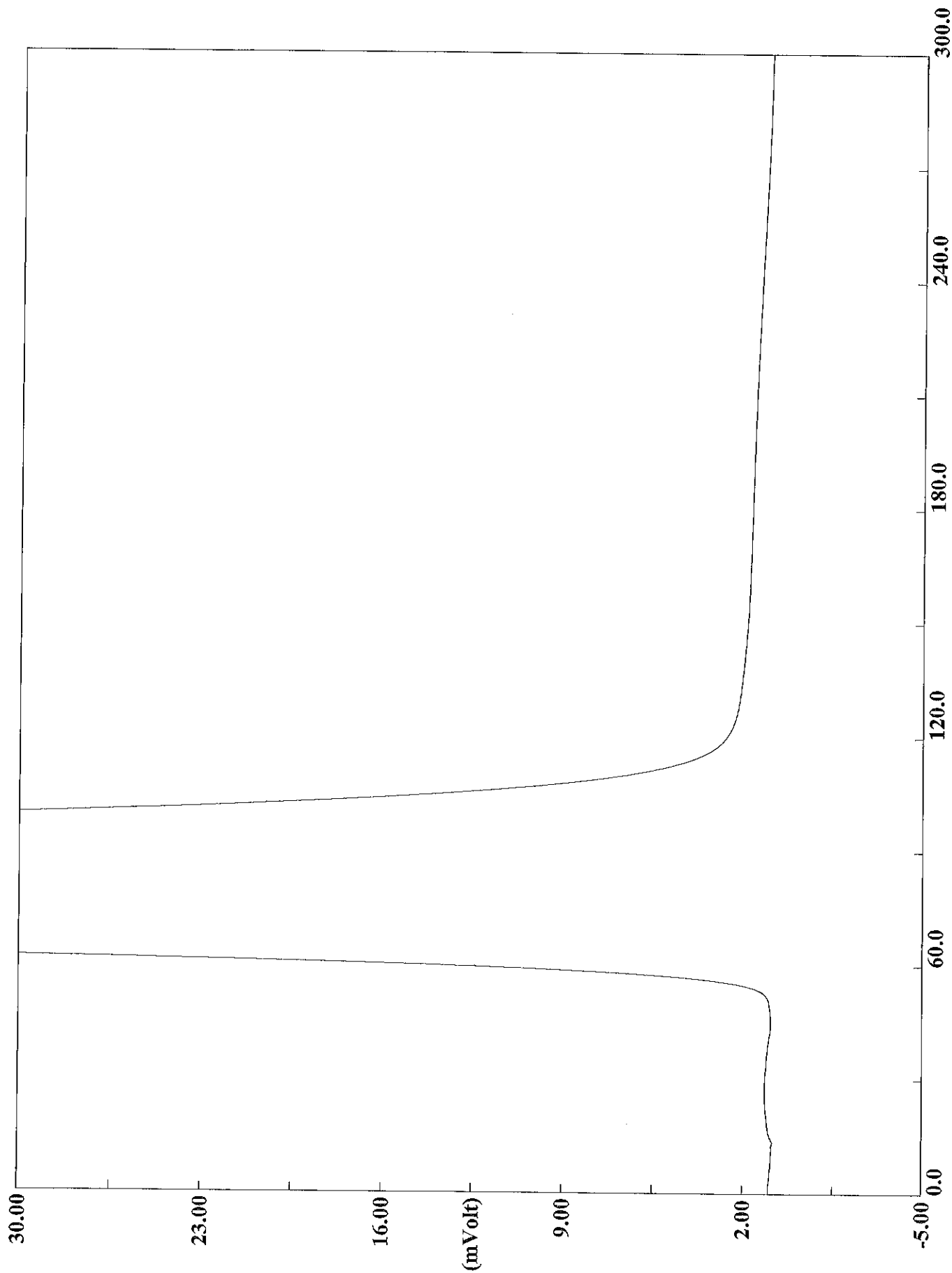
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715057  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 09:02 Printed : 5/8/2015 11:23  
Sample ID : 180-43411-a-2 (# 70)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 5.3

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area  | BC | Area ratio | K factor |
|--------------|--------|----------|-------|----|------------|----------|
| Carbon       | 1.1792 | 130      | 48683 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715058.DAT  
Sample name :rinse Analysed :05/07/2015 09:07

# Eager 300 Report

Page: 1 Sample: rinse (A050715058)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715058  
Operator ID : James DeRubeis  
Analysed : 05/07/2015 09:07  
Sample ID : rinse (# 71)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area)  
Company Name : TestAmerica Pitt  
Printed : 5/8/2015 11:23  
Sample weight : 1

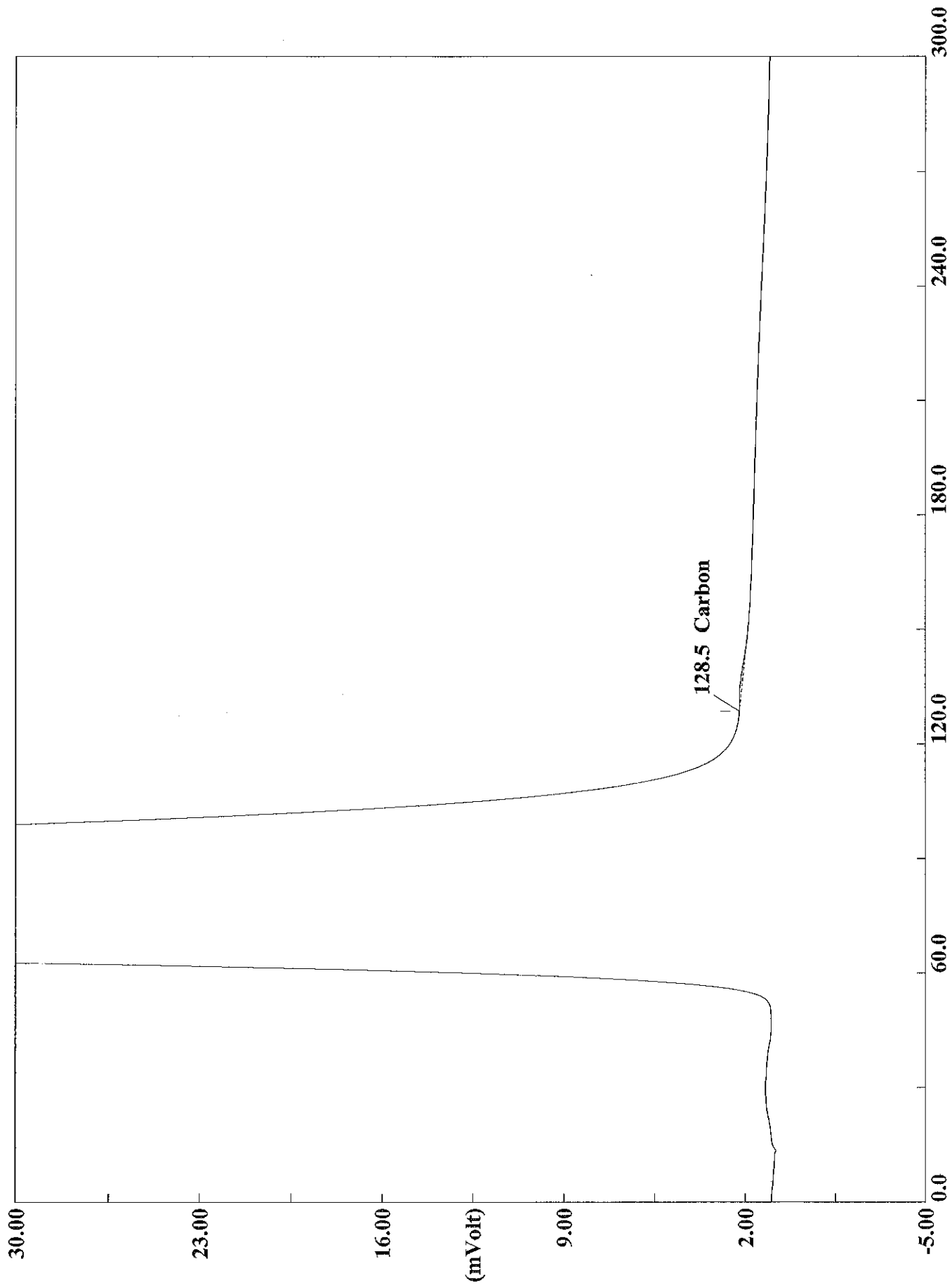
Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715059.DAT  
Sample name :180-43423-d-2 Analysed :05/07/2015 09:12

# Eager 300 Report

Page: 1 Sample: 180-43423-d-2 (A050715059)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715059  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 09:12 Printed : 5/8/2015 11:23  
Sample ID : 180-43423-d-2 (# 72)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 21.2

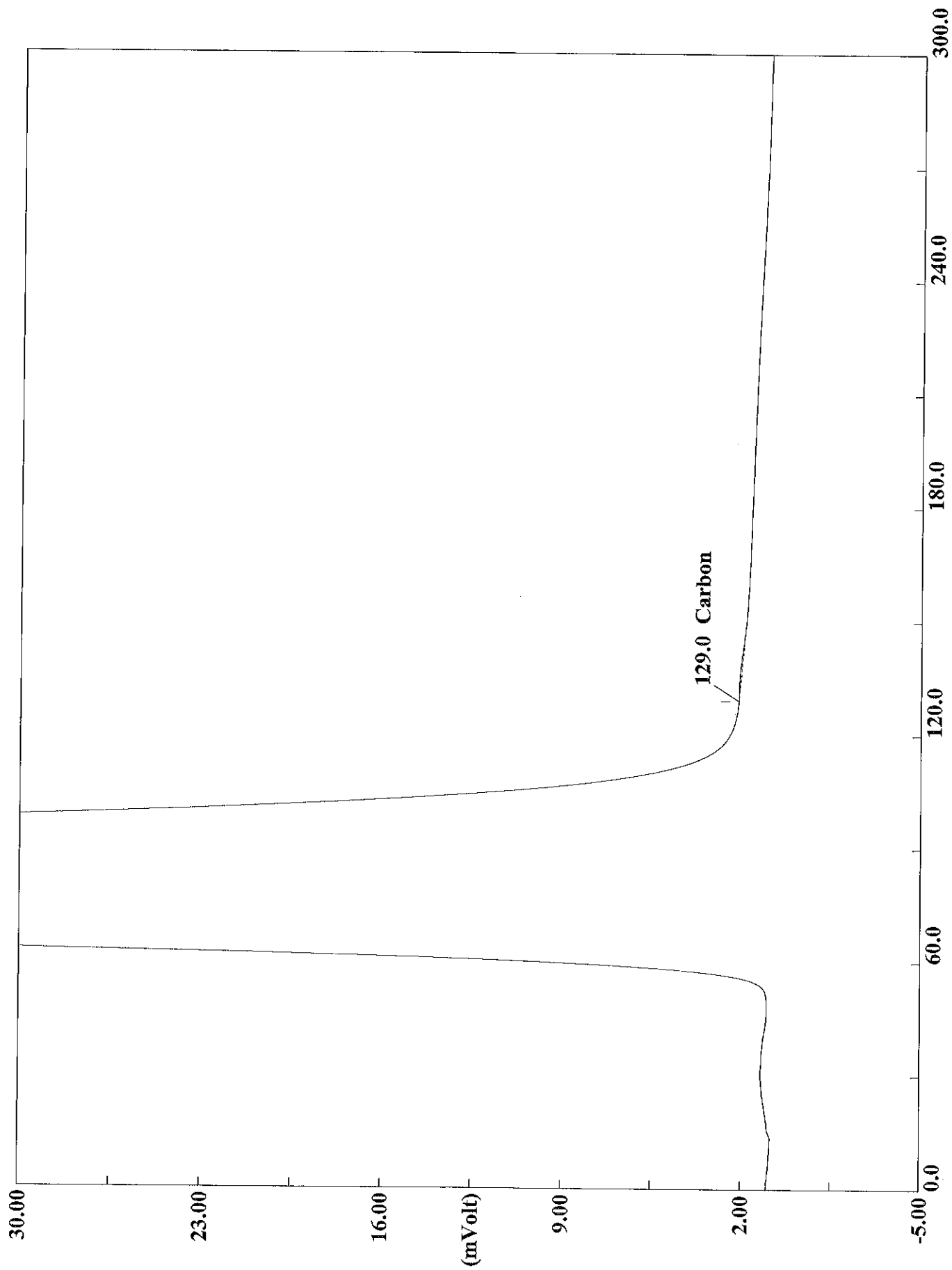
Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area    | BC | Area ratio | K factor |
|--------------|--------|----------|---------|----|------------|----------|
| Carbon       | 0.1828 | 129      | 6791 mi |    | 1.000000   |          |



Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715060.DAT  
Sample name :180-43423-d-2 Analysed :05/07/2015 09:17

# Eager 300 Report

Page: 1 Sample: 180-43423-d-2 (A050715060)

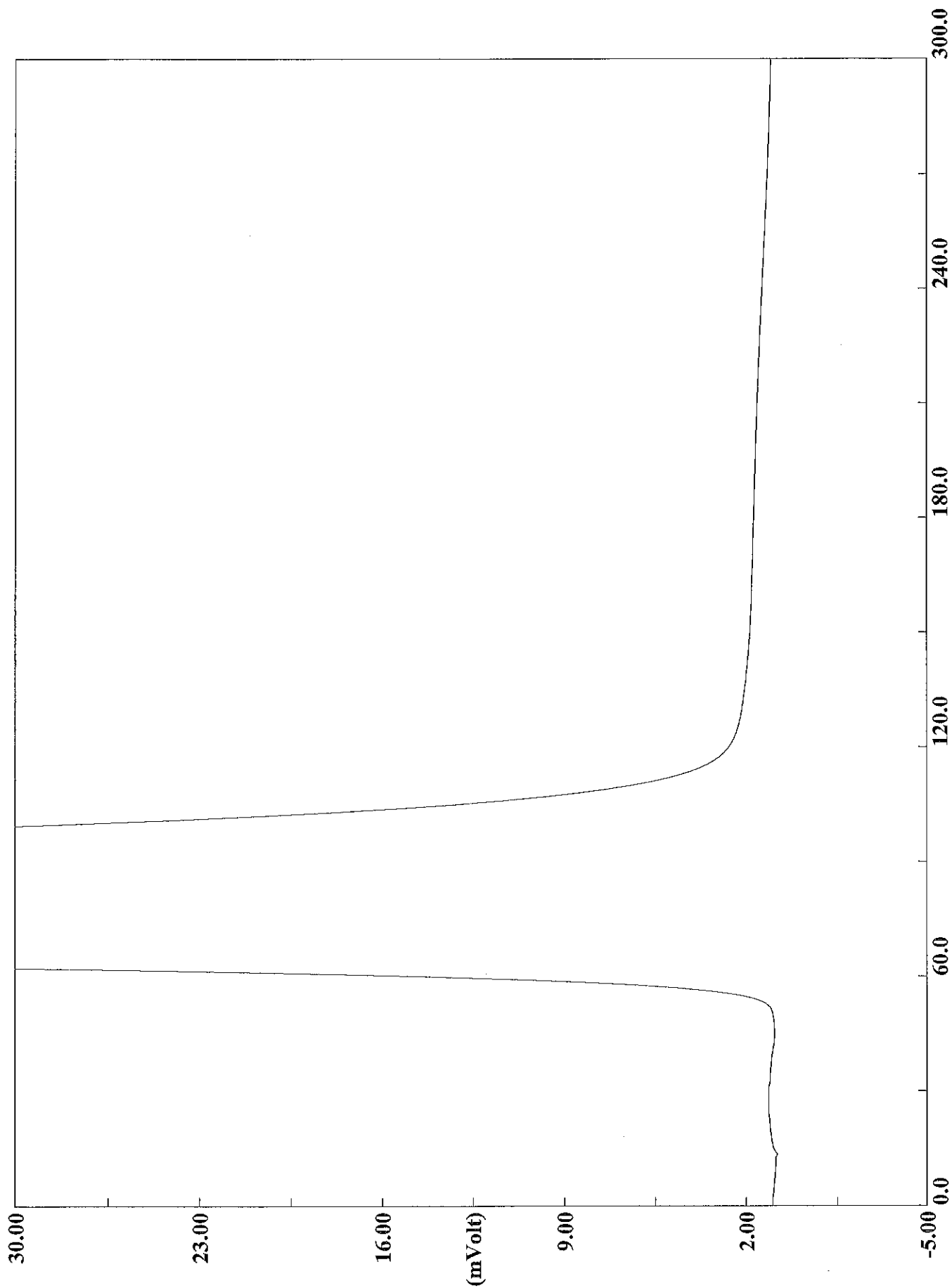
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715060  
Operator ID : James DeRubeis  
Analysed : 05/07/2015 09:17  
Sample ID : 180-43423-d-2 (# 73)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area)  
Company Name : TestAmerica Pitt  
Printed : 5/8/2015 11:23  
Sample weight : 20.4

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area    | BC | Area ratio | K factor |
|--------------|--------|----------|---------|----|------------|----------|
| Carbon       | 0.1844 | 129      | 4792 mi |    | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715061.DAT  
Sample name :rinse Analysed :05/07/2015 09:23

# Eager 300 Report

Page: 1 Sample: rinse (A050715061)

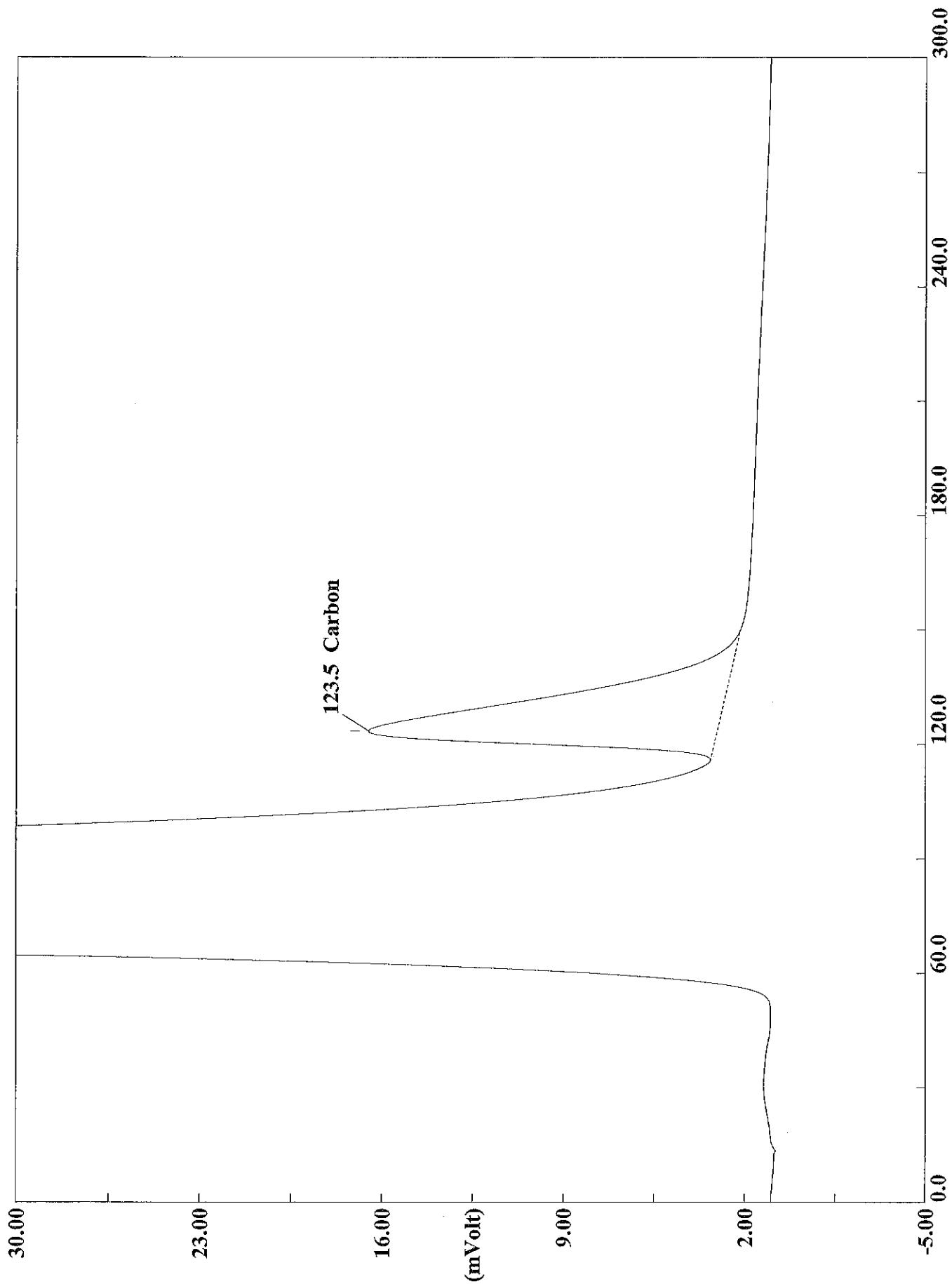
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715061  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 09:23 Printed : 5/8/2015 11:23  
Sample ID : rinse (# 74)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 1

Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|



Filename C:\data\January\A050715062.DAT  
Sample name :ccv Analysed :05/07/2015 09:28

# Eager 300 Report

Page: 1 Sample: ccv (A050715062)

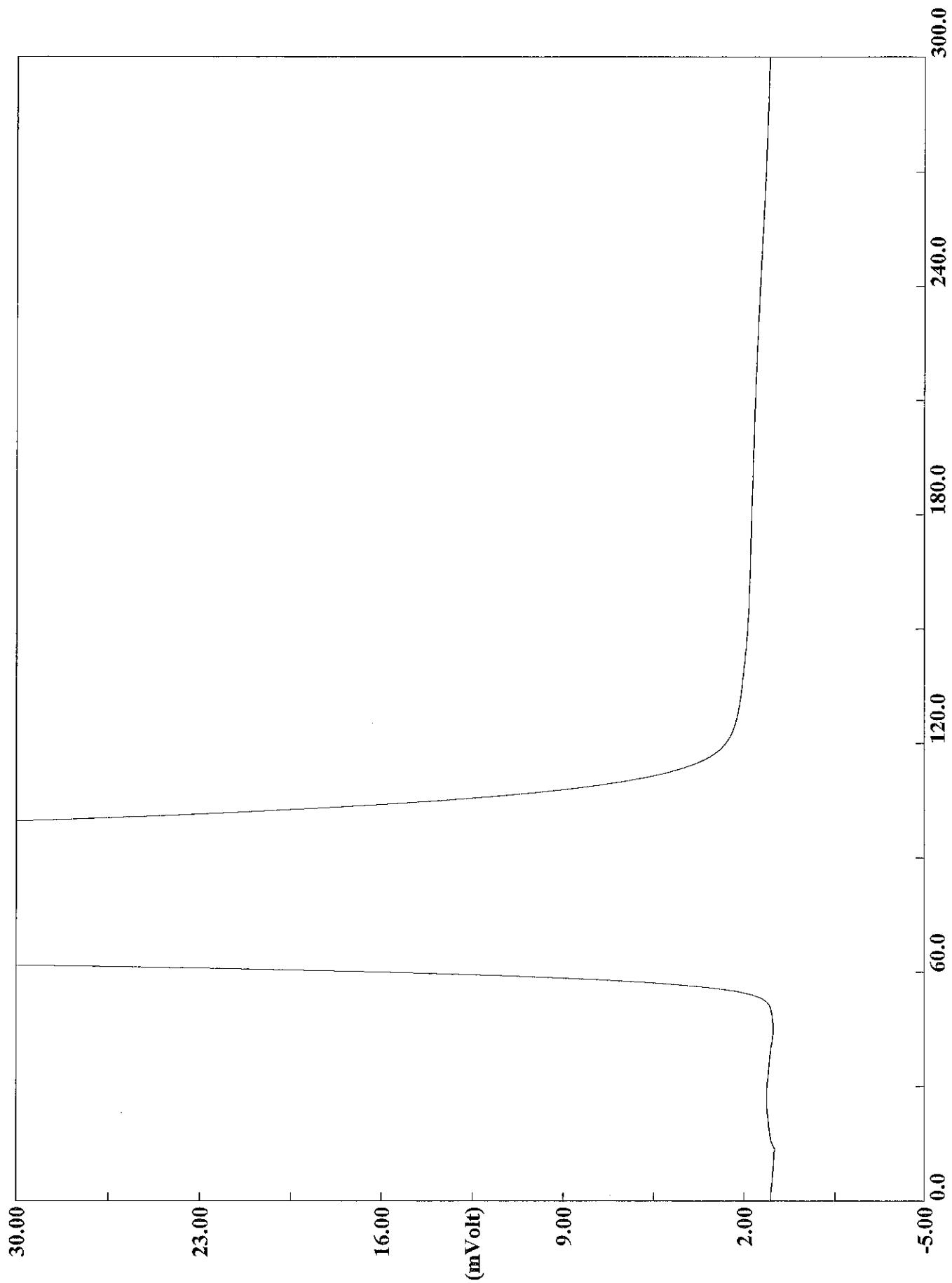
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715062  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 09:28 Printed : 5/8/2015 11:23  
Sample ID : ccv (# 75)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 100

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area    | BC | Area ratio | K factor |
|--------------|--------|----------|---------|----|------------|----------|
| Carbon       | 1.0424 | 124      | 1777438 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715063.DAT  
Sample name :ccb Analysed :05/07/2015 09:33

# Eager 300 Report

Page: 1 Sample: ccb (A050715063)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715063  
Operator ID : James DeRubeis  
Analysed : 05/07/2015 09:33  
Sample ID : ccb (# 76)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area)  
Company Name : TestAmerica Pitt  
Printed : 5/8/2015 11:23  
Sample weight : 20

Calib. method : using 'Least Squares to Linear fit'

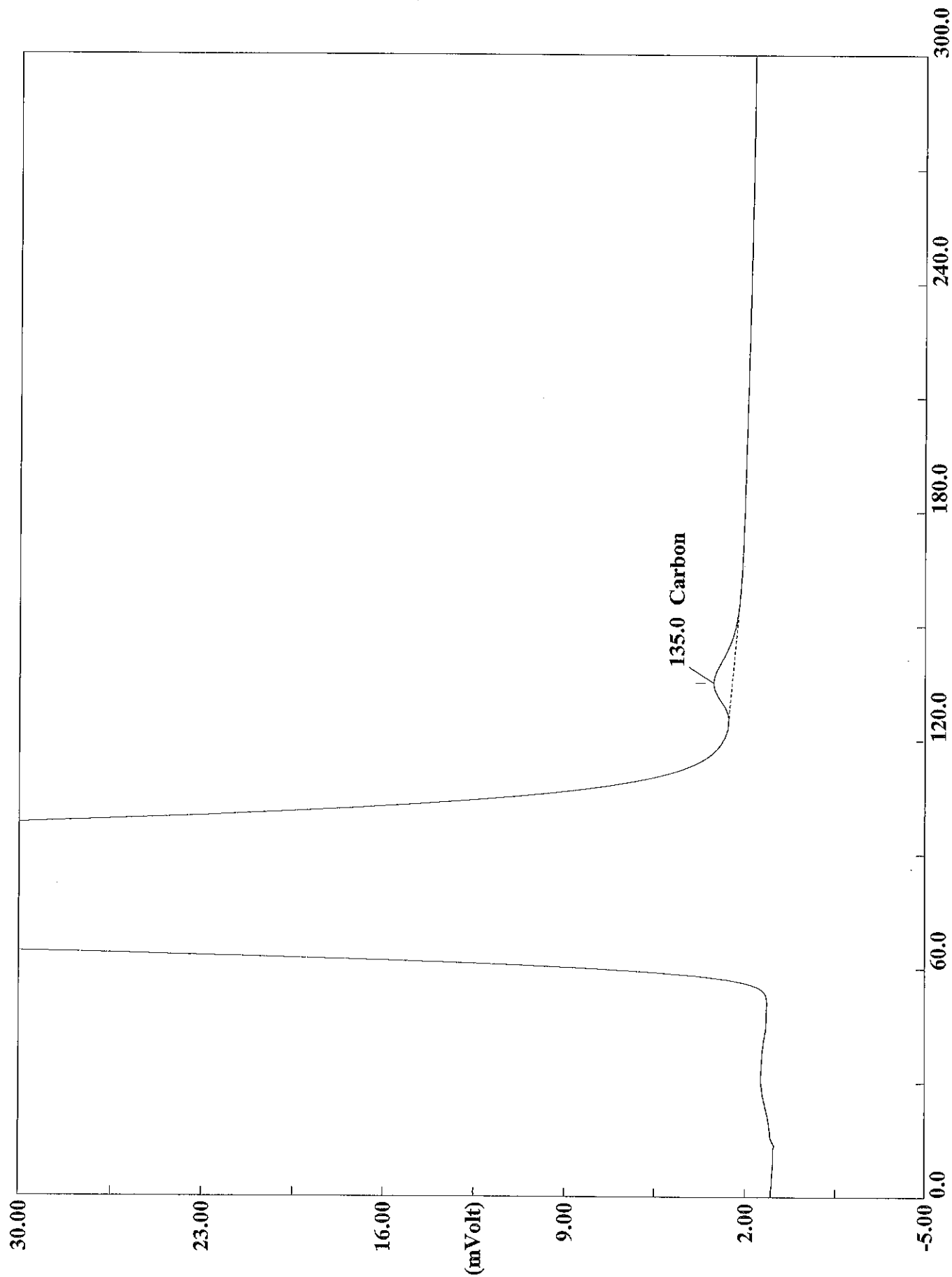
!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|



Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715064.DAT  
Sample name :180-43548-m-2 Analysed :05/07/2015 09:43

# Eager 300 Report

Page: 1 Sample: 180-43548-m-2 (A050715064)

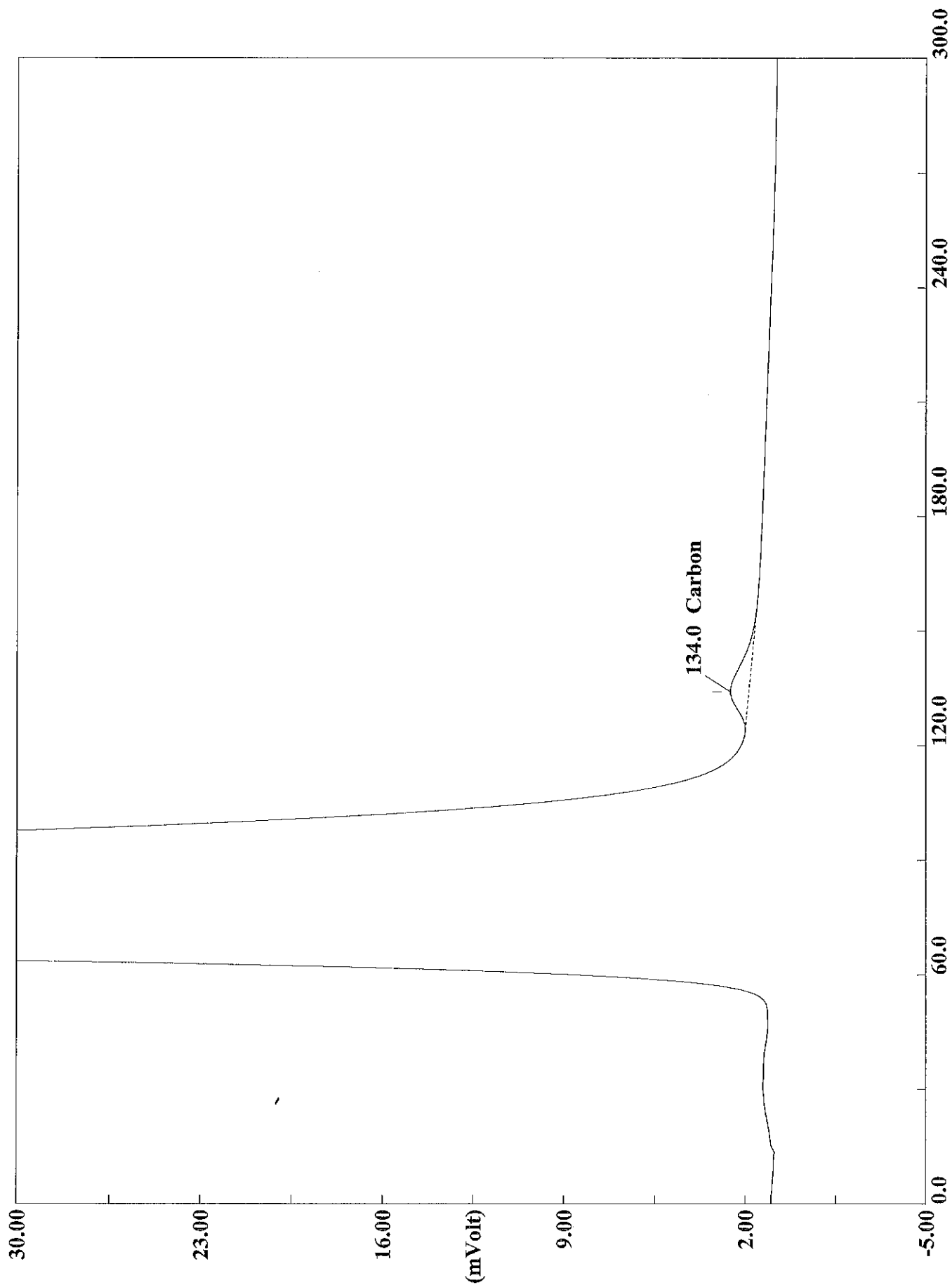
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715064  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 09:43 Printed : 5/8/2015 11:23  
Sample ID : 180-43548-m-2 (# 77)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 20.1

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area     | BC | Area ratio | K factor |
|--------------|--------|----------|----------|----|------------|----------|
| Carbon       | 0.4307 | 135      | 91160 mi |    | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715065.DAT  
Sample name :180-43548-m-2 Analysed :05/07/2015 09:48

# Eager 300 Report

Page: 1 Sample: 180-43548-m-2 (A050715065)

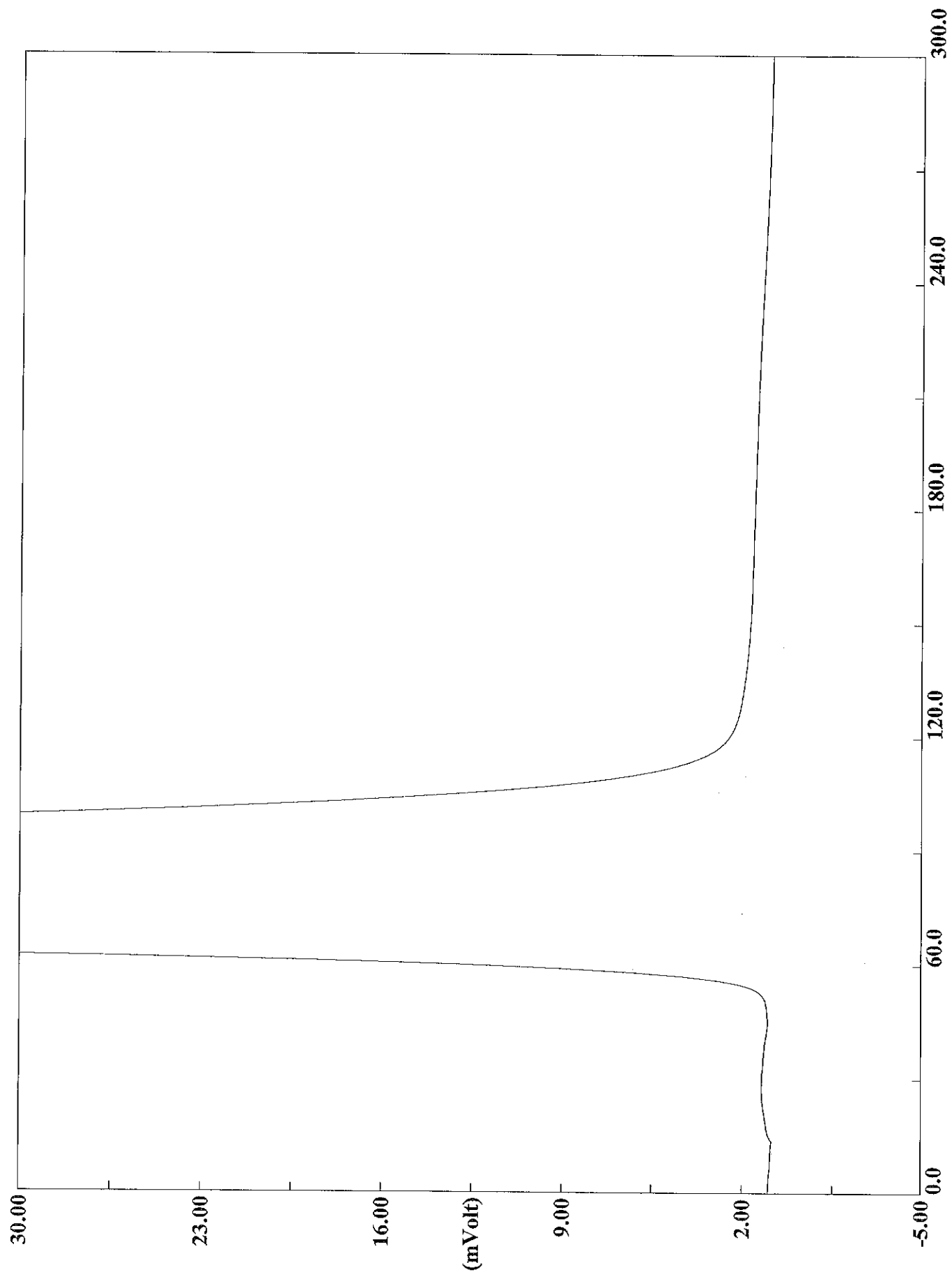
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715065  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 09:48 Printed : 5/8/2015 11:23  
Sample ID : 180-43548-m-2 (# 78)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 21

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area     | BC | Area ratio | K factor |
|--------------|--------|----------|----------|----|------------|----------|
| Carbon       | 0.4284 | 134      | 97116 mi |    | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715066.DAT  
Sample name :rinse Analysed :05/07/2015 09:53

# Eager 300 Report

Page: 1 Sample: rinse (A050715066)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715066  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 09:53 Printed : 5/8/2015 11:23  
Sample ID : rinse (# 79)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 1

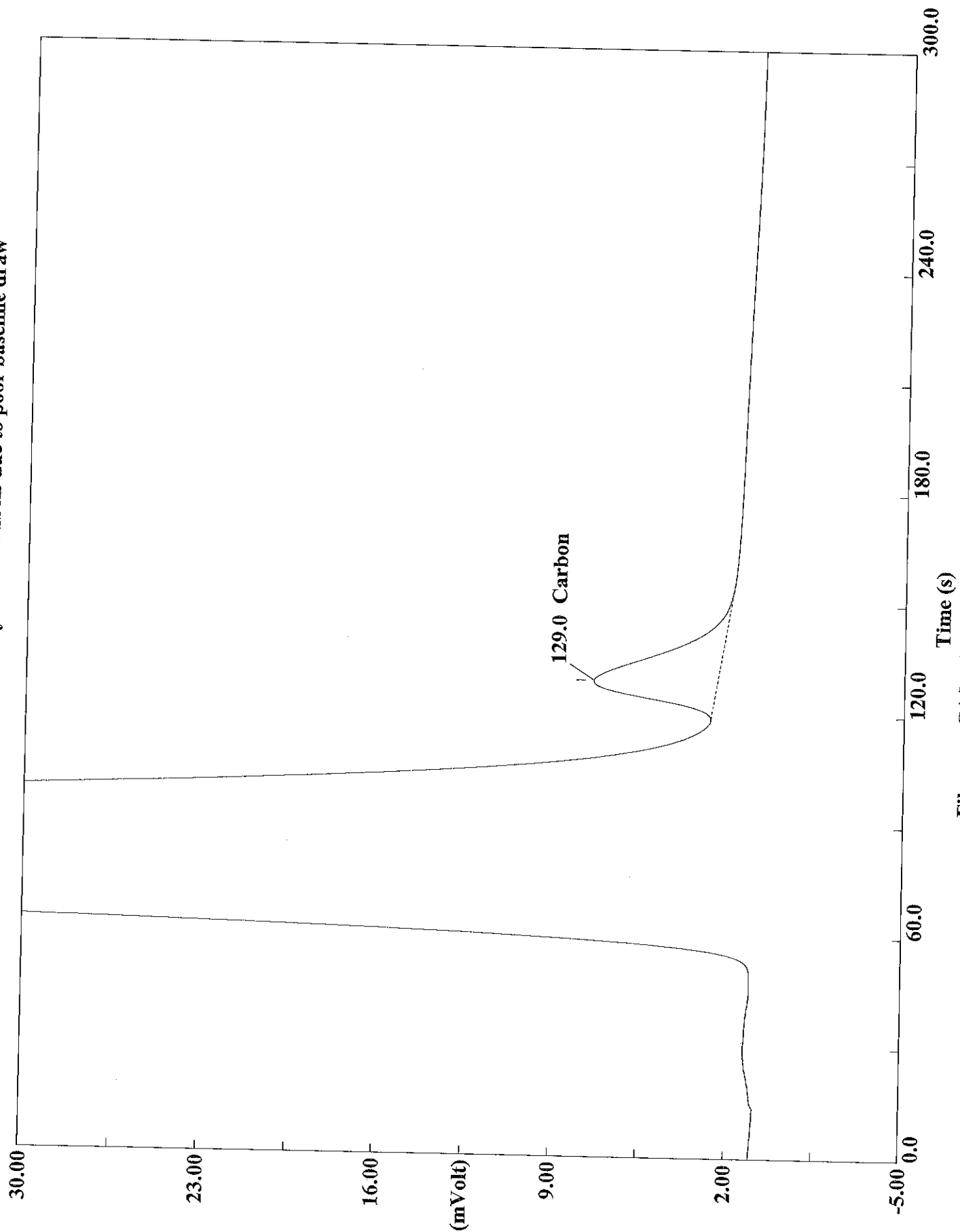
Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715067.DAT

Sample name :180-43548-d-3 Analysed :05/07/2015 09:59

# Eager 300 Report

Page: 1 Sample: 180-43548-d-3 (A050715067)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715067  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 09:59 Printed : 5/8/2015 11:23  
Sample ID : 180-43548-d-3 (# 80)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 12.9

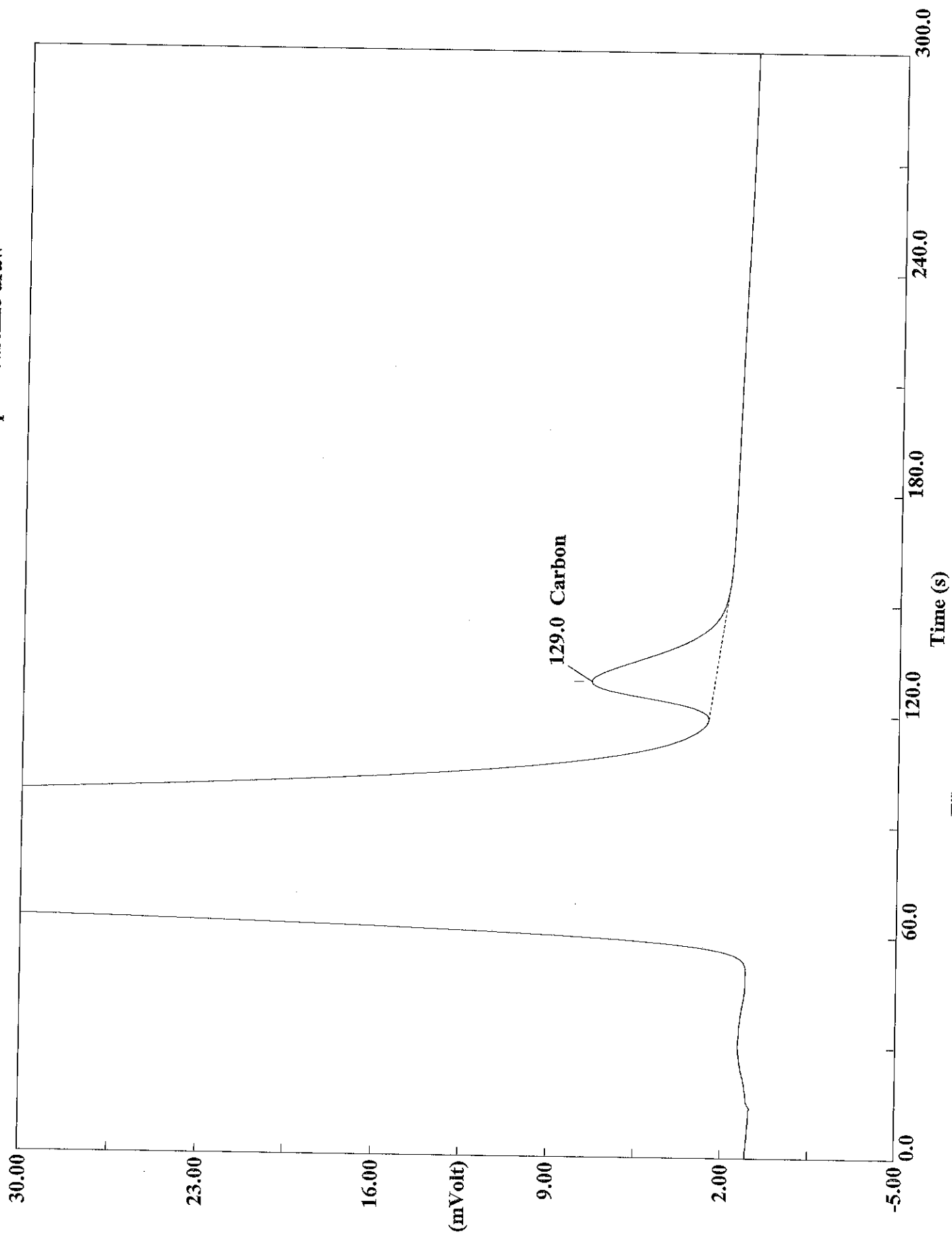
Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 3.1030 | 129      | 644582 | mi | 1.000000   |          |



Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715068.DAT  
Sample name :180-43548-d-3 Analysed :05/07/2015 10:04

# Eager 300 Report

Page: 1 Sample: 180-43548-d-3 (A050715068)

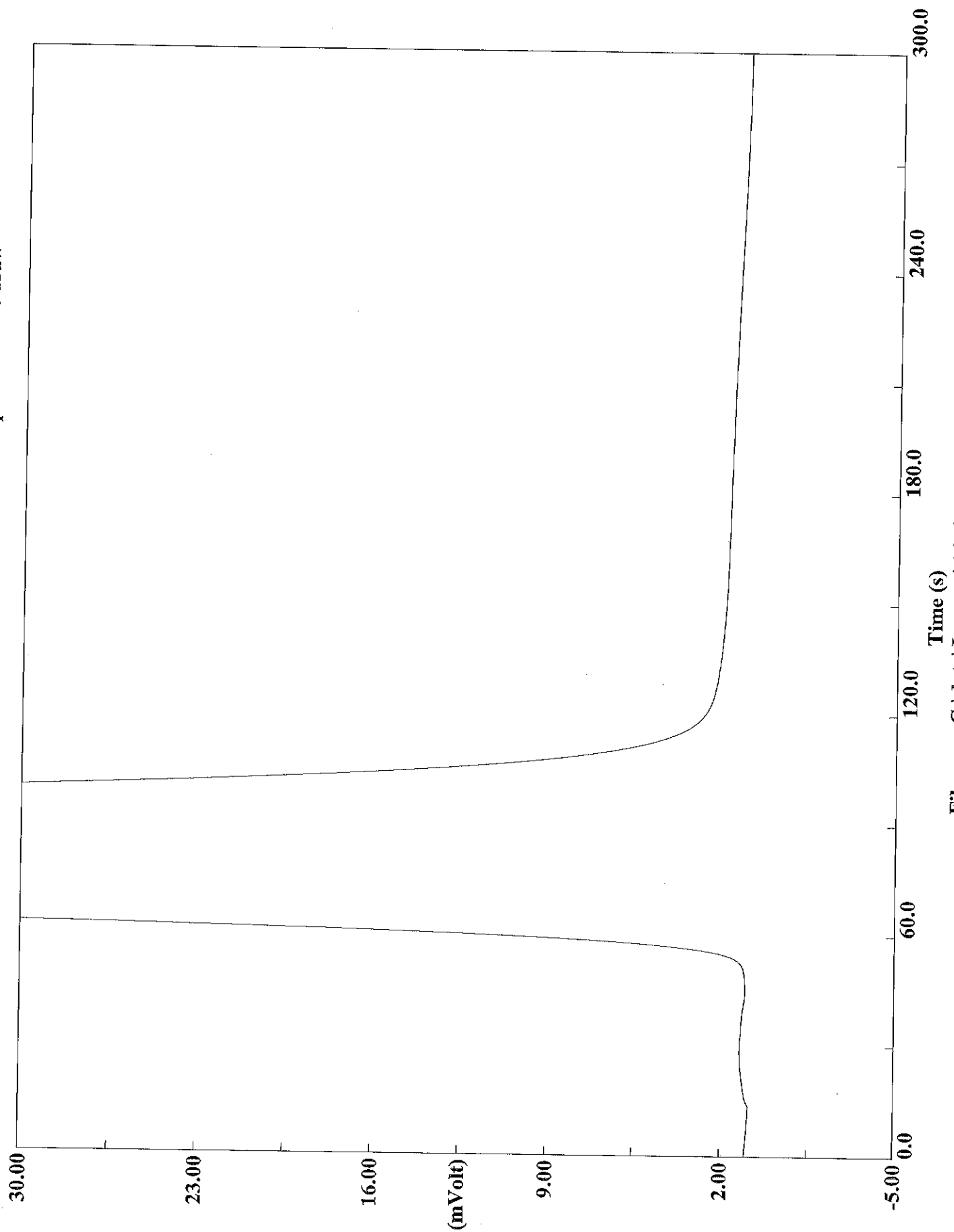
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715068  
Operator ID : James DeRubeis  
Analysed : 05/07/2015 10:04  
Sample ID : 180-43548-d-3 (# 81)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area)  
Company Name : TestAmerica Pitt  
Printed : 5/8/2015 11:23  
Sample weight : 12.8

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 3.0896 | 129      | 636090 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715069.DAT  
Sample name :rinse Analysed :05/07/2015 10:10

# Eager 300 Report

Page: 1 Sample: rinse (A050715069)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715069  
Operator ID : James DeRubeis  
Analysed : 05/07/2015 10:10  
Sample ID : rinse (# 82)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area)  
Company Name : TestAmerica Pitt  
Printed : 5/8/2015 11:23  
Sample weight : 1

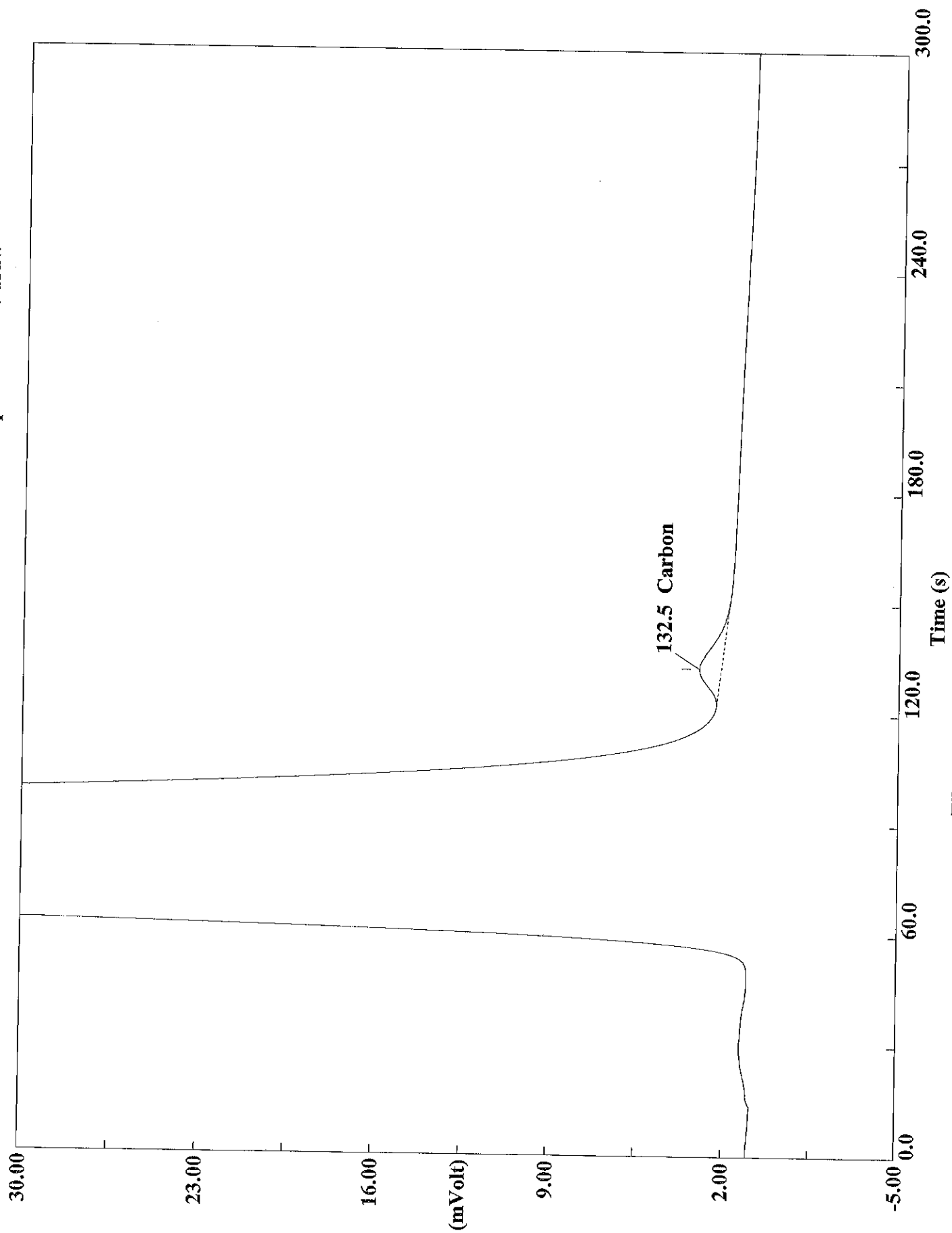
Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715070.DAT

Sample name :180-43548-d-4 Analysed :05/07/2015 10:15

# Eager 300 Report

Page: 1 Sample: 180-43548-d-4 (A050715070)

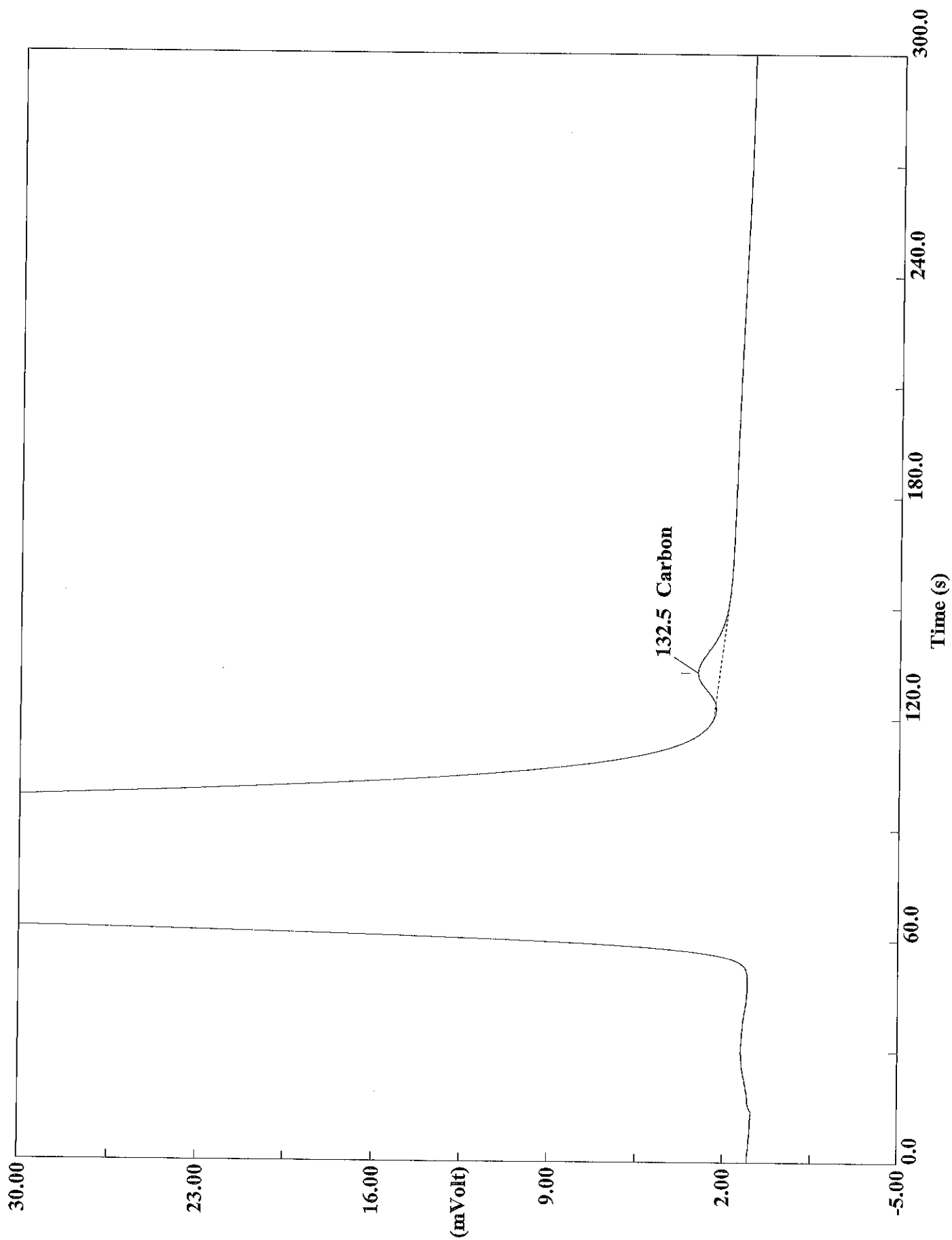
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715070  
Operator ID : James DeRubeis  
Analysed : 05/07/2015 10:15  
Sample ID : 180-43548-d-4 (# 83)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area)  
Company Name : TestAmerica Pitt  
Printed : 5/8/2015 11:23  
Sample weight : 20.6

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area      | BC | Area ratio | K factor |
|--------------|--------|----------|-----------|----|------------|----------|
| Carbon       | 0.4638 | 133      | 106974 mi |    | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715071.DAT

Sample name :180-43548-d-4 Analysed :05/07/2015 10:20

# Eager 300 Report

Page: 1 Sample: 180-43548-d-4 (A050715071)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715071  
Operator ID : James DeRubeis  
Analysed : 05/07/2015 10:20  
Sample ID : 180-43548-d-4 (# 84)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area)  
Company Name : TestAmerica Pitt  
Printed : 5/8/2015 11:23  
Sample weight : 21

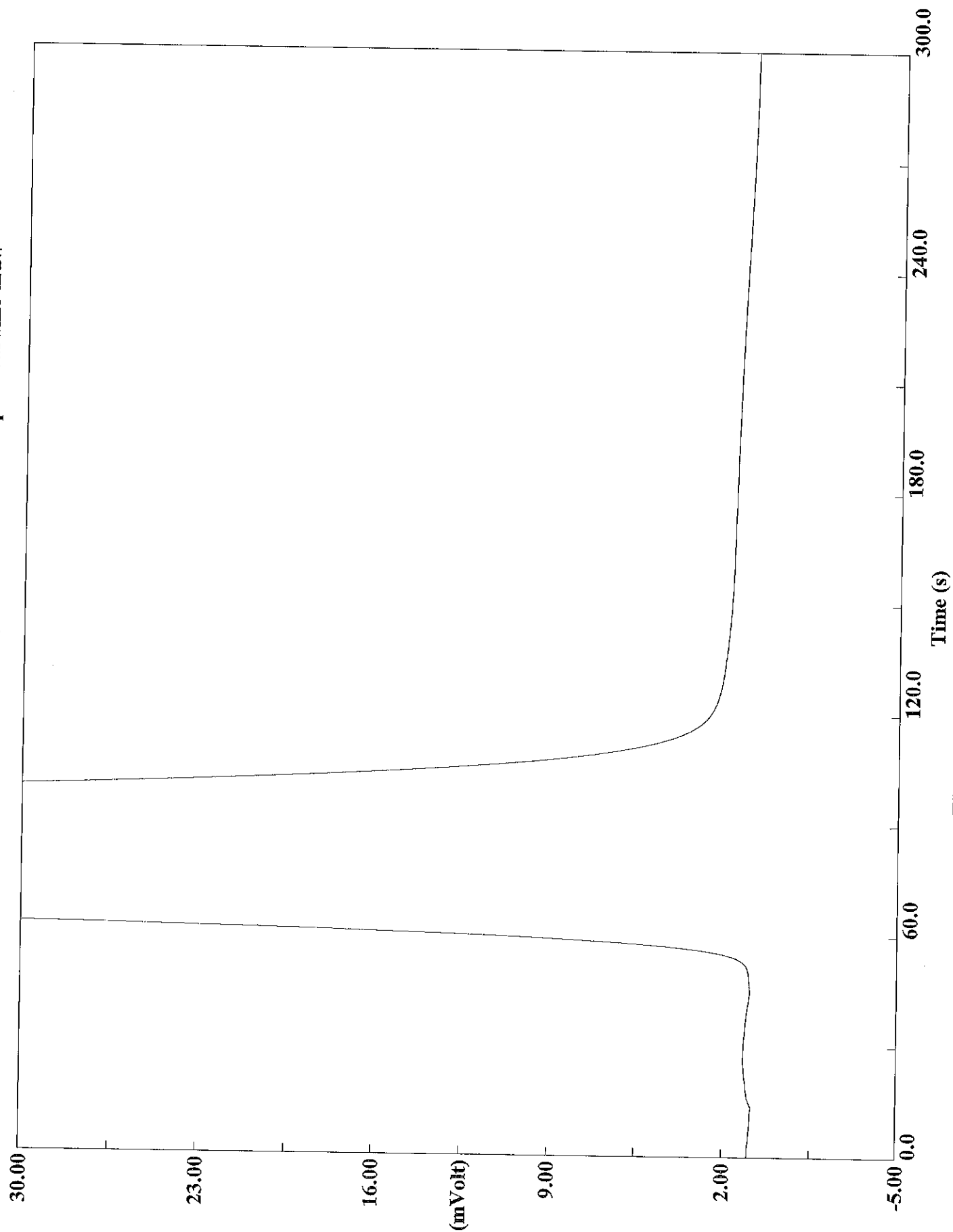
Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area      | BC | Area ratio | K factor |
|--------------|--------|----------|-----------|----|------------|----------|
| Carbon       | 0.4456 | 133      | 103500 mi |    | 1.000000   |          |



Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715072.DAT  
Sample name :rinse Analysed :05/07/2015 10:26

# Eager 300 Report

Page: 1 Sample: rinse (A050715072)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715072  
Operator ID : James DeRubeis  
Analysed : 05/07/2015 10:26  
Sample ID : rinse (# 85)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area)  
Company Name : TestAmerica Pitt  
Printed : 5/8/2015 11:23  
Sample weight : 1

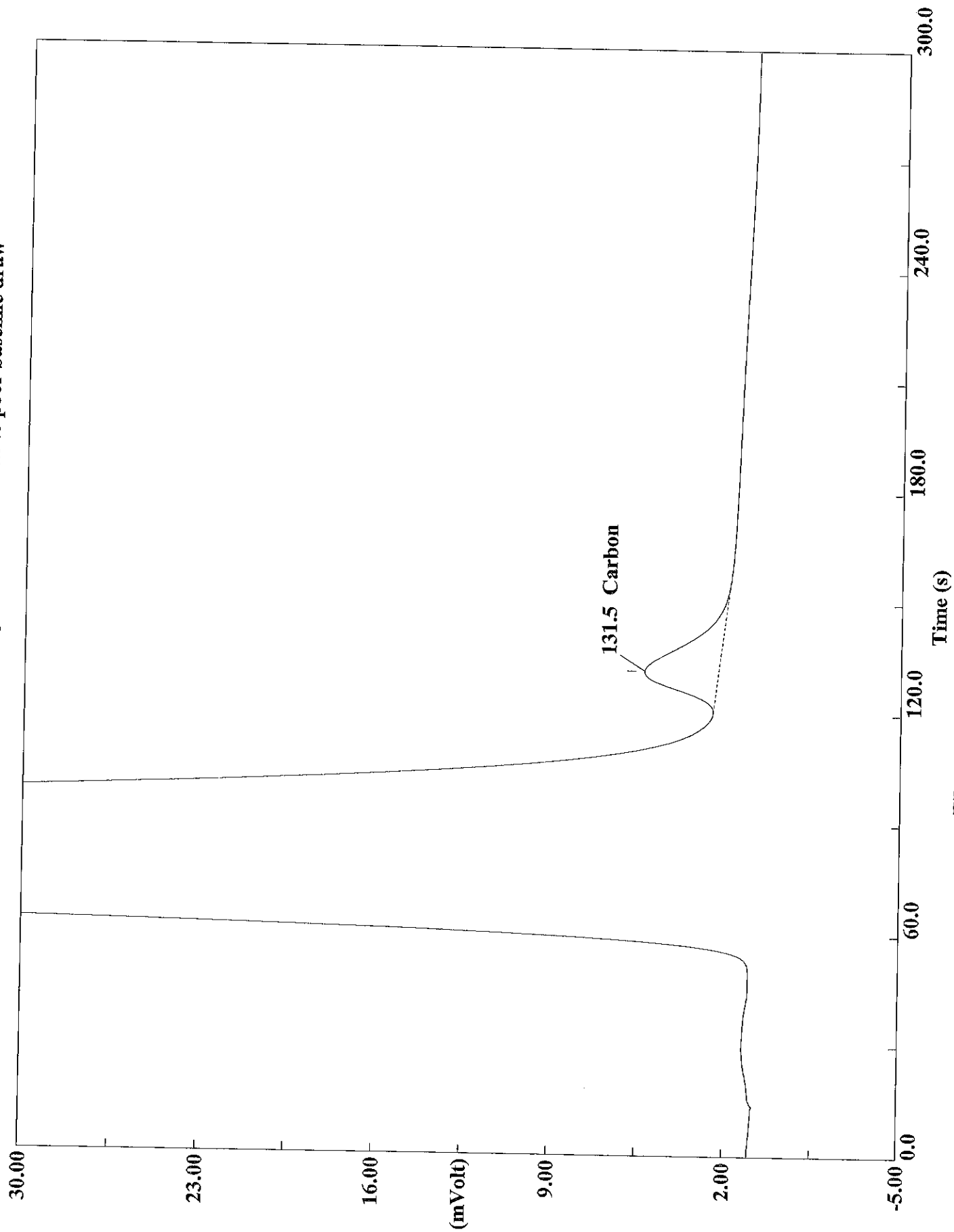
Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715073.DAT  
Sample name :180-43548-d-5 Analysed :05/07/2015 10:31

# Eager 300 Report

Page: 1 Sample: 180-43548-d-5 (A050715073)

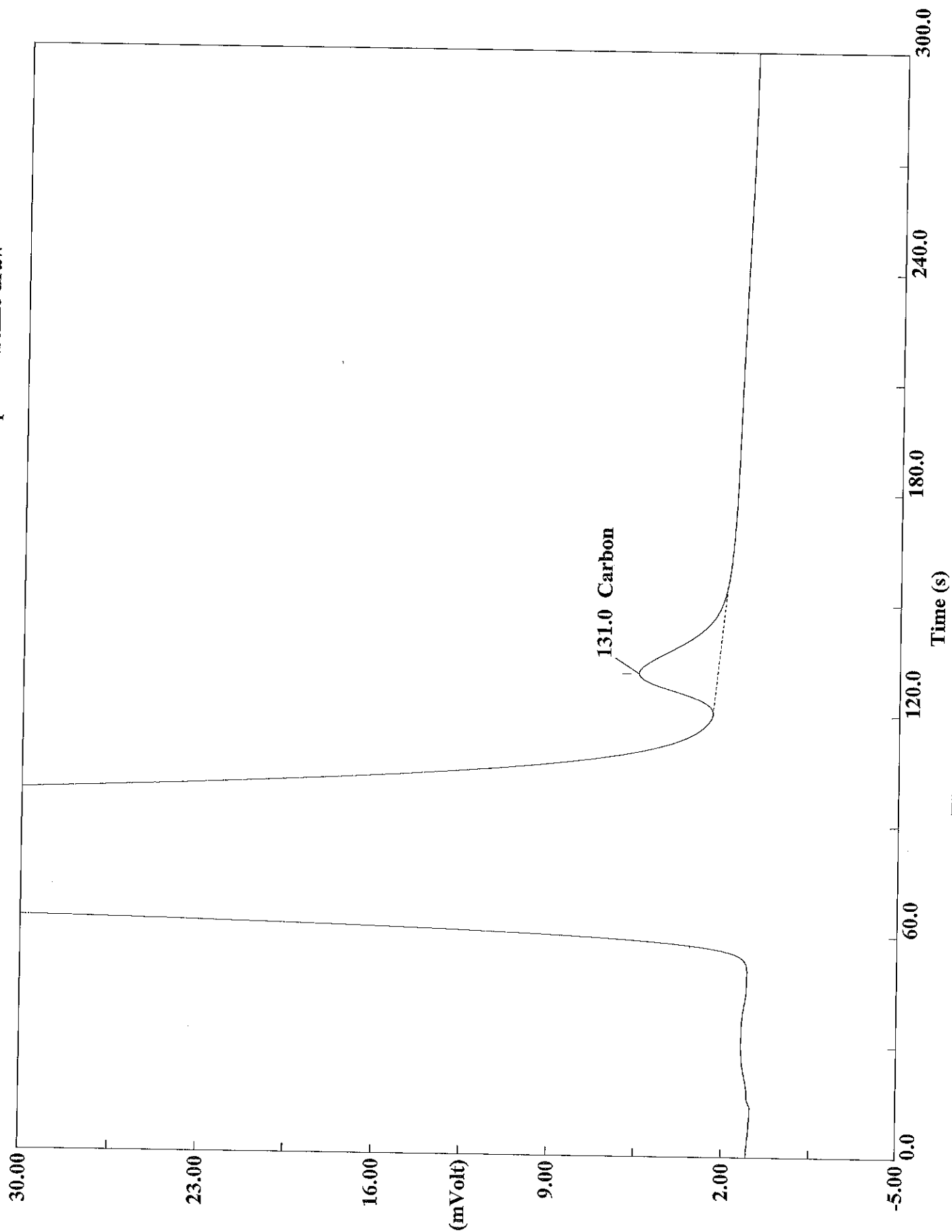
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715073  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 10:31 Printed : 5/8/2015 11:23  
Sample ID : 180-43548-d-5 (# 86)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 16.5

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 1.5702 | 132      | 395480 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715074.DAT

Sample name :180-43548-d-5 Analysed :05/07/2015 10:36

# Eager 300 Report

Page: 1 Sample: 180-43548-d-5 (A050715074)

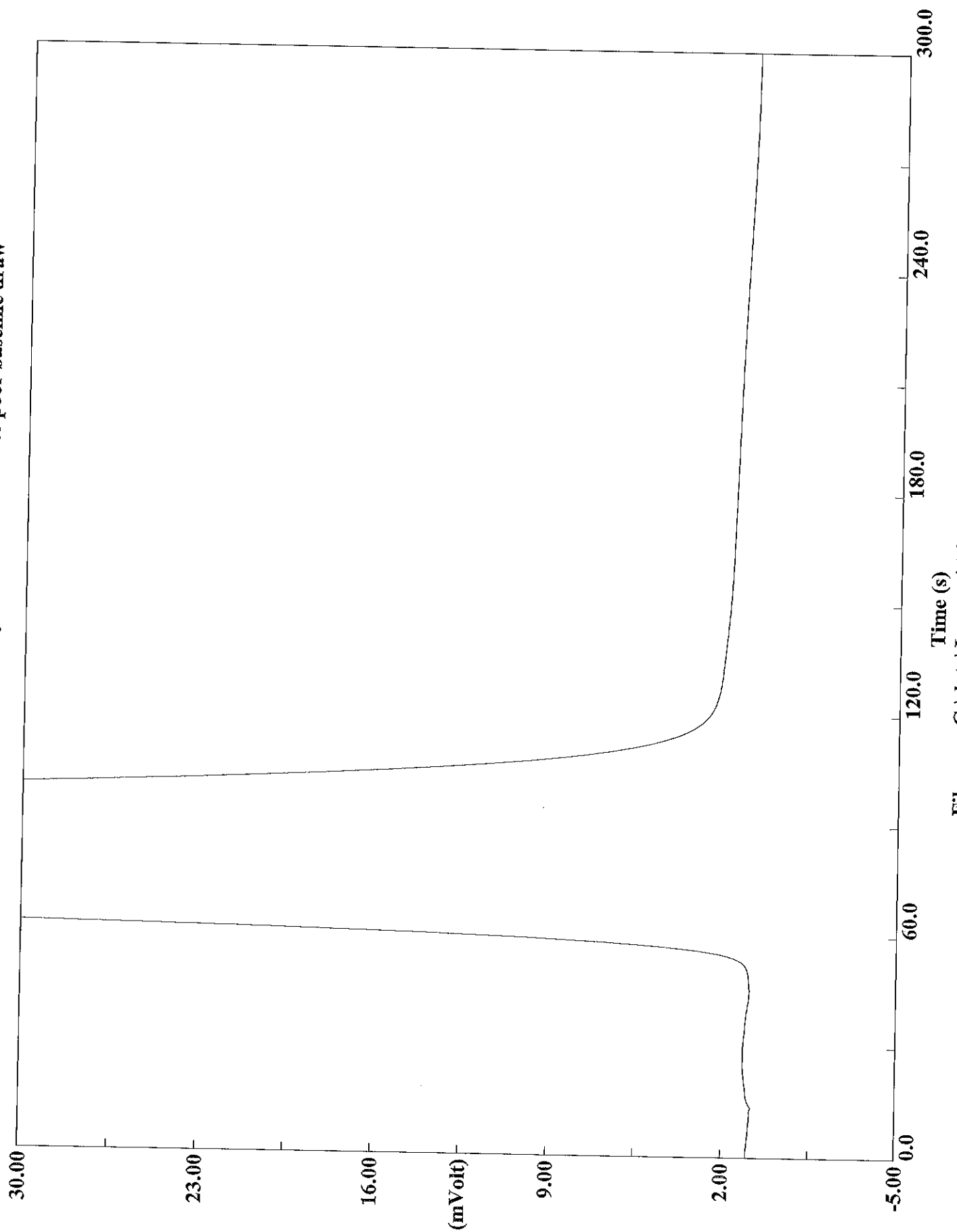
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715074  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 10:36 Printed : 5/8/2015 11:23  
Sample ID : 180-43548-d-5 (# 87)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 15.9

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area      | BC | Area ratio | K factor |
|--------------|--------|----------|-----------|----|------------|----------|
| Carbon       | 1.7333 | 131      | 424624 mi |    | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715075.DAT  
Sample name :rinse Analysed :05/07/2015 10:41

# Eager 300 Report

Page: 1 Sample: rinse (A050715075)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715075  
Operator ID : James DeRubeis  
Analysed : 05/07/2015 10:41  
Sample ID : rinse (# 88)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area)  
Company Name : TestAmerica Pitt  
Printed : 5/8/2015 11:23  
Sample weight : 1

Calib. method : using 'Least Squares to Linear fit'

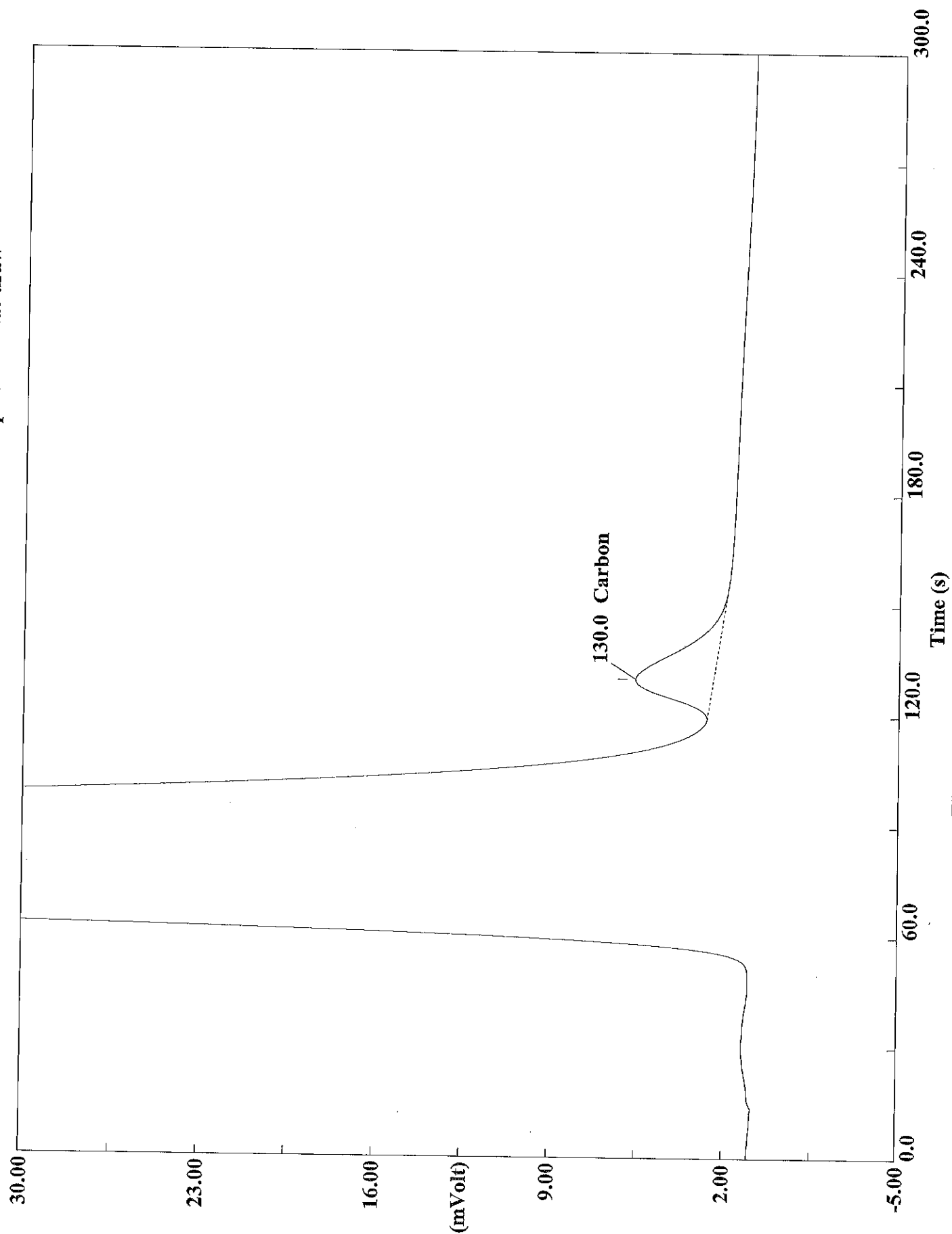
!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|



Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715076.DAT

Sample name :180-43548-d-6 Analysed :05/07/2015 10:47

# Eager 300 Report

Page: 1 Sample: 180-43548-d-6 (A050715076)

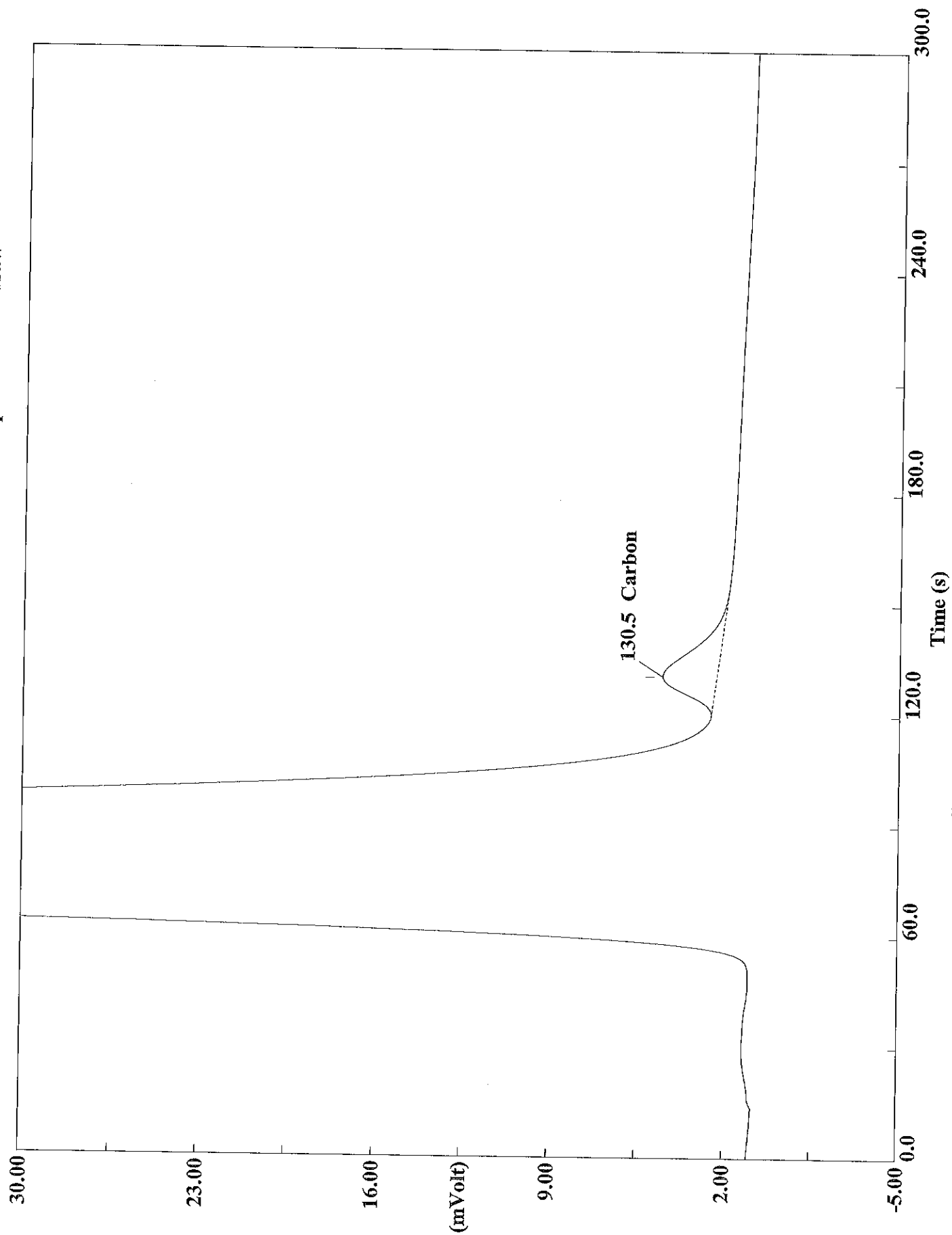
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715076  
Operator ID : James DeRubeis  
Analysed : 05/07/2015 10:47  
Sample ID : 180-43548-d-6 (# 89)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area)  
Company Name : TestAmerica Pitt  
Printed : 5/8/2015 11:23  
Sample weight : 13.4

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 2.0824 | 130      | 430690 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715077.DAT  
Sample name :180-43548-d-6 Analysed :05/07/2015 10:52

# Eager 300 Report

Page: 1 Sample: 180-43548-d-6 (A050715077)

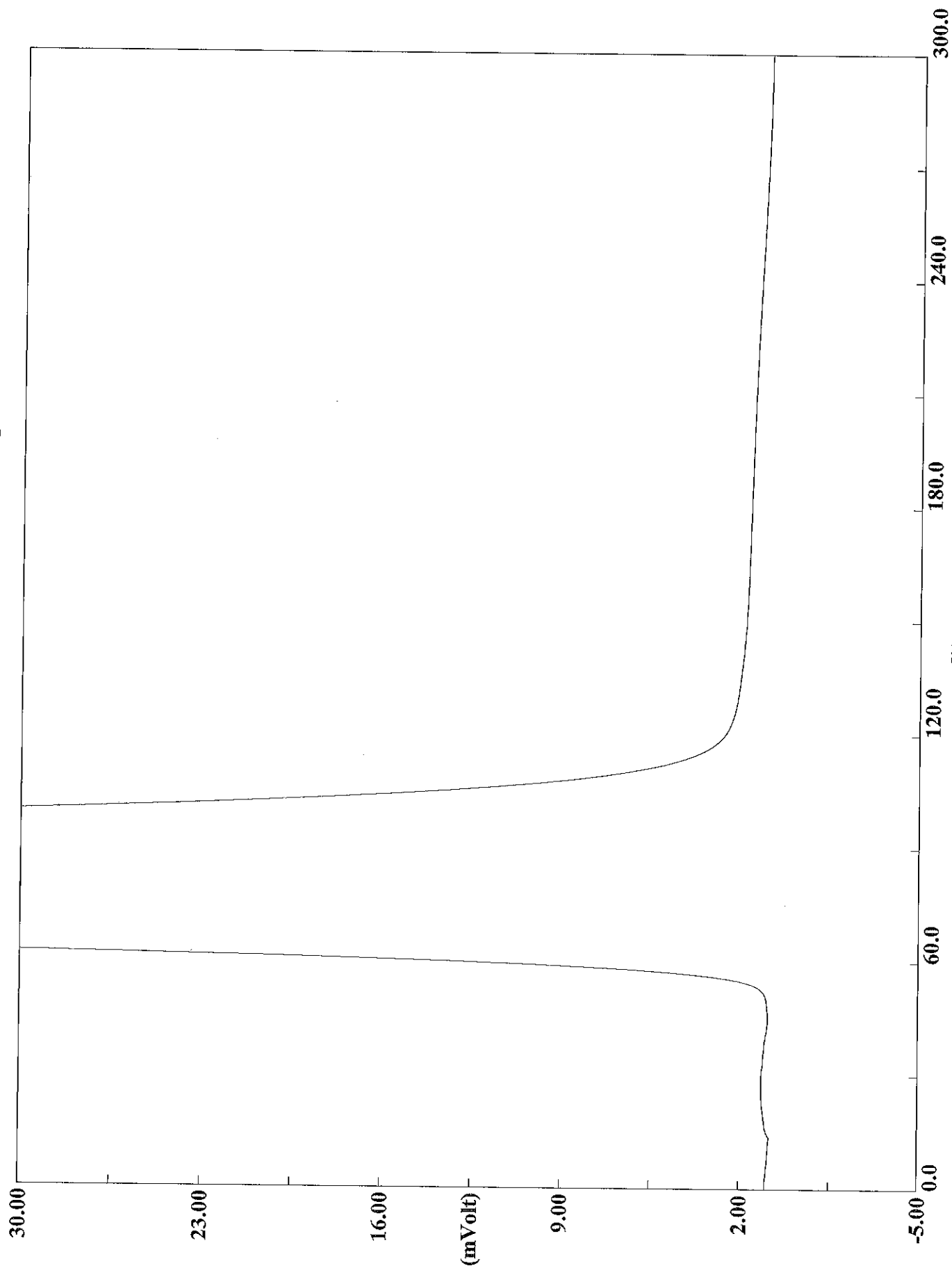
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715077  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 10:52 Printed : 5/8/2015 11:23  
Sample ID : 180-43548-d-6 (# 90)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 14

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area      | BC | Area ratio | K factor |
|--------------|--------|----------|-----------|----|------------|----------|
| Carbon       | 1.4097 | 131      | 286584 mi |    | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715078.DAT  
Sample name :rinse Analysed :05/07/2015 10:57

# Eager 300 Report

Page: 1 Sample: rinse (A050715078)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715078  
Operator ID : James DeRubeis  
Analysed : 05/07/2015 10:57  
Sample ID : rinse (# 91)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area)  
Company Name : TestAmerica Pitt  
Printed : 5/8/2015 11:23  
Sample weight : 1

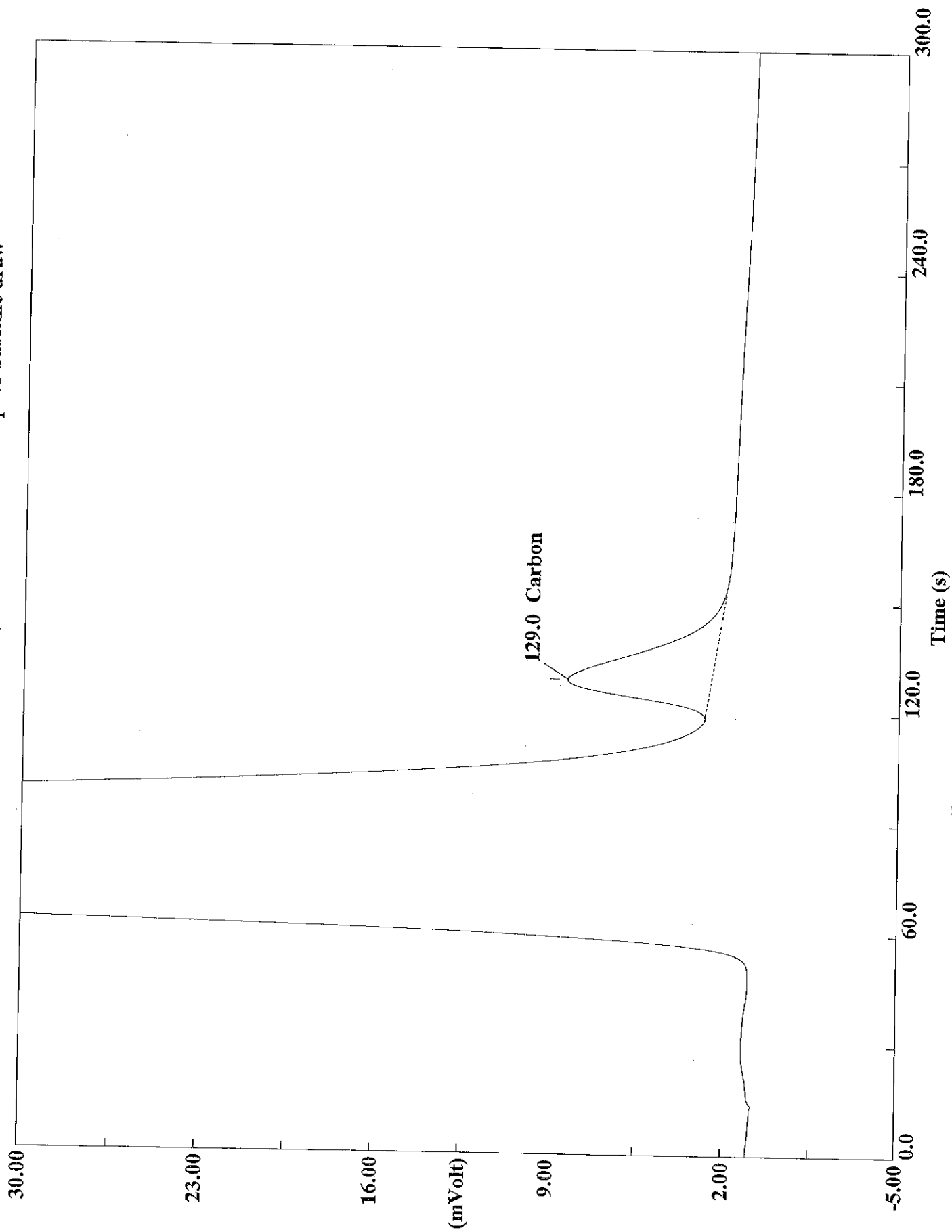
Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715079.DAT

Sample name :180-43636-b-1 Analysed :05/07/2015 11:02

# Eager 300 Report

Page: 1 Sample: 180-43636-b-1 (A050715079)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715079  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 11:02 Printed : 5/8/2015 11:23  
Sample ID : 180-43636-b-1 (# 92)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 13.7

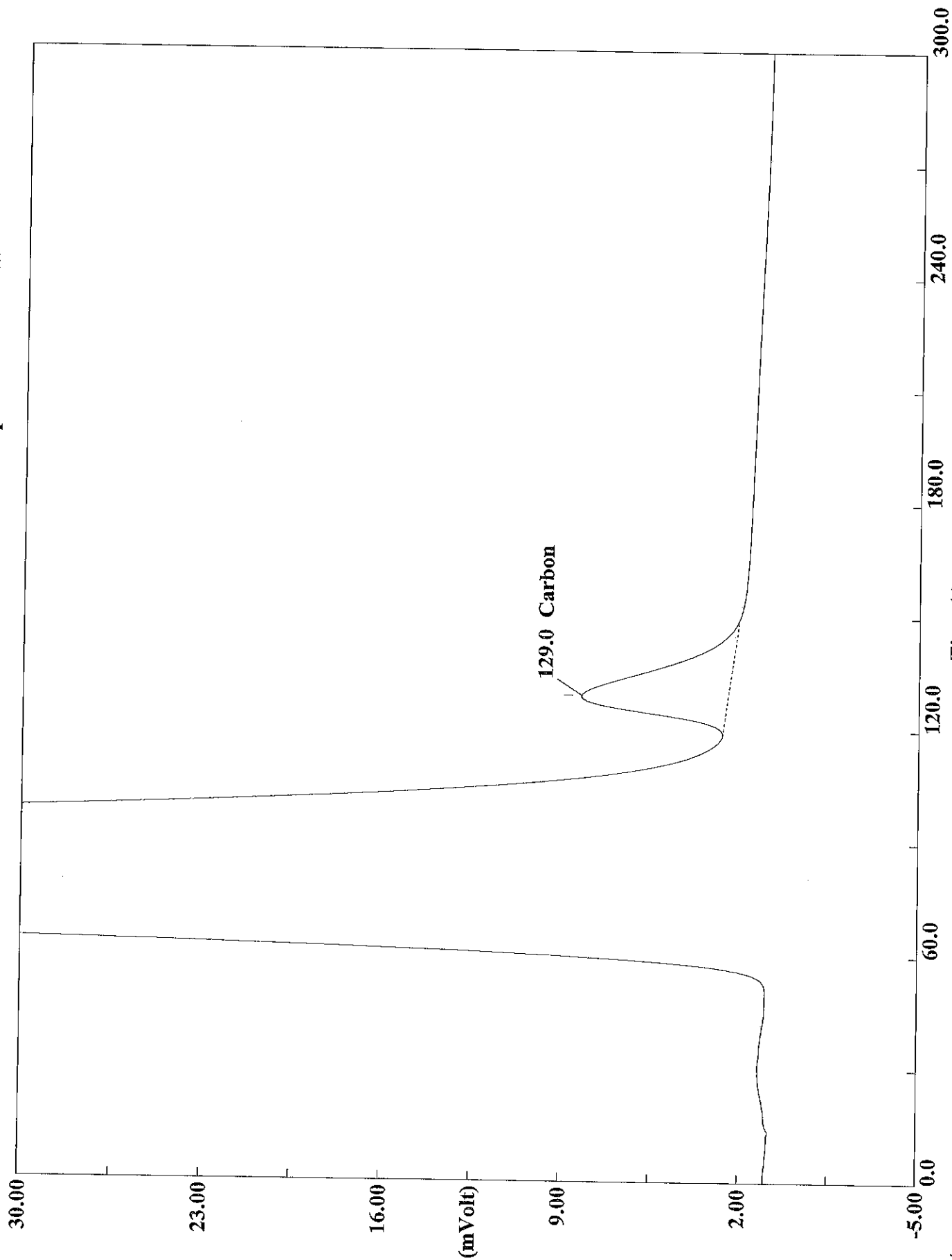
Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area      | BC | Area ratio | K factor |
|--------------|--------|----------|-----------|----|------------|----------|
| Carbon       | 3.4654 | 129      | 775963 mi |    | 1.000000   |          |



Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715080.DAT  
Sample name :180-43636-b-1 Analysed :05/07/2015 11:08

# Eager 300 Report

Page: 1 Sample: 180-43636-b-1 (A050715080)

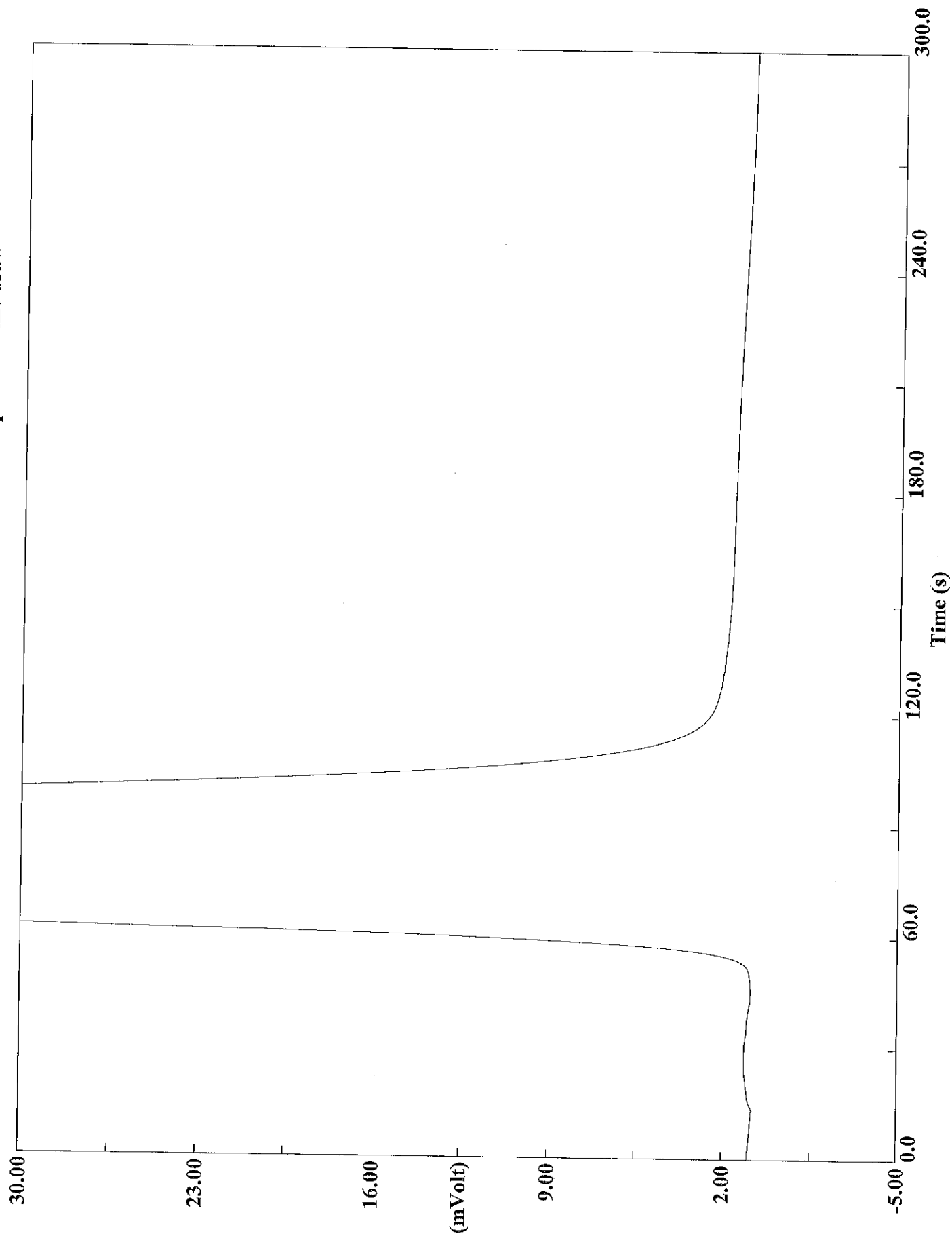
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715080  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 11:08 Printed : 5/8/2015 11:23  
Sample ID : 180-43636-b-1 (# 93)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 13.1

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area      | BC | Area ratio | K factor |
|--------------|--------|----------|-----------|----|------------|----------|
| Carbon       | 3.4129 | 129      | 727161 mi |    | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715081.DAT  
Sample name :rinse Analysed :05/07/2015 11:13

# Eager 300 Report

Page: 1 Sample: rinse (A050715081)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715081  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 11:13 Printed : 5/8/2015 11:23  
Sample ID : rinse (# 94)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 1

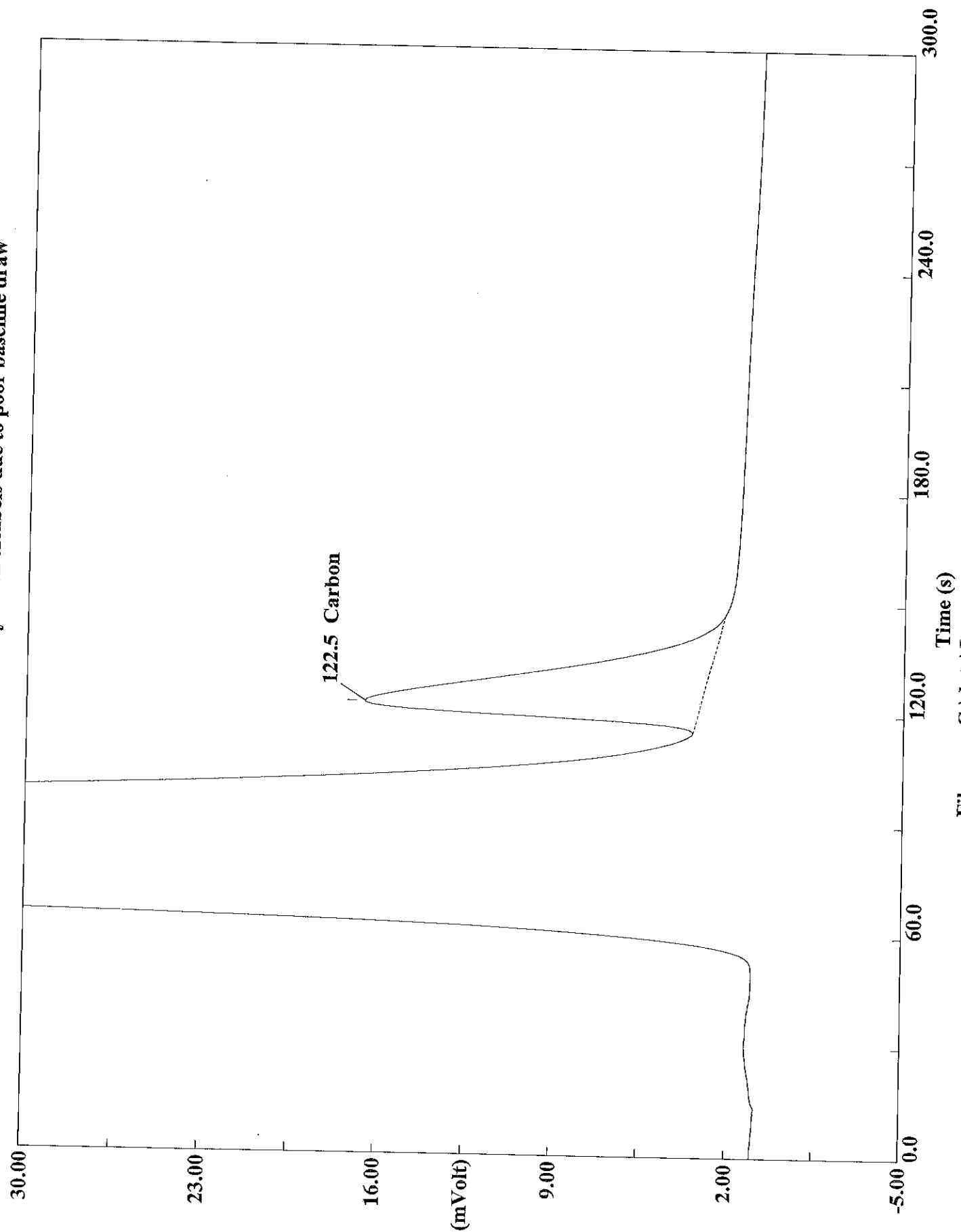
Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715082.DAT  
Sample name :ccv Analysed :05/07/2015 11:18

# Eager 300 Report

Page: 1 Sample: ccv (A050715082)

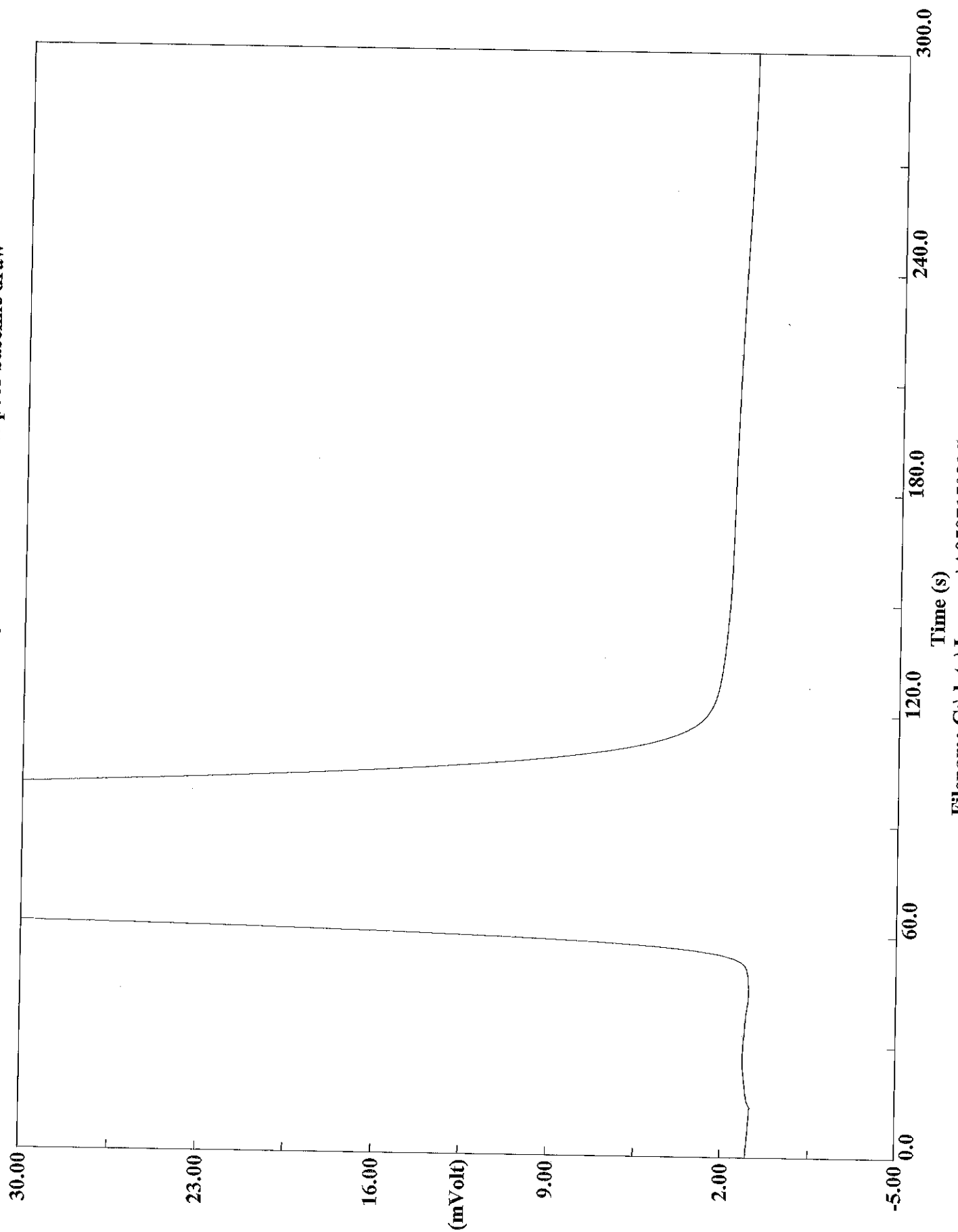
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715082  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 11:18 Printed : 5/8/2015 11:23  
Sample ID : ccv (# 95)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 100

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area    | BC | Area ratio | K factor |
|--------------|--------|----------|---------|----|------------|----------|
| Carbon       | 1.0155 | 123      | 1729943 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715083.DAT  
Sample name :ccb Analysed :05/07/2015 11:24

# Eager 300 Report

Page: 1 Sample: ccb (A050715083)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715.mth  
Chromatogram : A050715083  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 11:24 Printed : 5/8/2015 11:23  
Sample ID : ccb (# 96)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 20

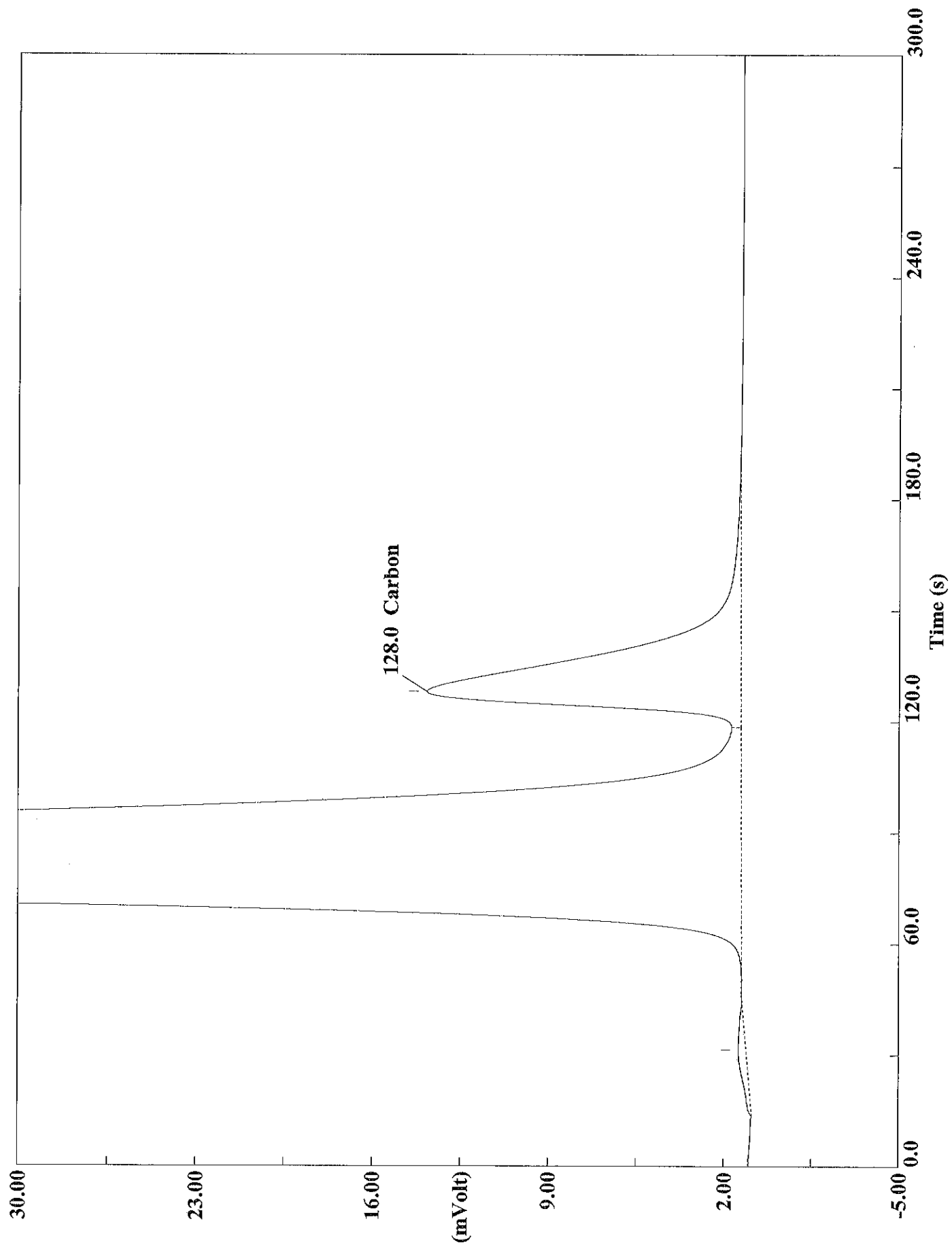
Calib. method : using 'Least Squares to Linear fit'

!!! Warning missing one or more peaks.

Warning Chromatogram has been subjected to manual integration.

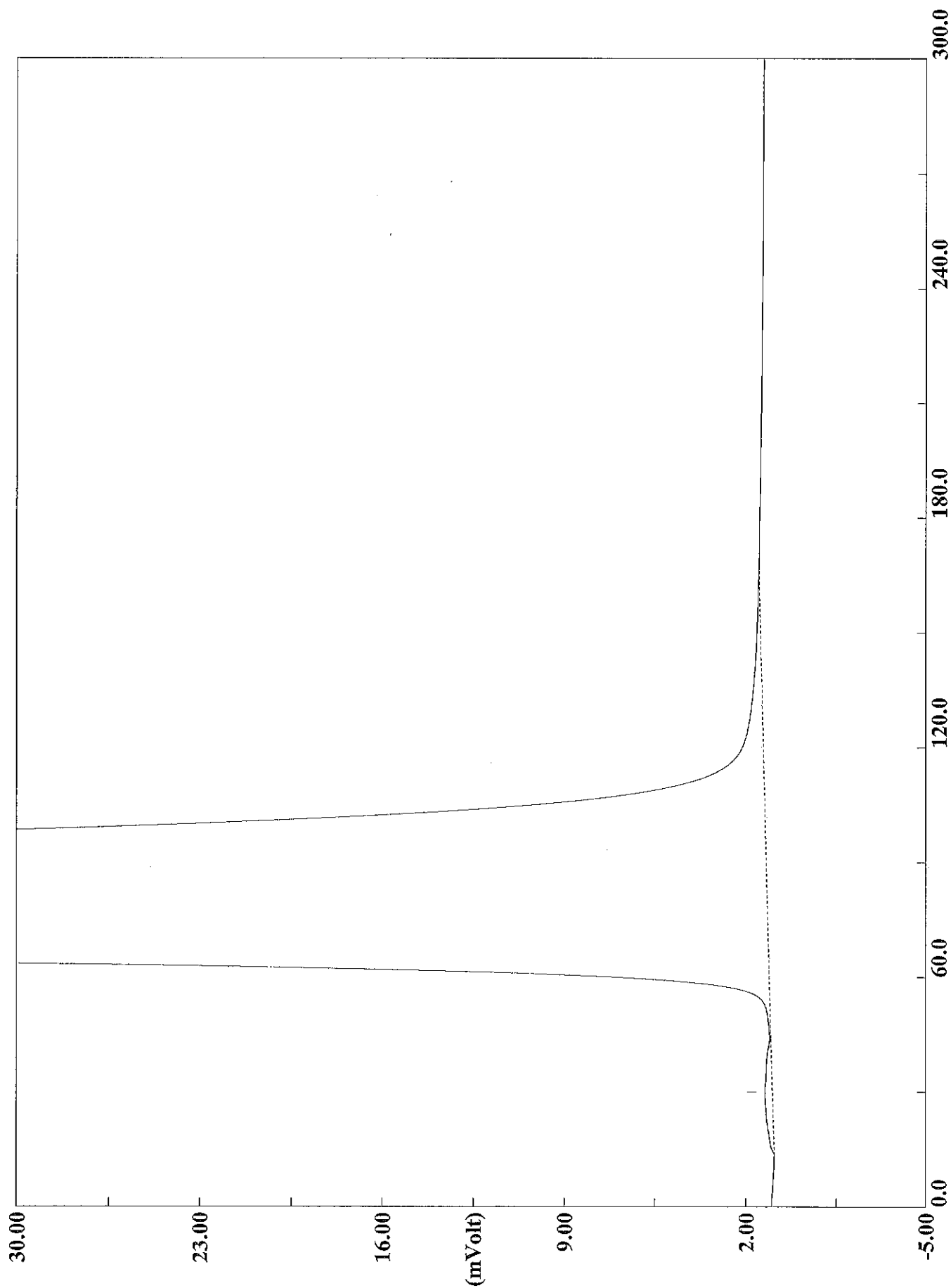
| Element Name | % | Ret.Time | Area | BC | Area ratio | K factor |
|--------------|---|----------|------|----|------------|----------|
|--------------|---|----------|------|----|------------|----------|





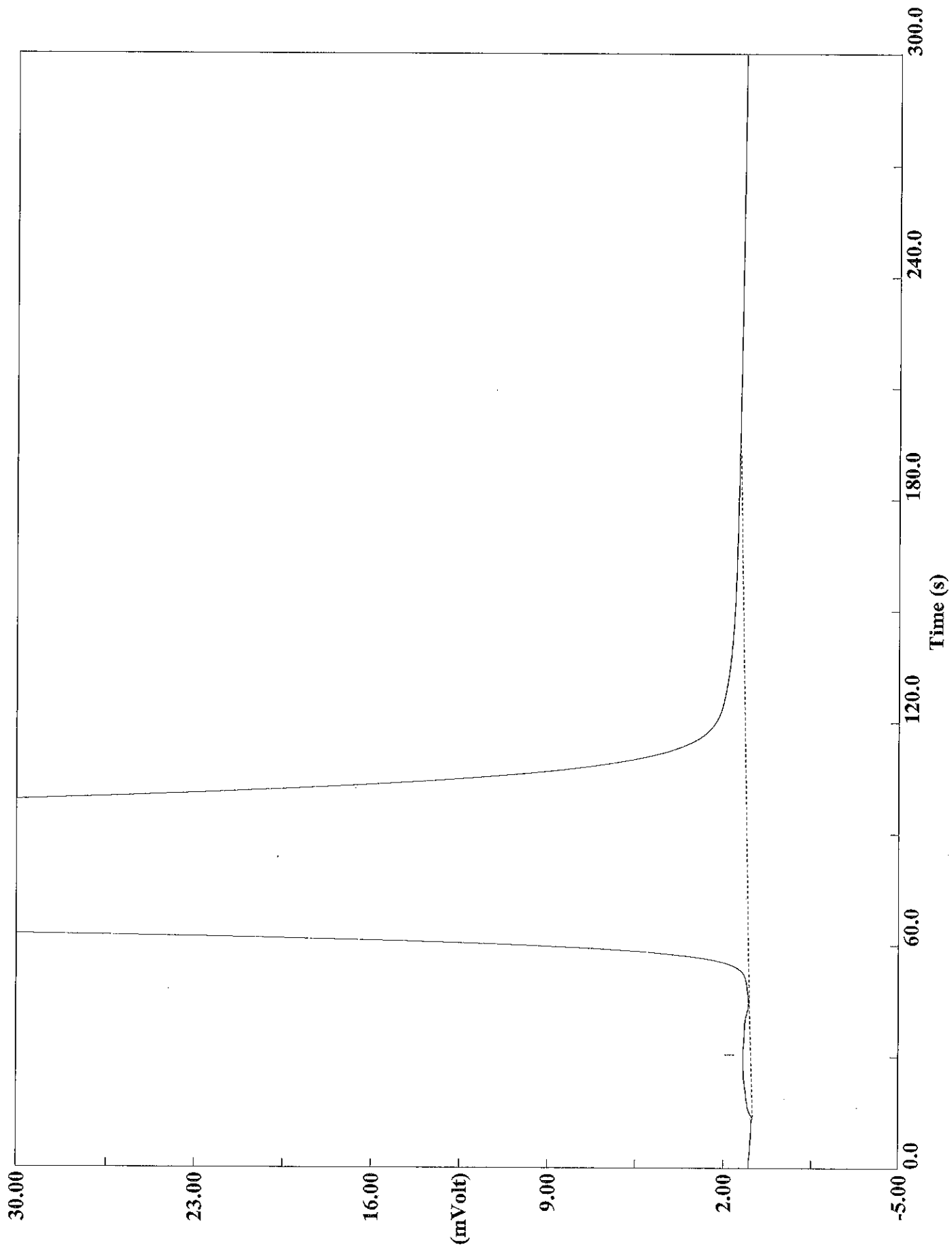
Filename C:\data\January\A050715001.DAT  
Sample name :ccv Analysed :05/07/2015 04:01

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715002.DAT  
Sample name :ccb Analysed :05/07/2015 04:06

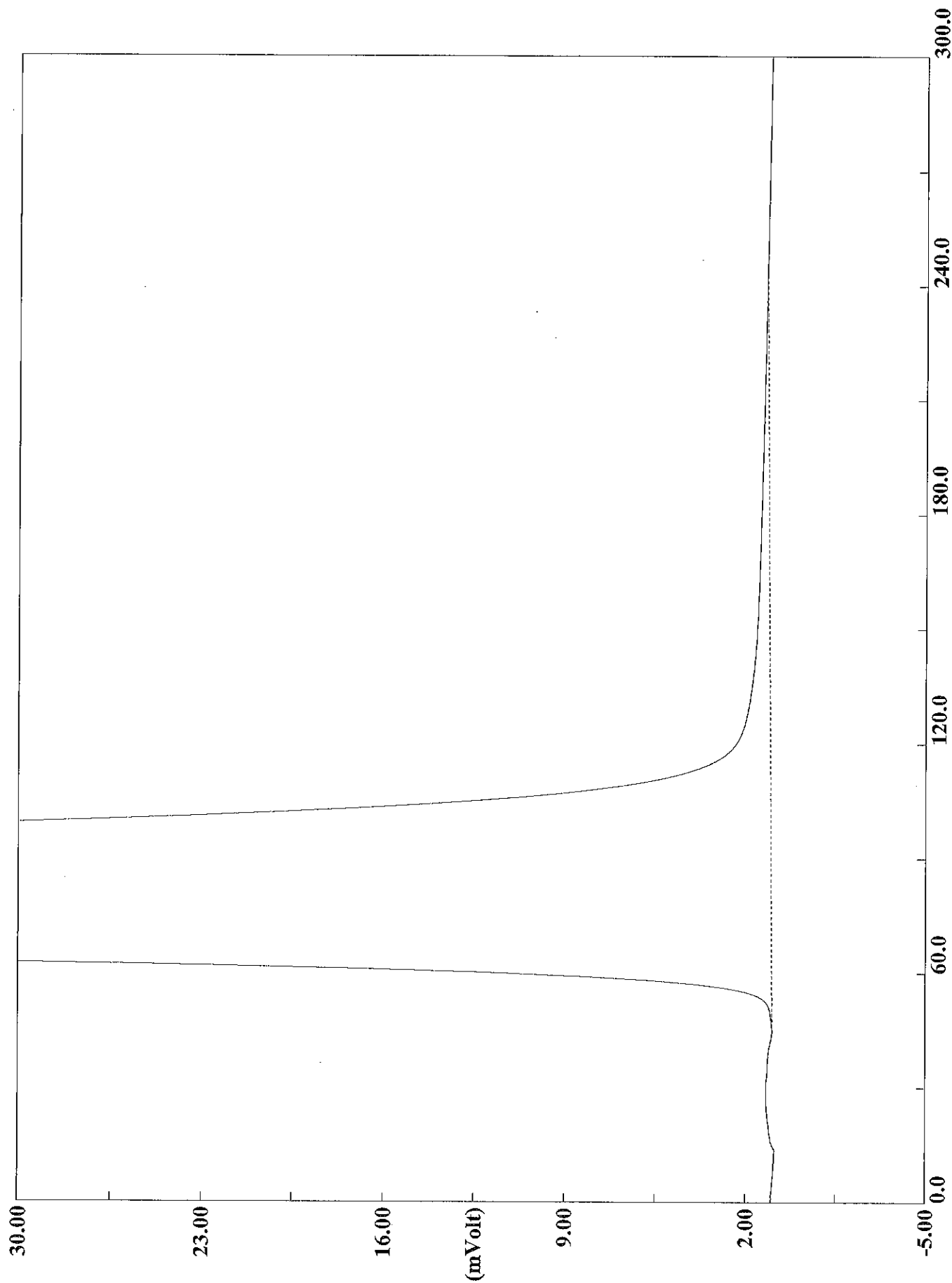
Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715003.DAT

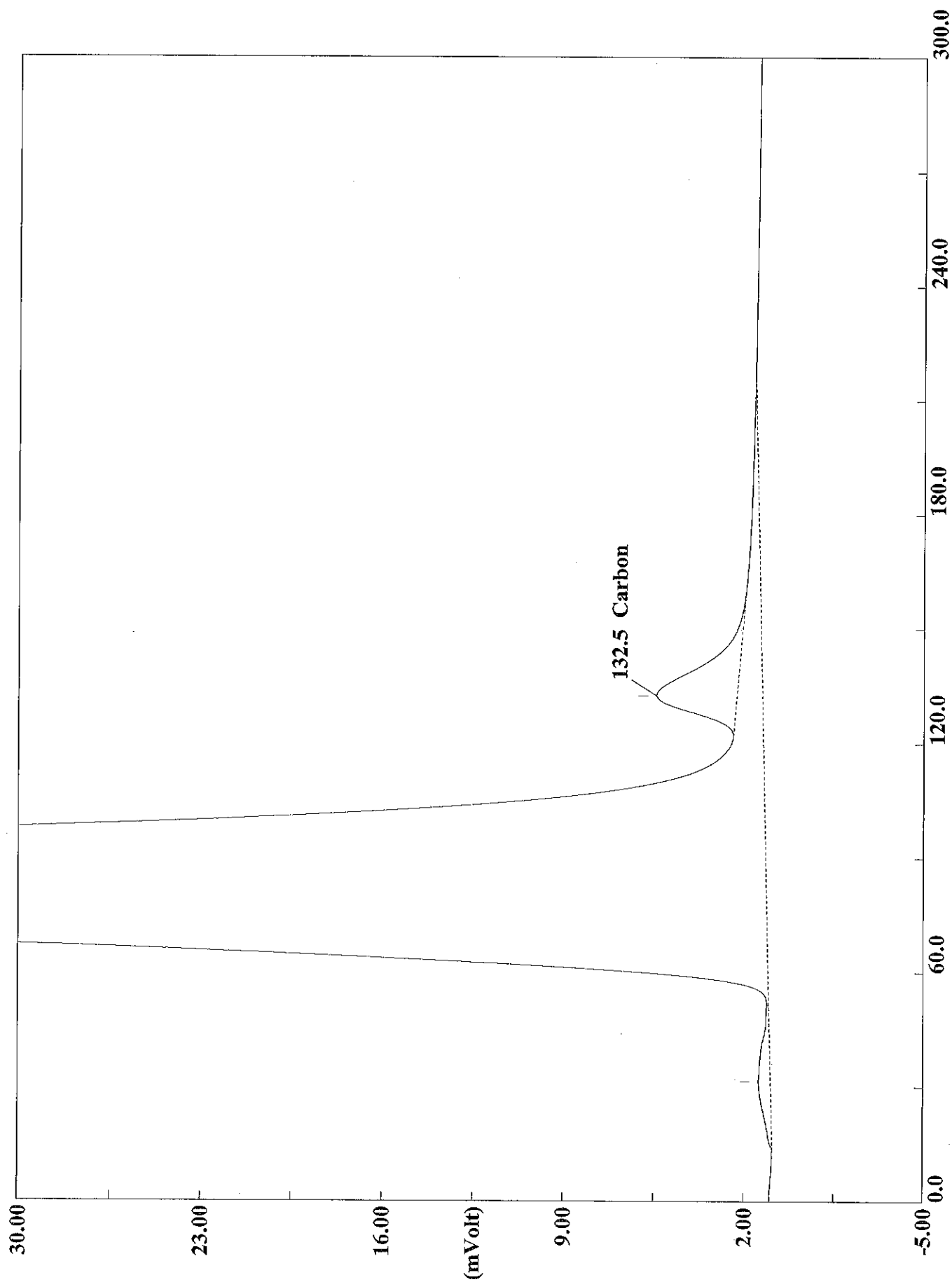
Sample name :mb OS-2CB0290 Analysed :05/07/2015 04:11

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



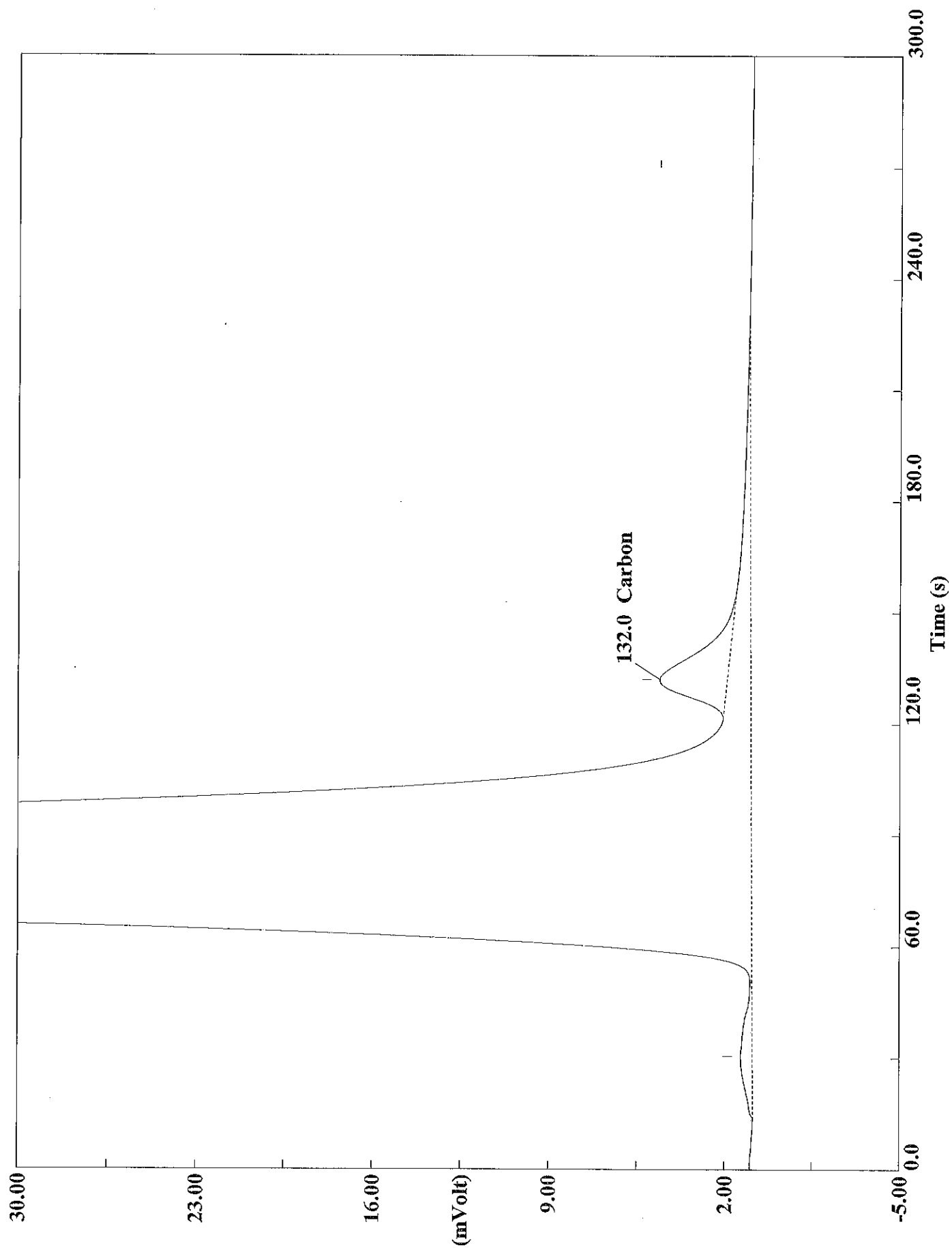
Filename C:\data\January\A050715004.DAT  
Sample name :mb OS-2CB0290 Analysed :05/07/2015 04:16

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



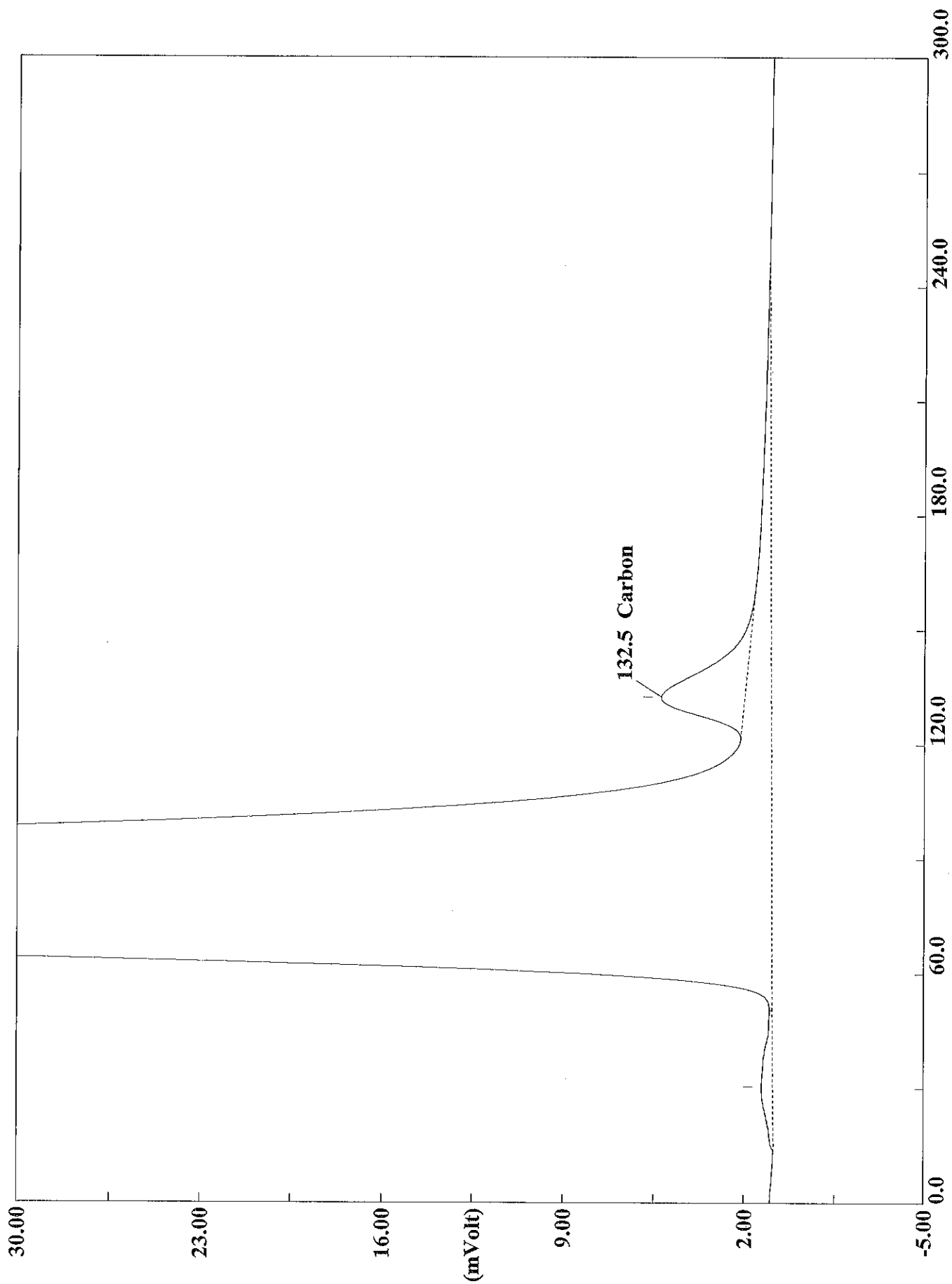
Filename C:\data\January\A050715005.DAT  
Sample name : lcs Analysed : 05/07/2015 04:25

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



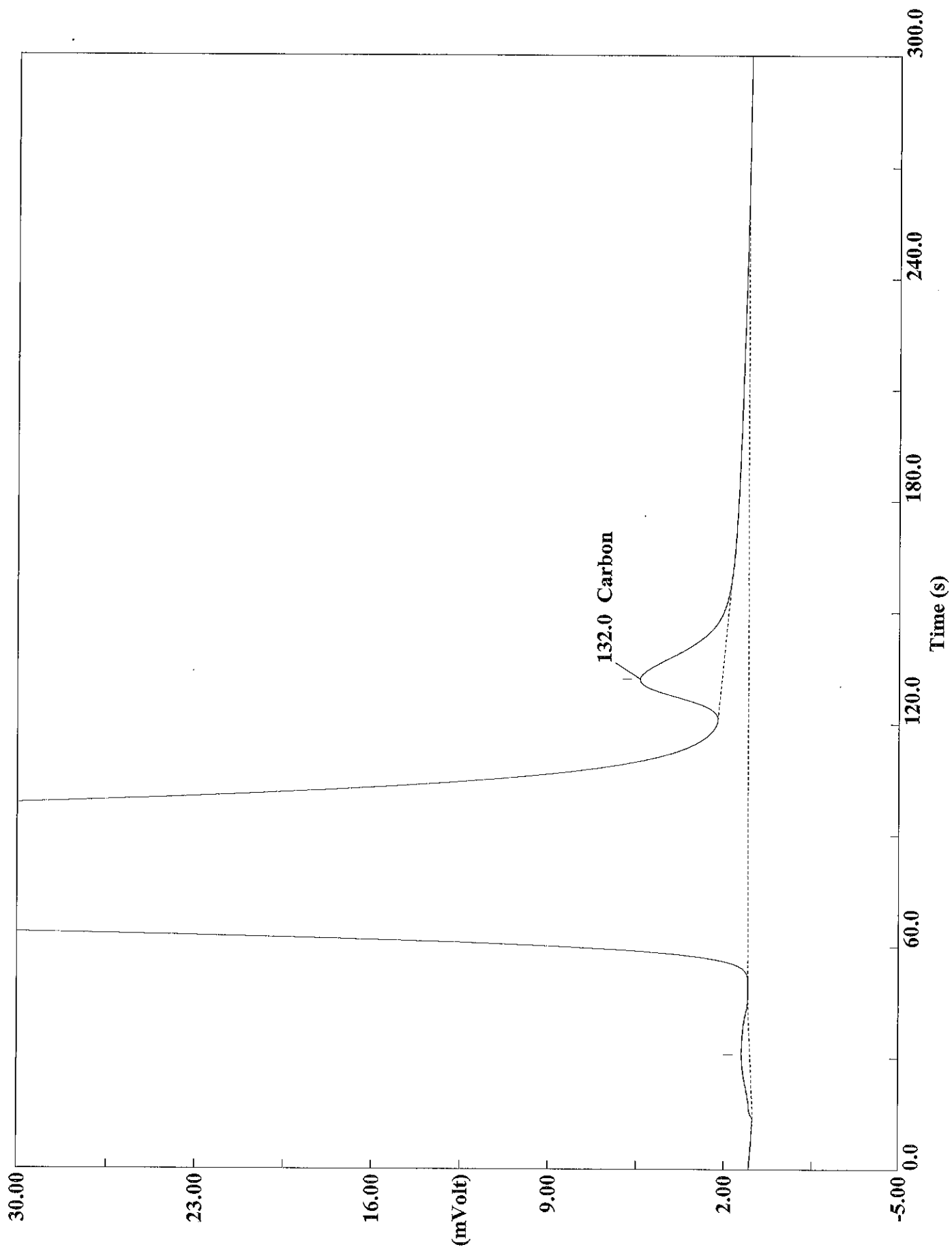
Filename C:\data\January\A050715006.DAT  
Sample name :lcs Analysed :05/07/2015 04:30

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715007.DAT

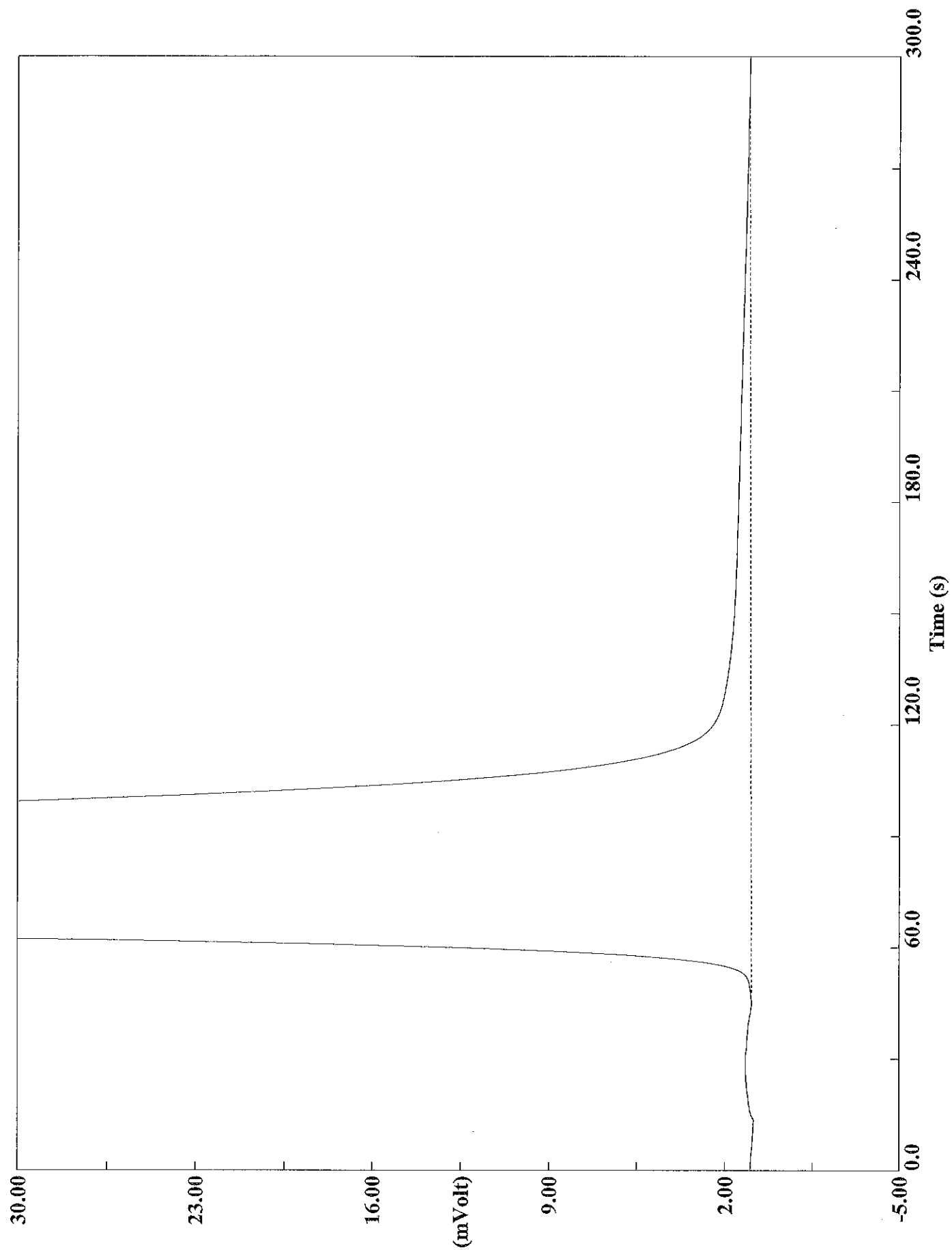
Sample name :180-43458-d-2 Analysed :05/07/2015 04:35



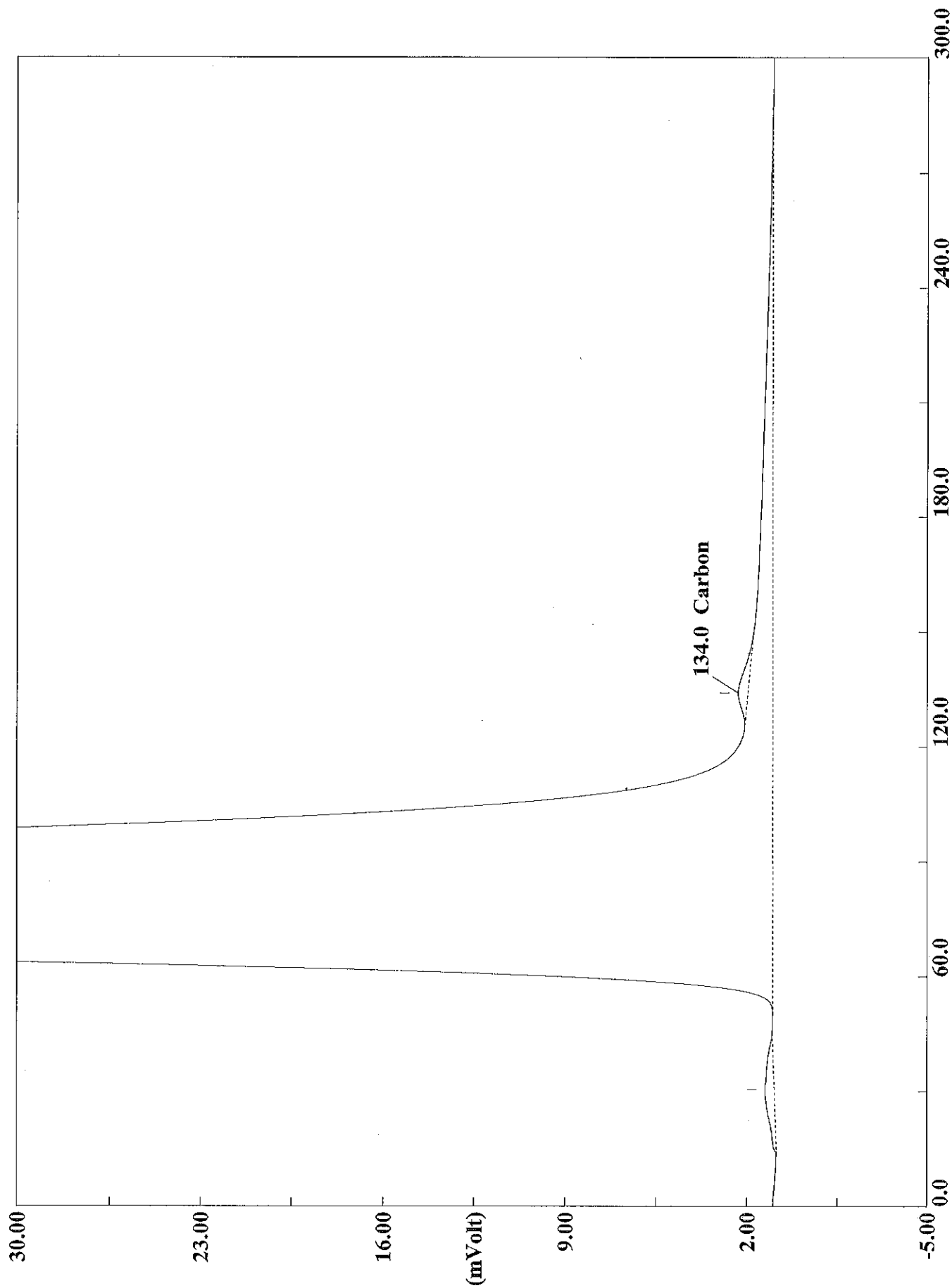
Filename C:\data\January\A050715008.DAT  
Sample name :180-43458-d-2 Analysed :05/07/2015 04:40



Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw

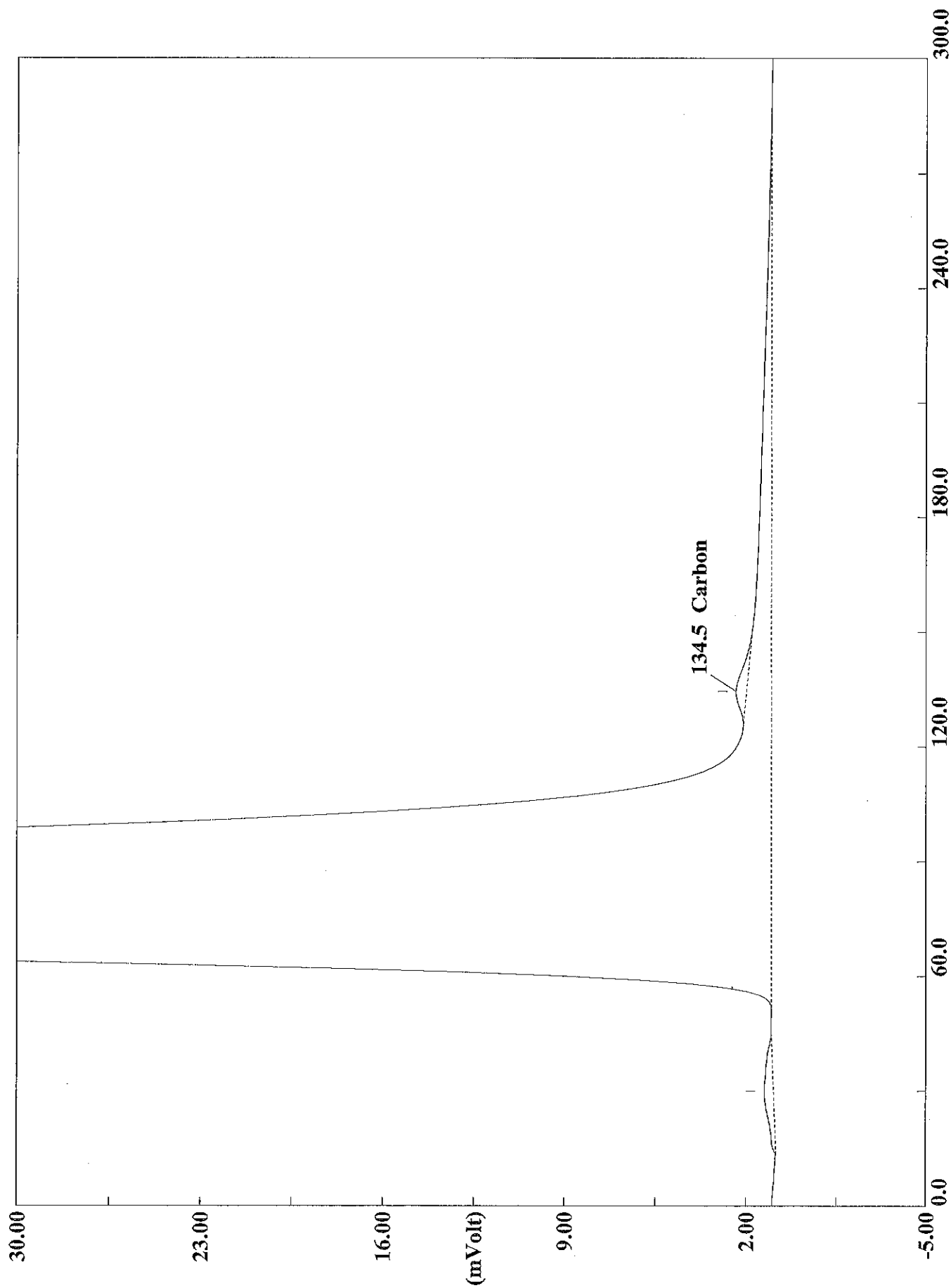


Filename C:\data\January\A050715009.DAT  
Sample name :rinse Analysed :05/07/2015 04:46



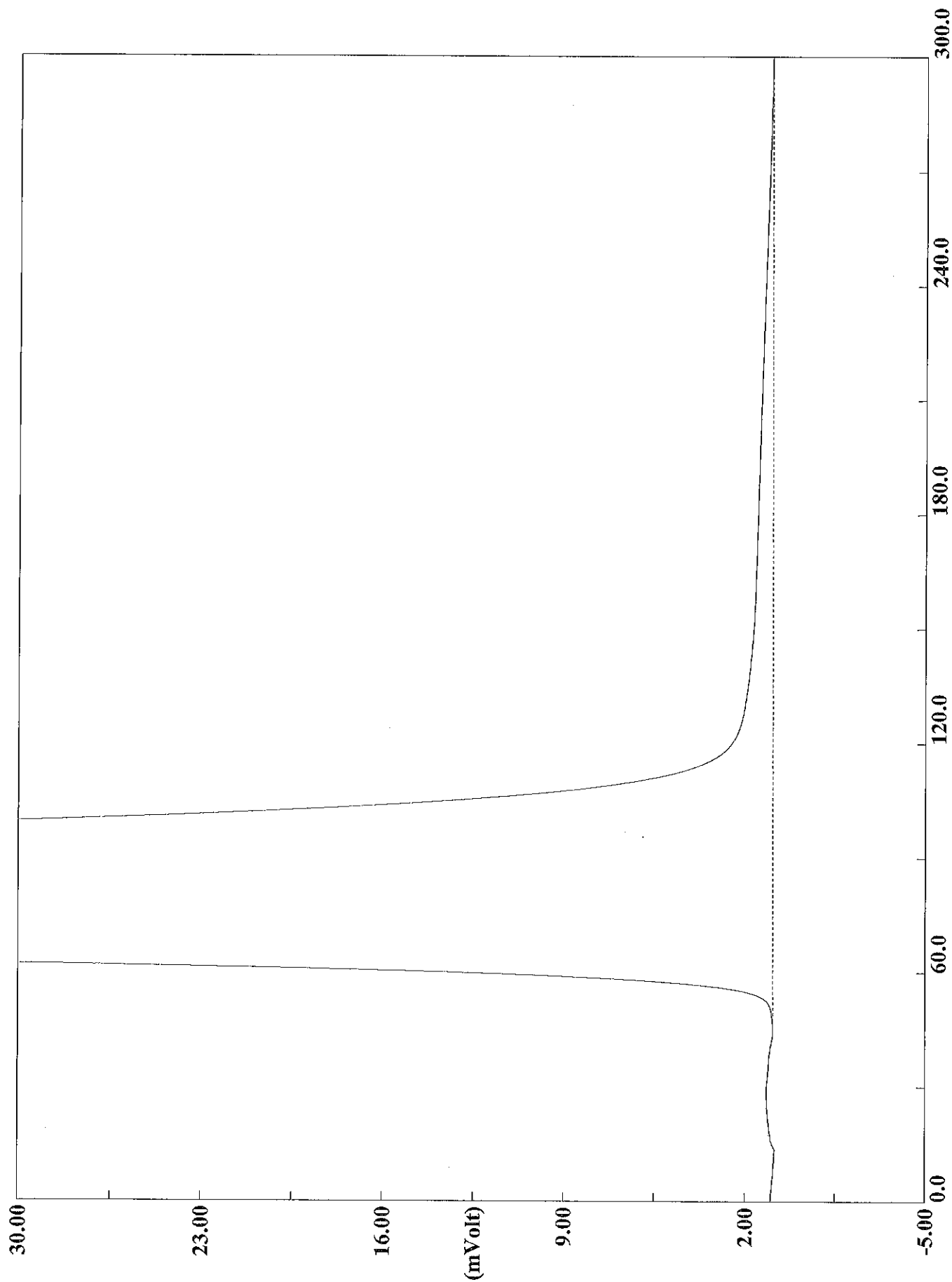
Filename C:\data\January\A050715010.DAT  
Sample name : 180-43458-d-3    Analysed : 05/07/2015 04:51

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw

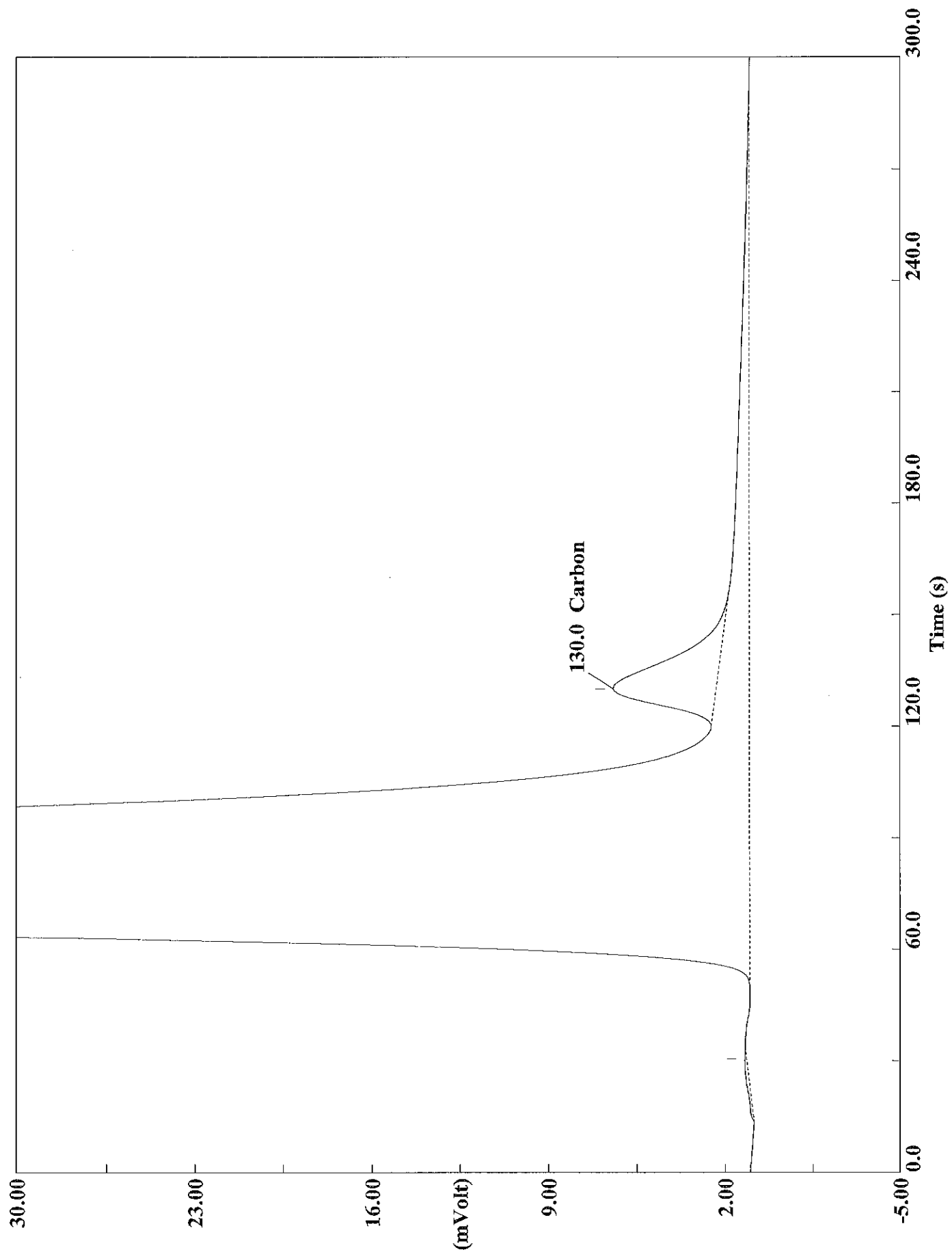


Filename C:\data\January\A050715011.DAT  
Sample name :180-43458-d-3 Analysed :05/07/2015 04:56

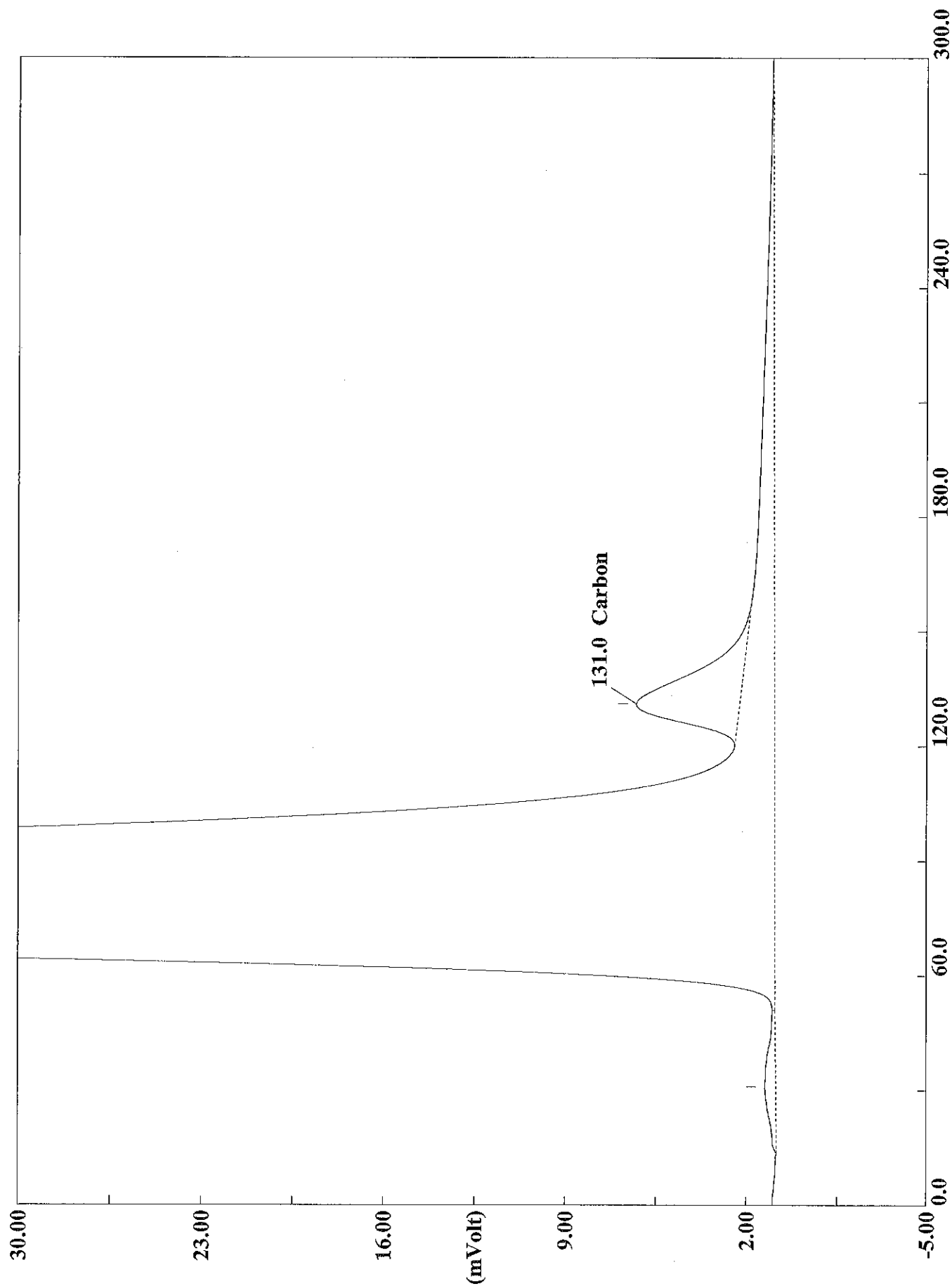
Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Time (s)  
Filename C:\data\January\A050715012.DAT  
Sample name :rinse Analysed :05/07/2015 05:01



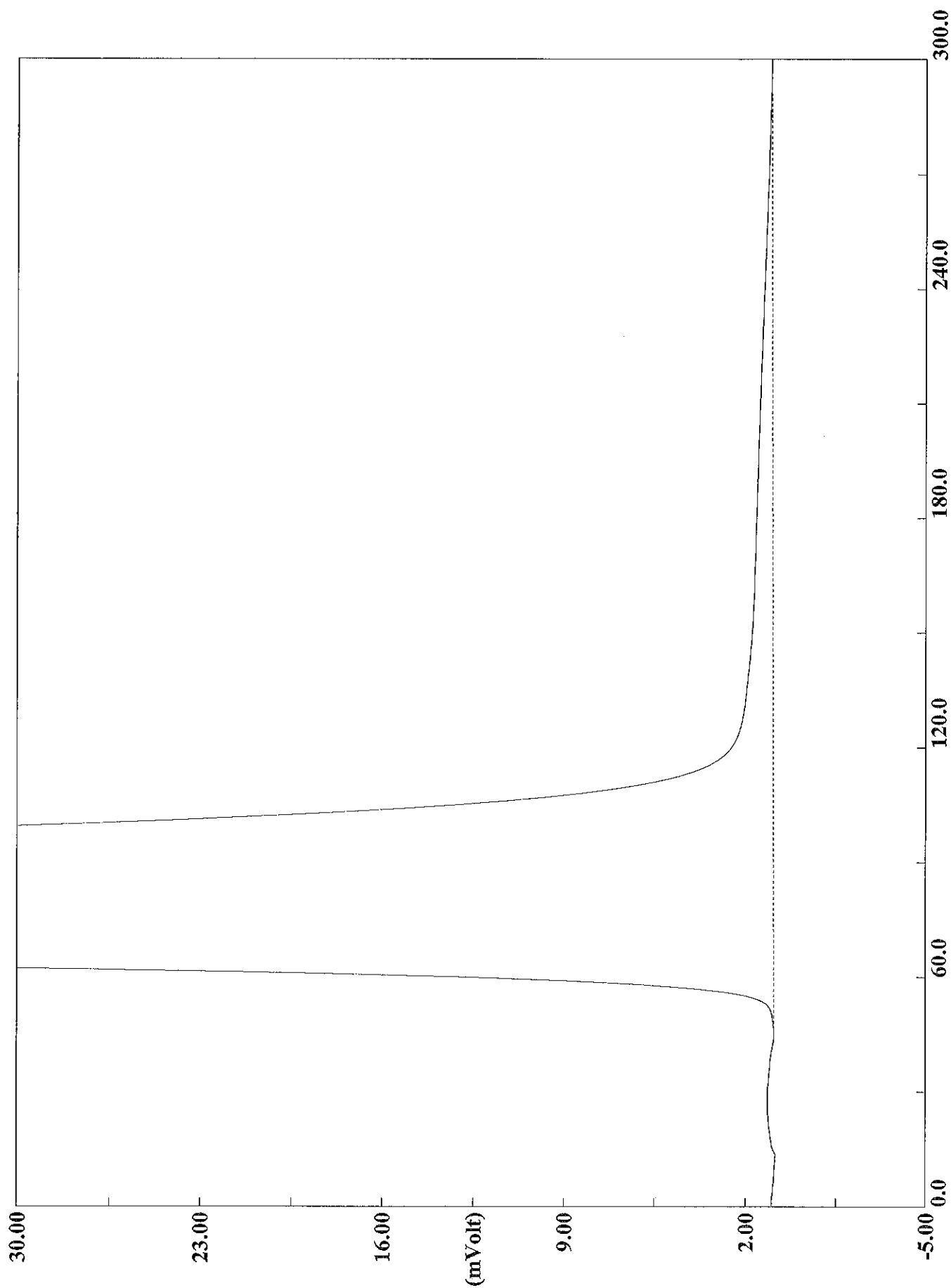
Filename C:\data\January\A050715013.DAT  
Sample name :180-43458-d-4 Analysed :05/07/2015 05:07



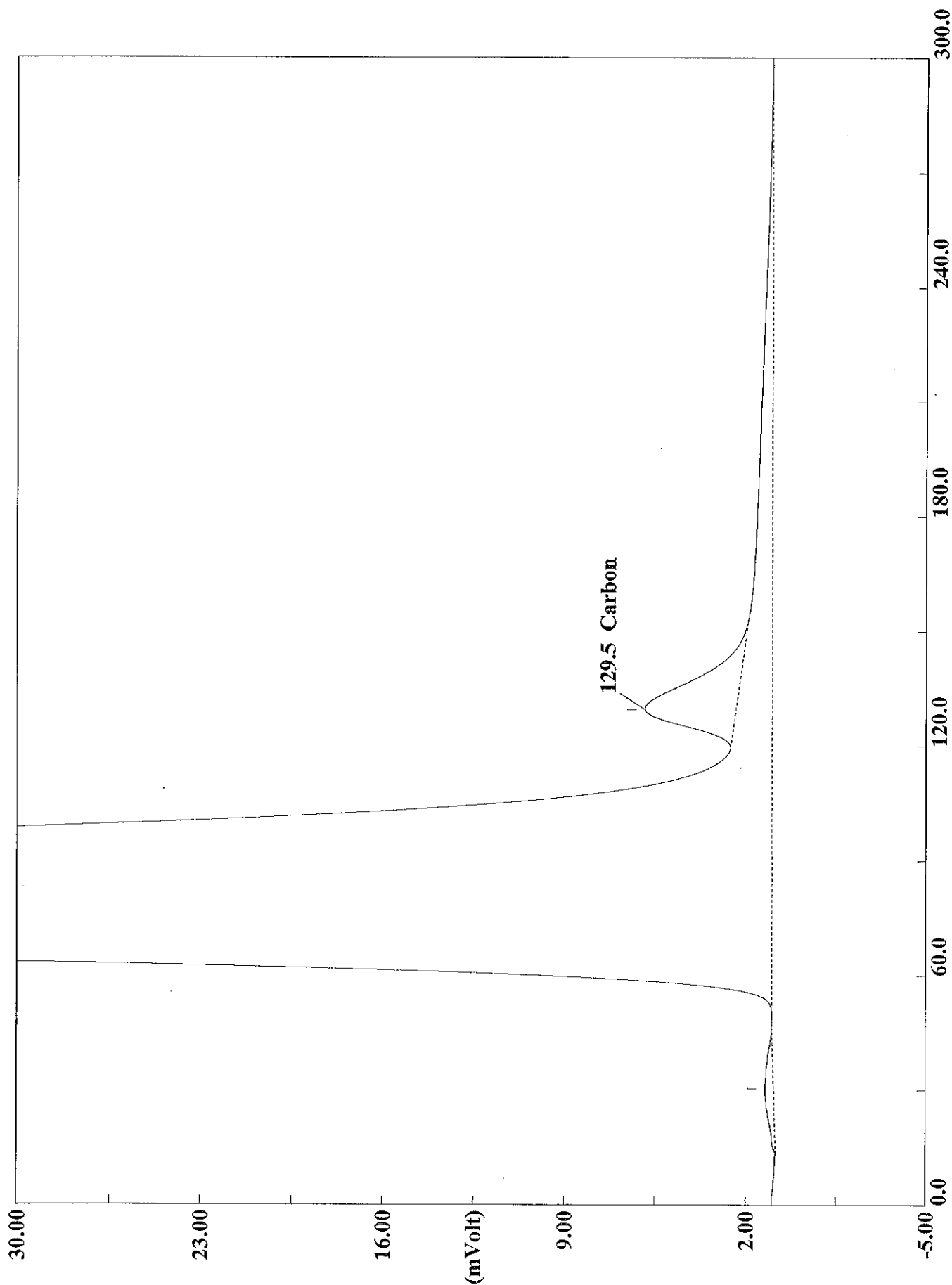
Filename C:\data\January\A050715014.DAT

Sample name :180-43458-d-4 Analysed :05/07/2015 05:12

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



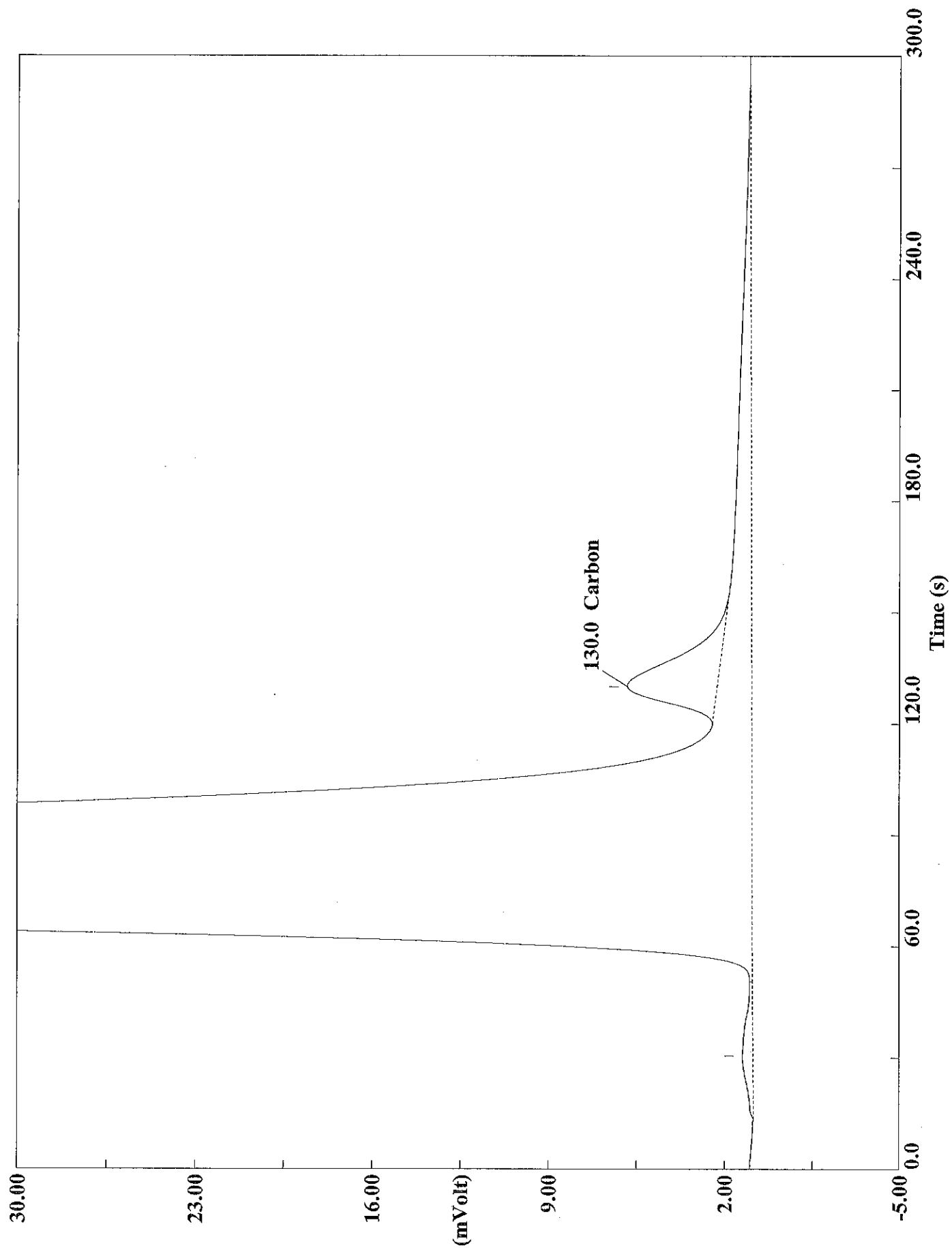
Filename C:\data\January\A050715015.DAT  
Sample name :rinse Analysed :05/07/2015 05:17



Filename C:\data\January\A050715016.DAT

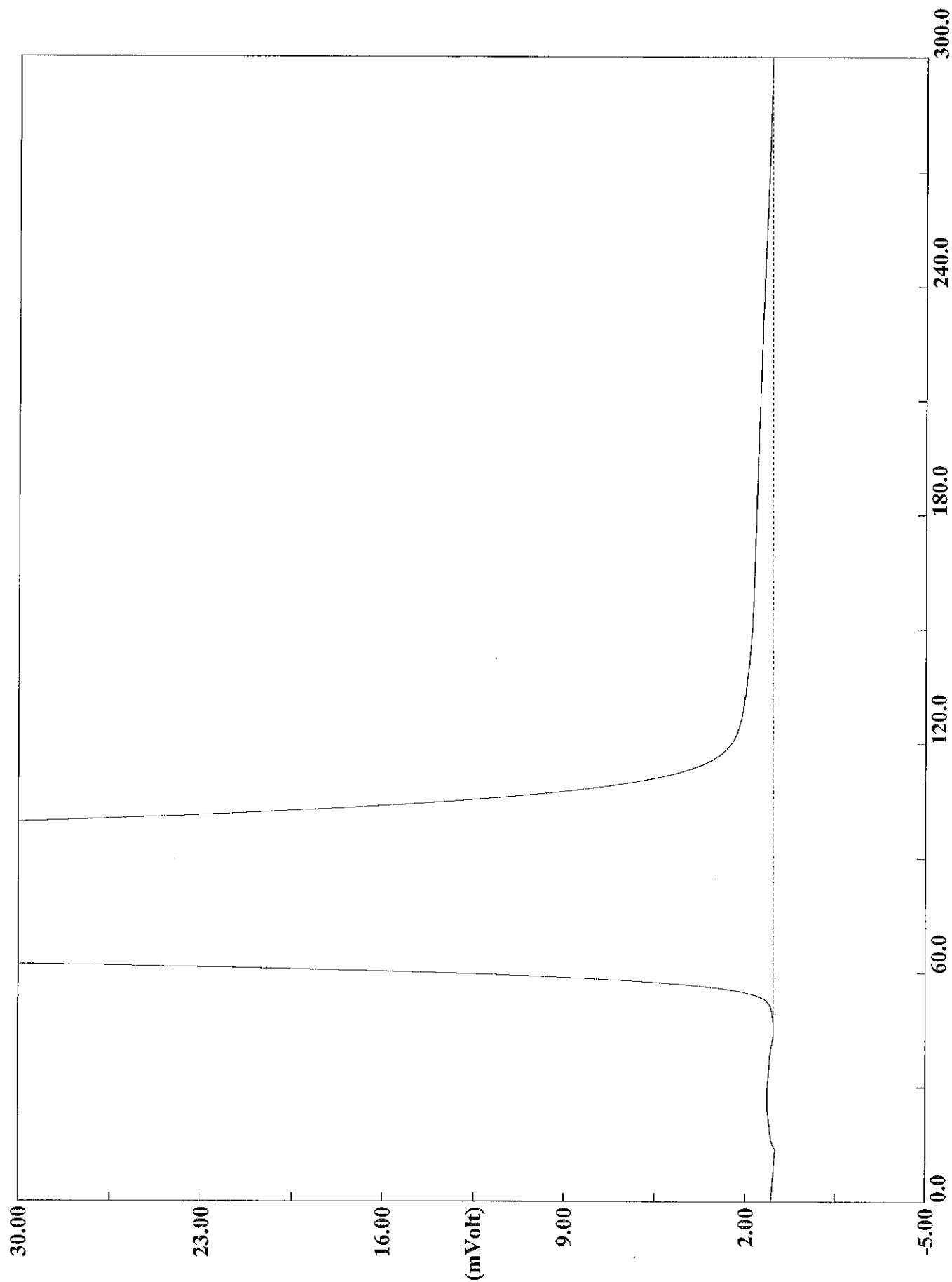
Sample name :180-43458-d-5 Analysed :05/07/2015 05:22



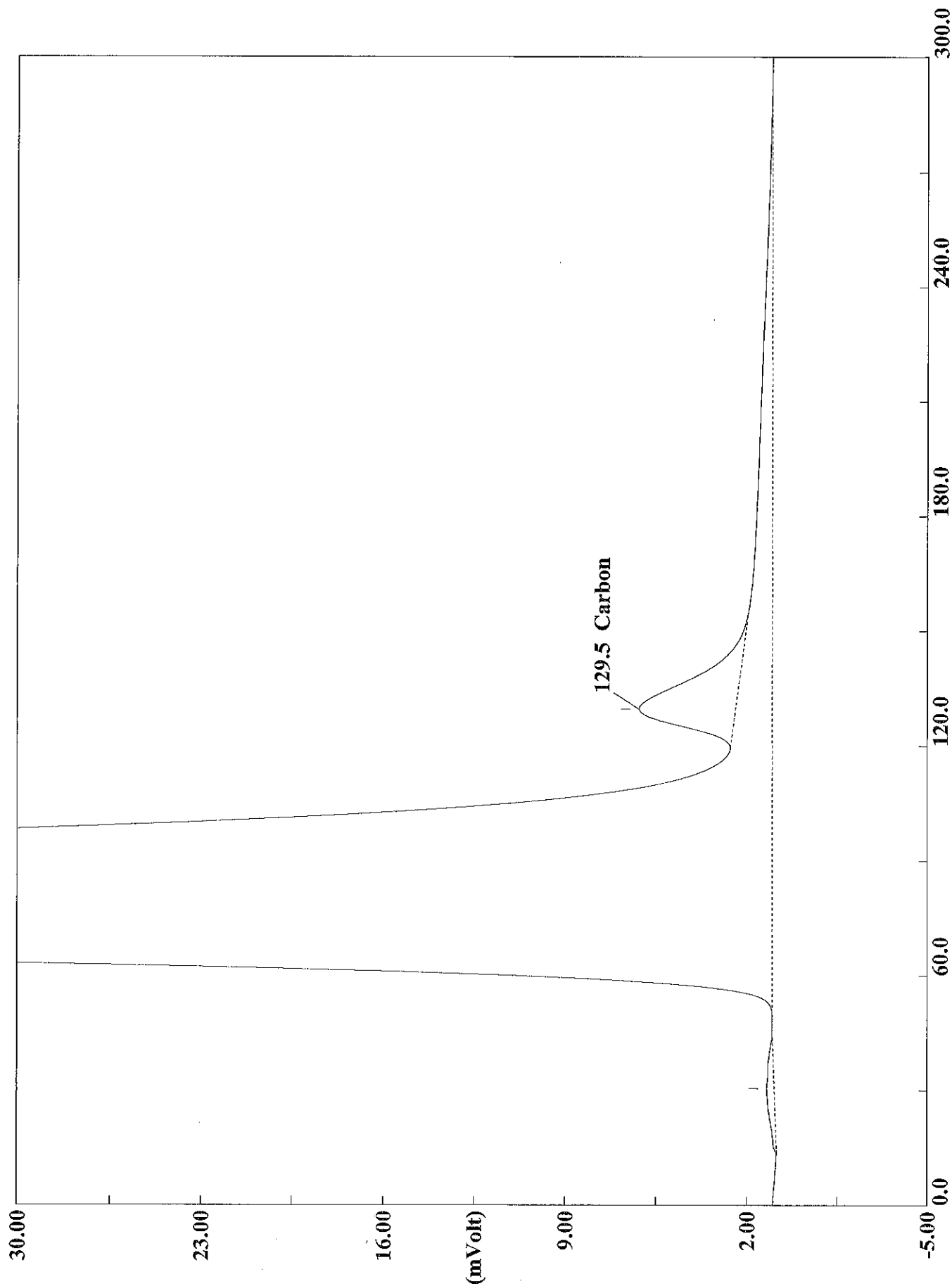


Filename C:\data\January\A050715017.DAT  
Sample name :180-43458-d-5 Analysed :05/07/2015 05:28

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw

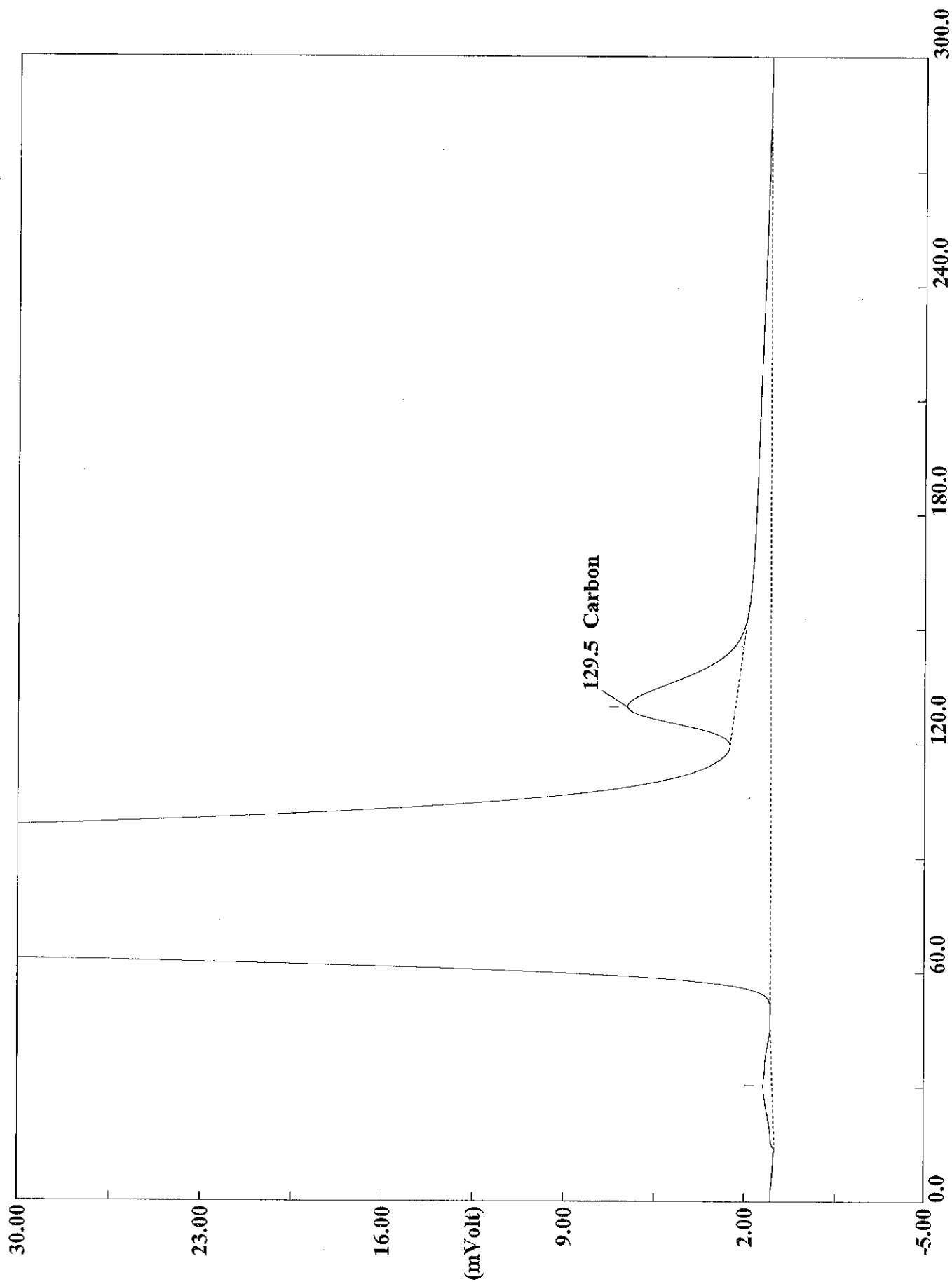


Filename C:\data\January\A050715018.DAT  
Sample name :rinse Analysed :05/07/2015 05:33



Filename C:\data\January\A050715019.DAT  
Sample name :180-43458-m-6 Analysed :05/07/2015 05:38

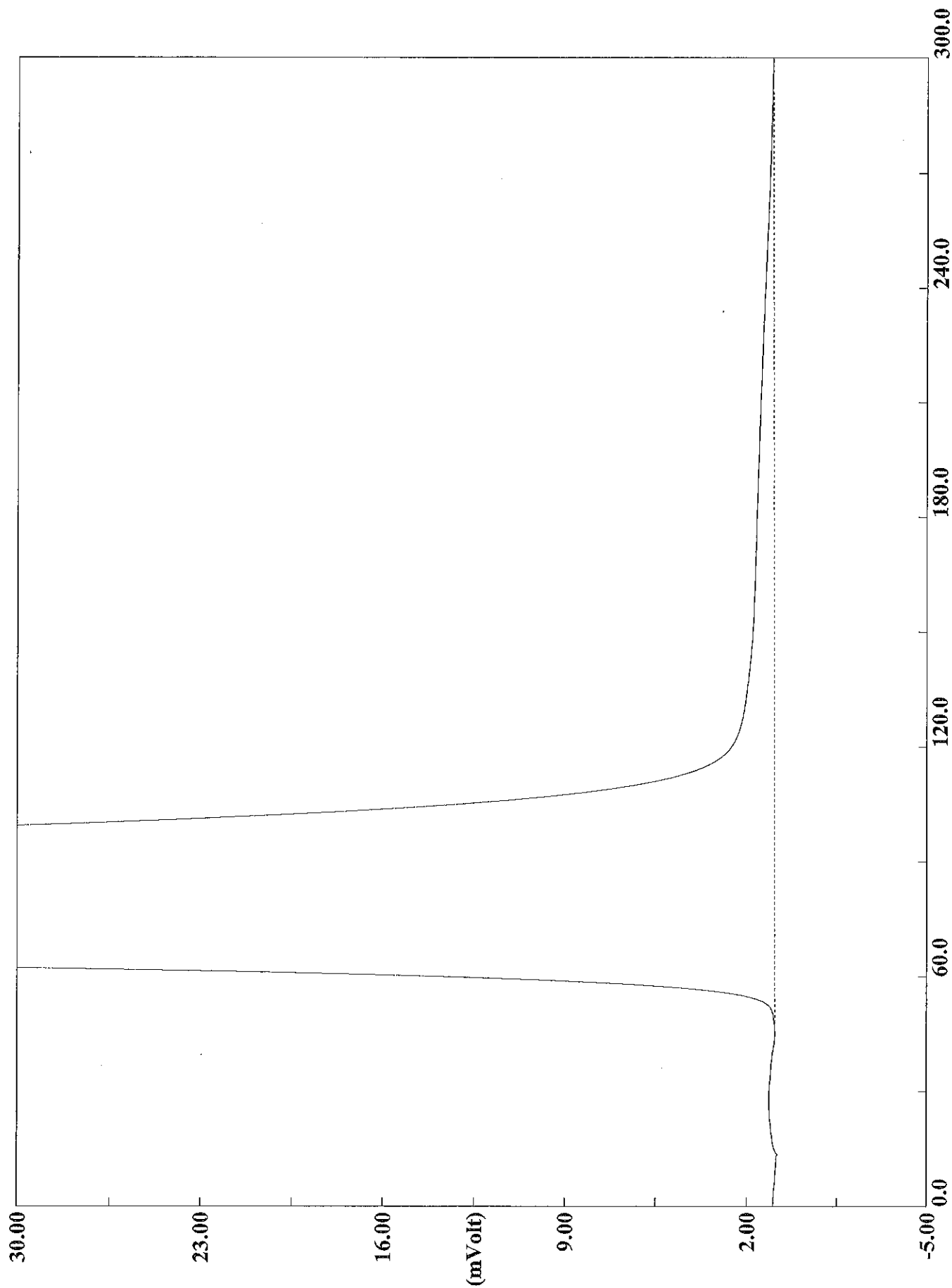
Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715020.DAT

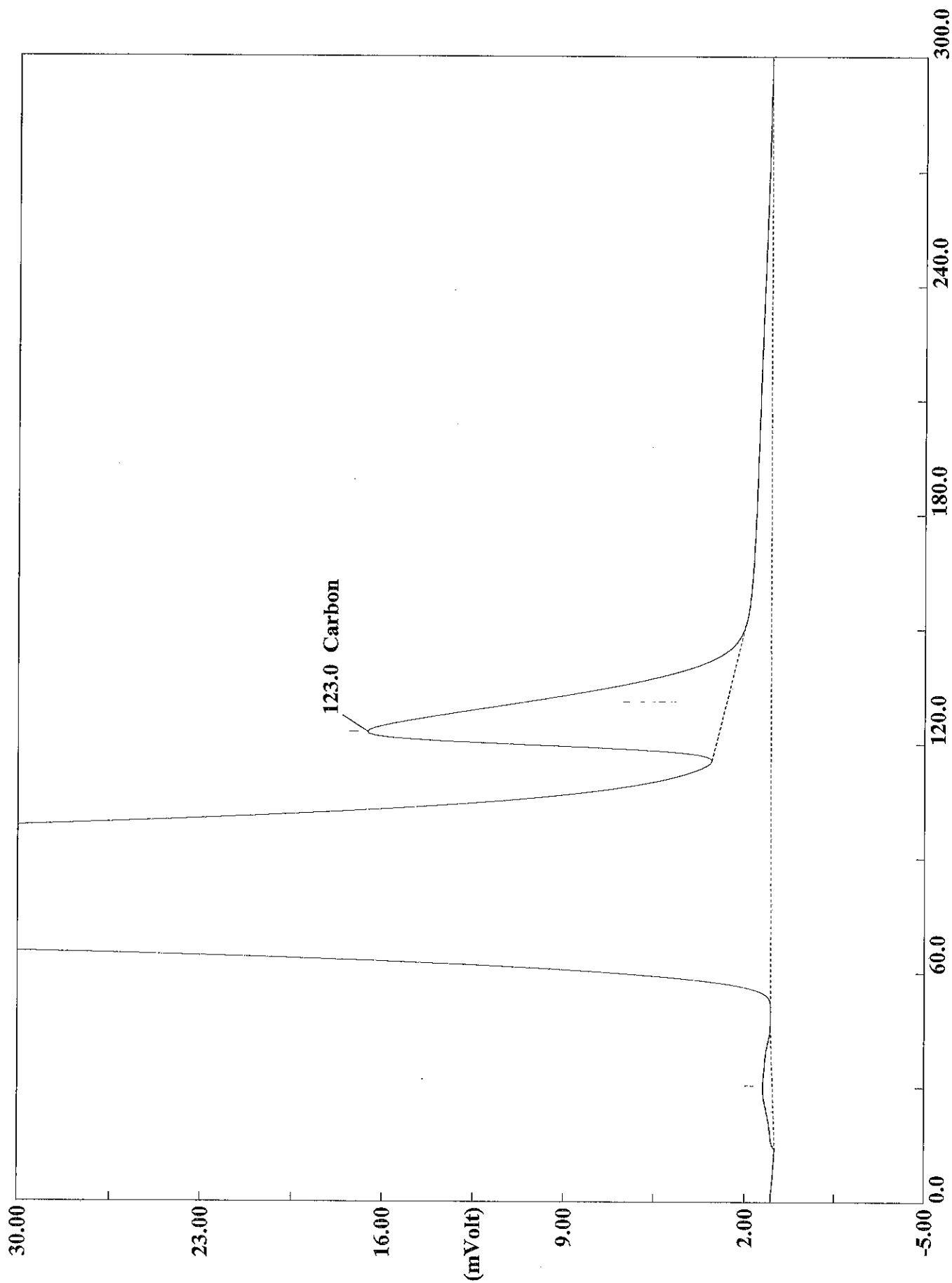
Sample name : 180-43458-m-6 Analysed : 05/07/2015 05:44

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



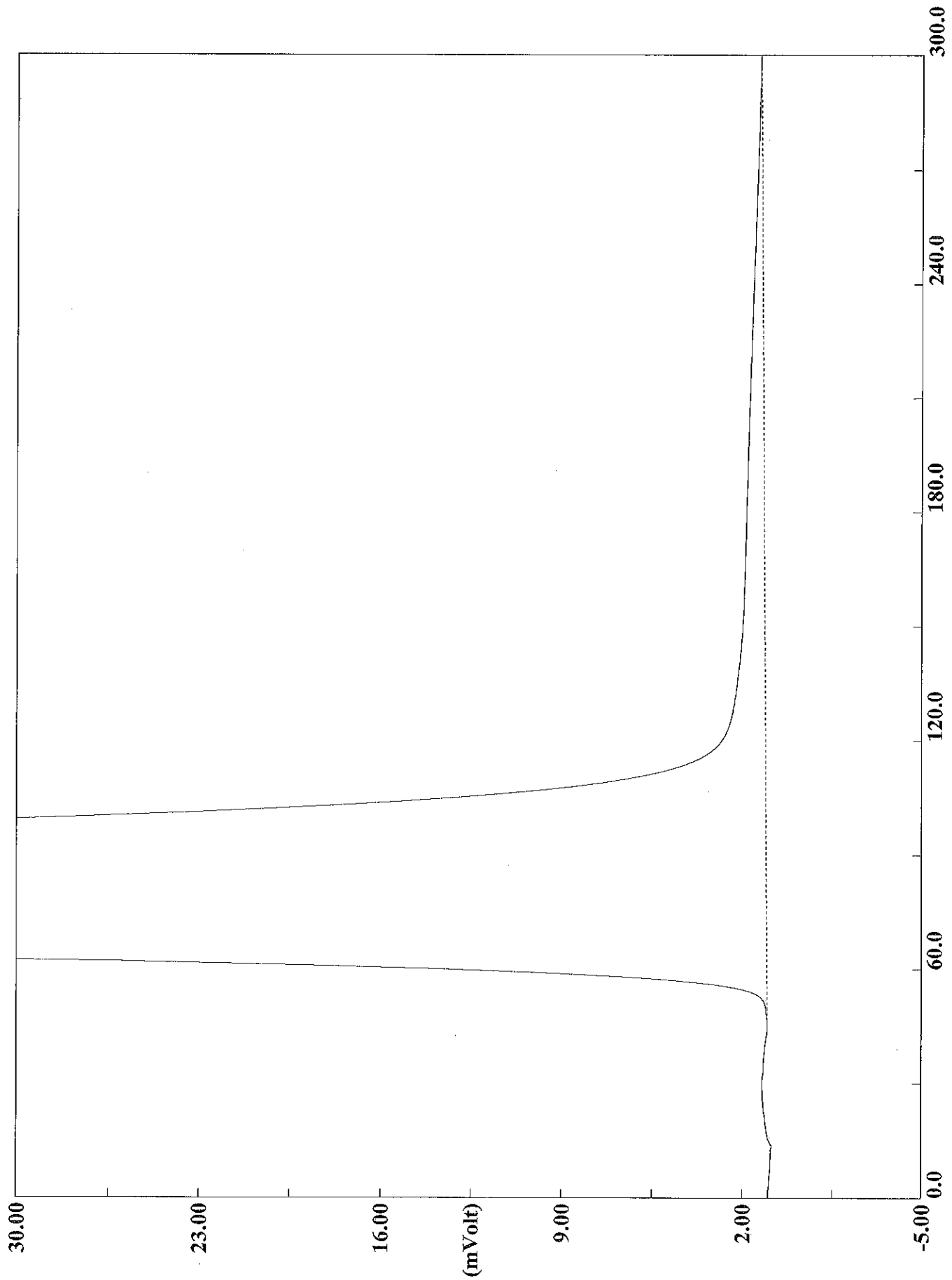
Filename C:\data\January\A050715021.DAT  
Sample name :rinse Analysed :05/07/2015 05:49

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



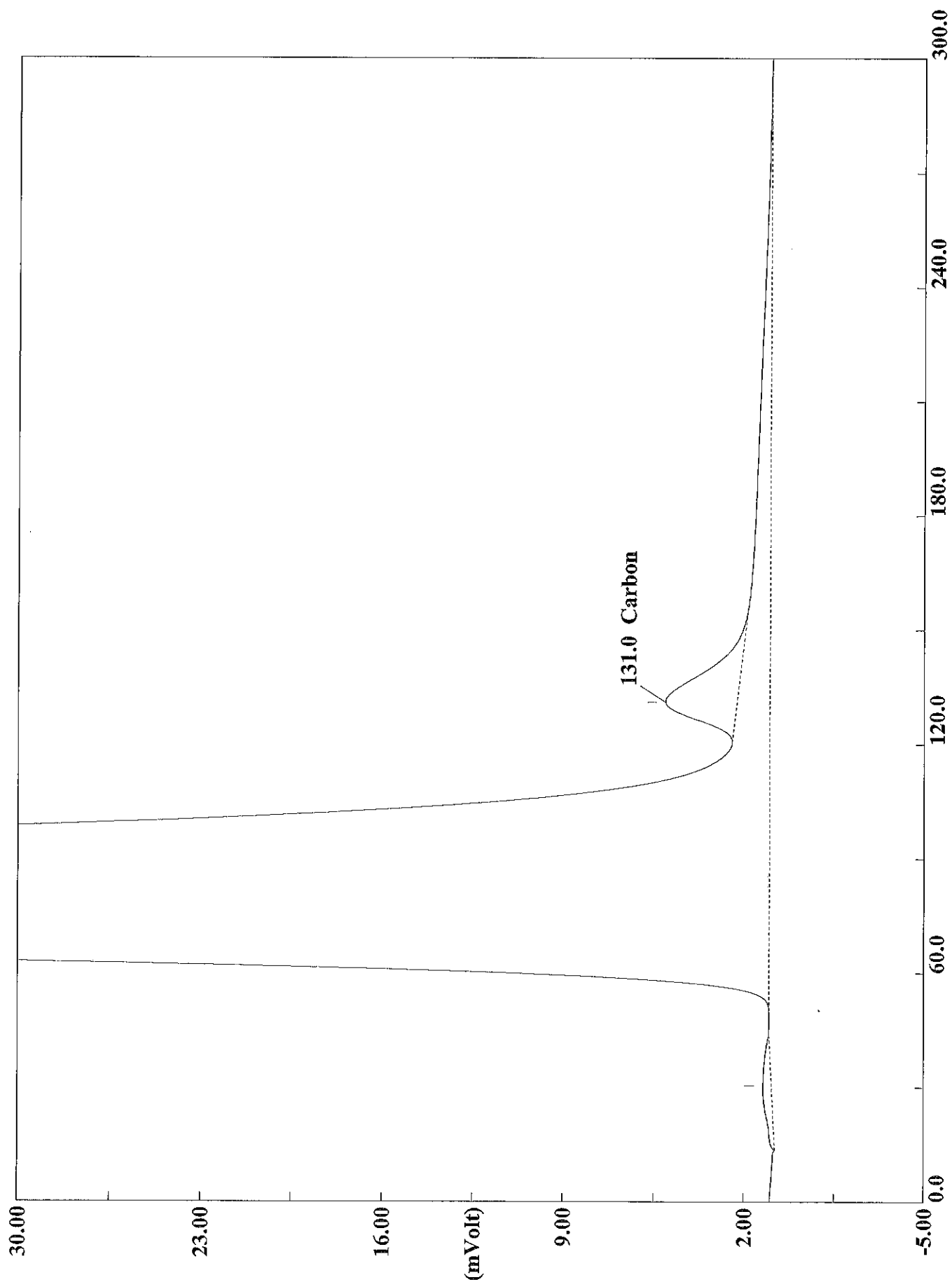
Filename C:\data\January\A050715022.DAT  
Sample name :ccv Analysed :05/07/2015 05:54

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715023.DAT  
Sample name :ccb Analysed :05/07/2015 06:00

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw

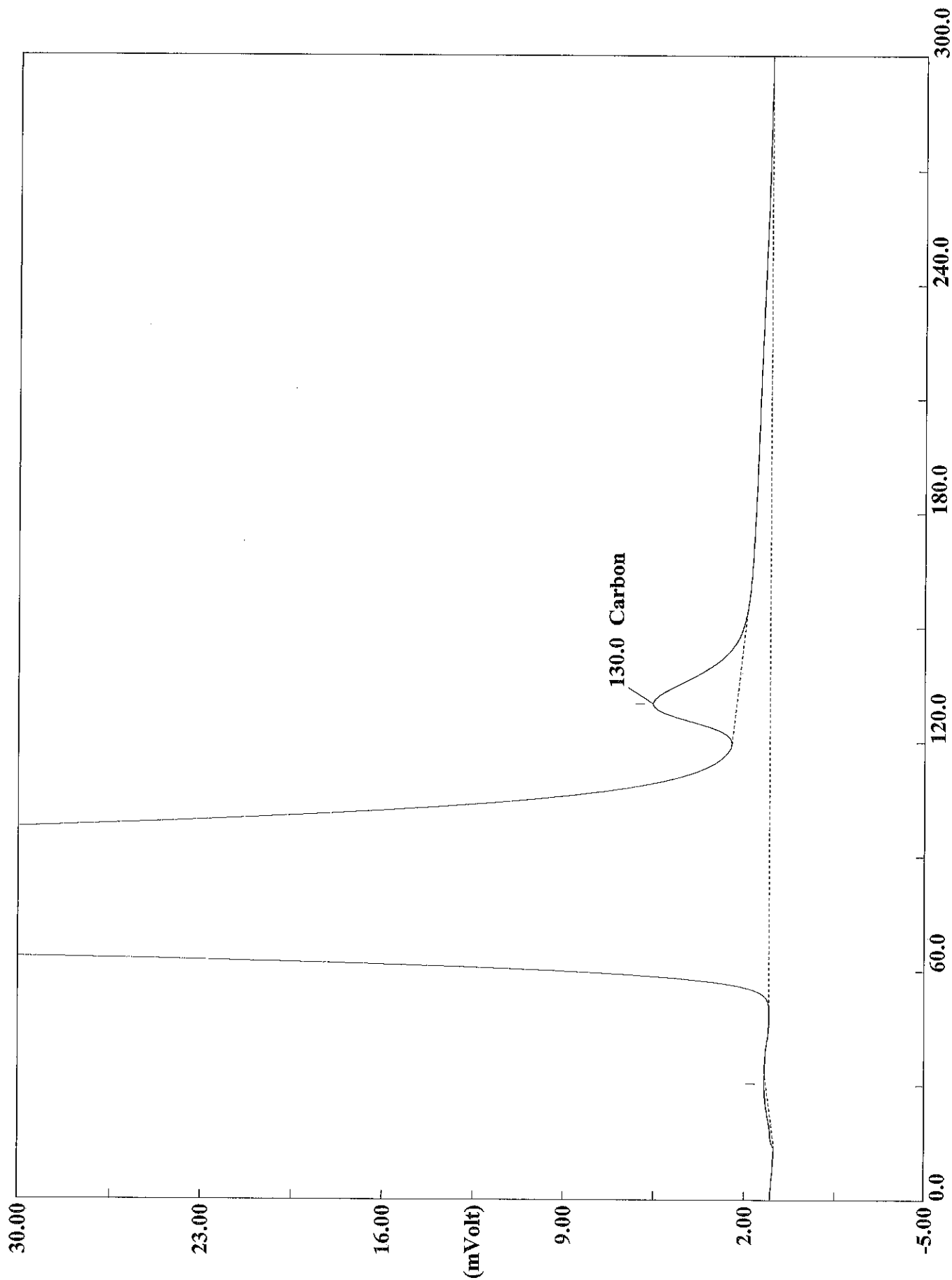


Filename C:\data\January\A050715024.DAT

Sample name :180-43458-d-7 Analysed :05/07/2015 06:06

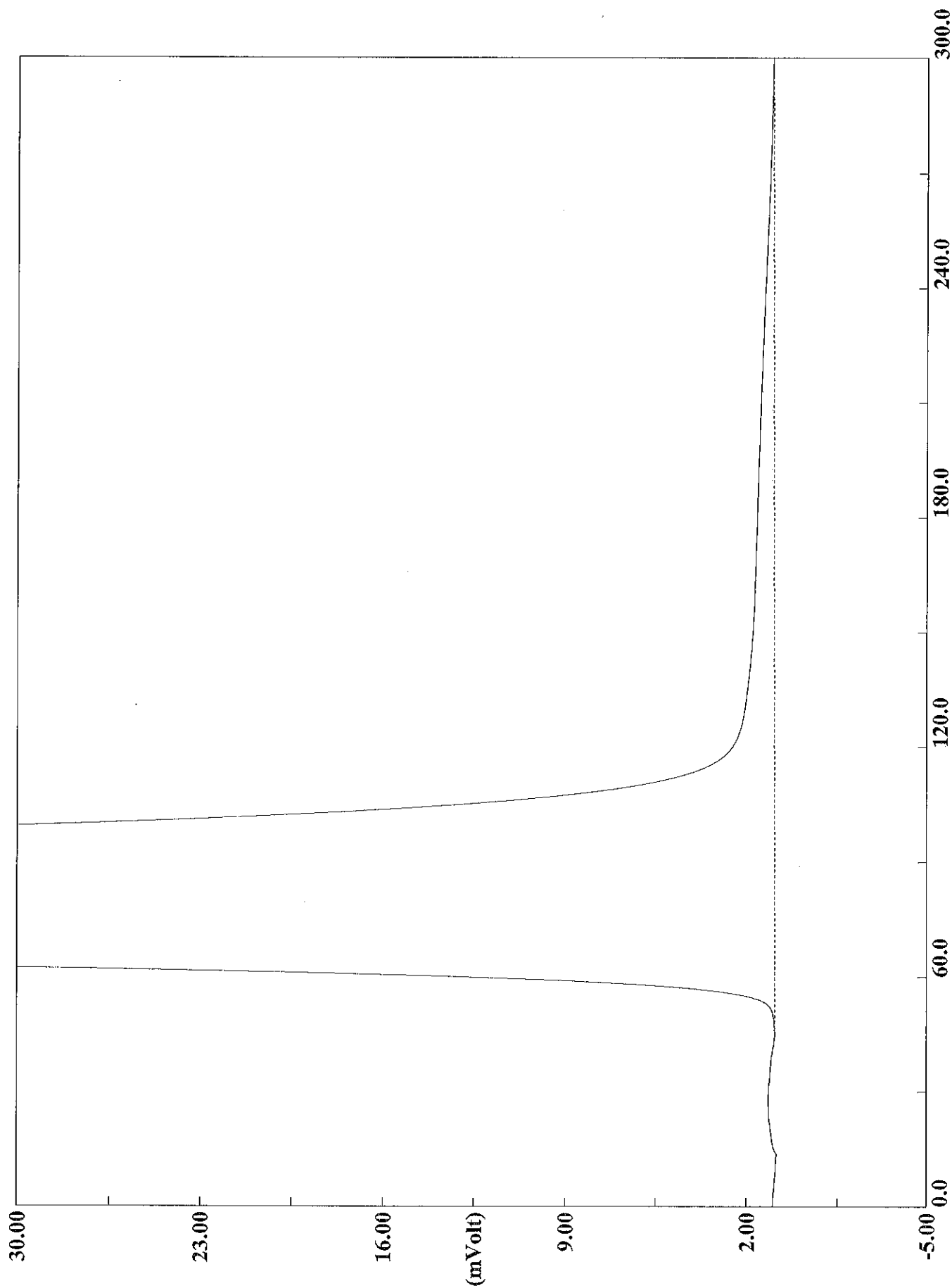


Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



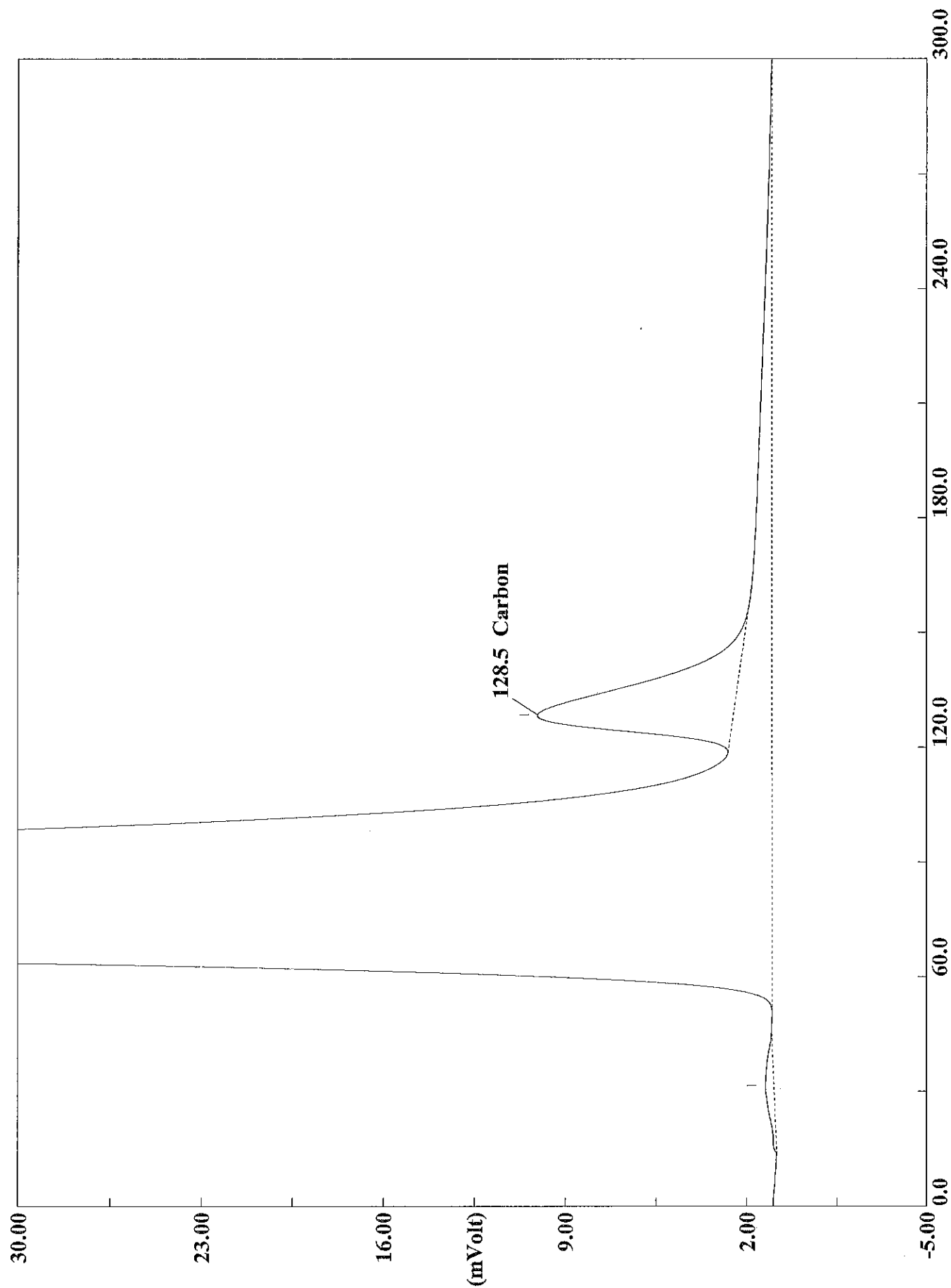
Filename C:\data\January\A050715025.DAT  
Sample name :180-43458-d-7    Analysed :05/07/2015 06:11

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw

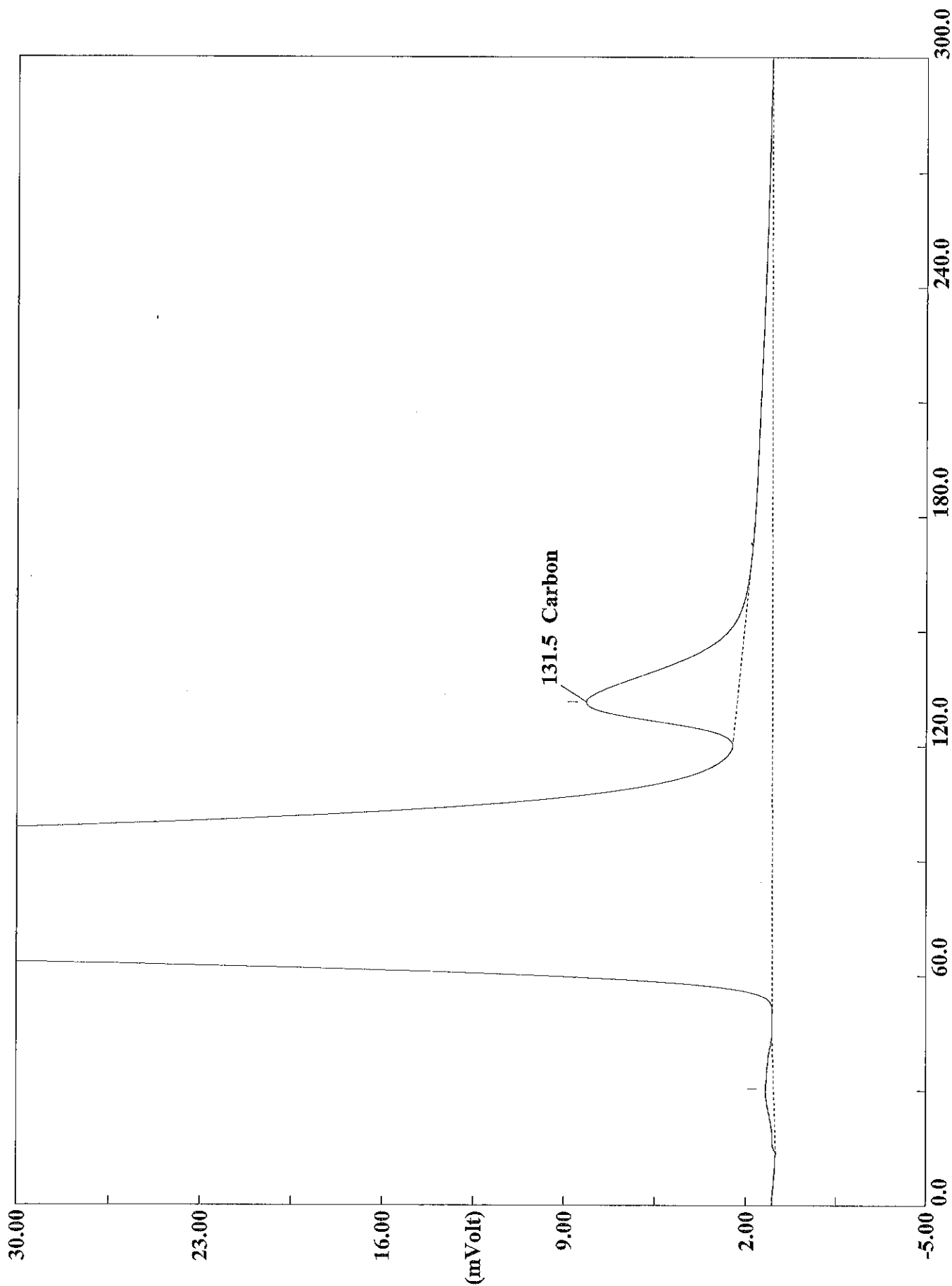


Filename C:\data\January\A050715026.DAT  
Sample name :rinse Analysed :05/07/2015 06:16

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



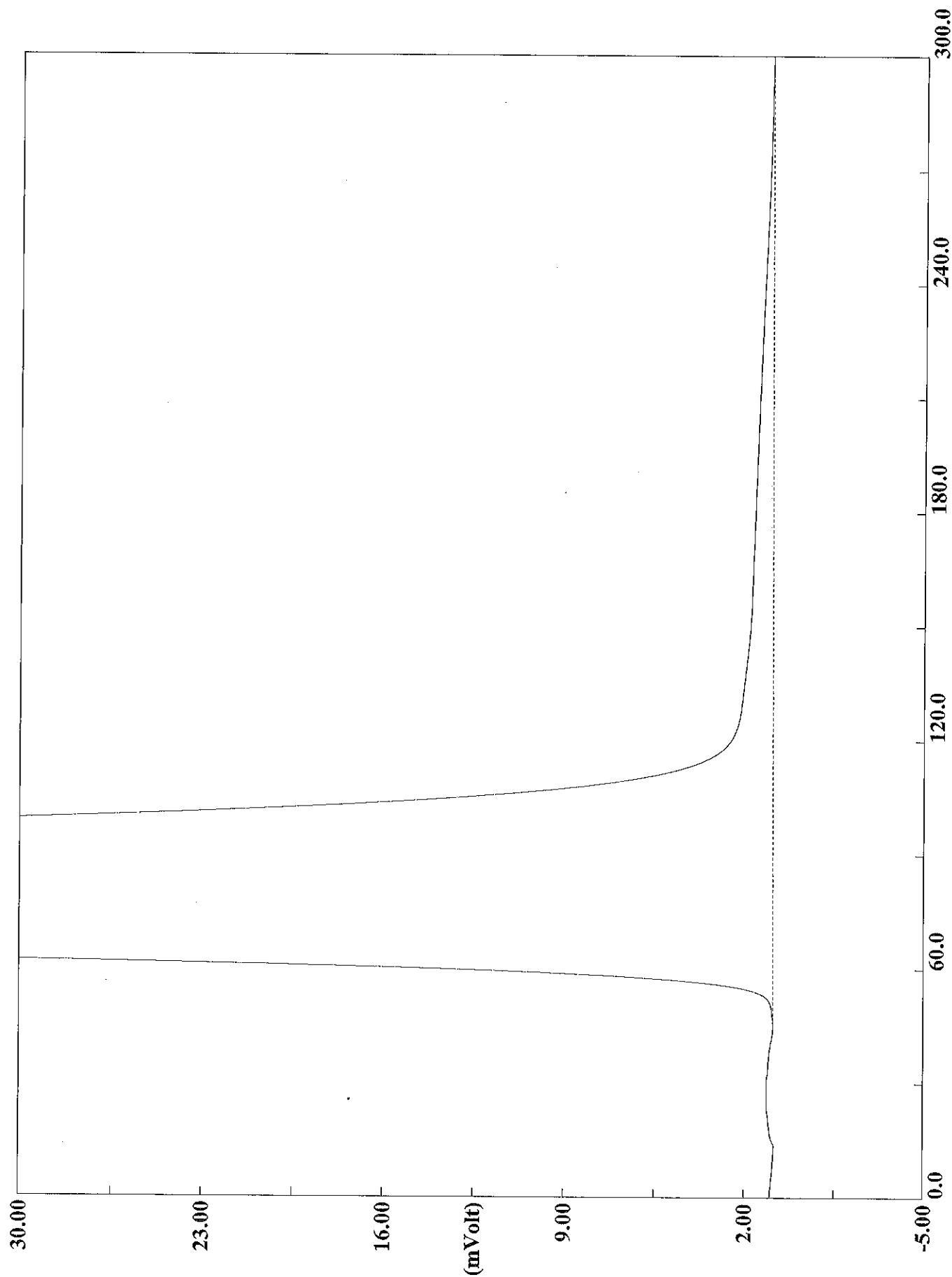
Filename C:\data\January\A050715027.DAT  
Sample name :180-43458-d-7 ms Analysed :05/07/2015 06:21



Filename C:\data\January\A050715028.DAT

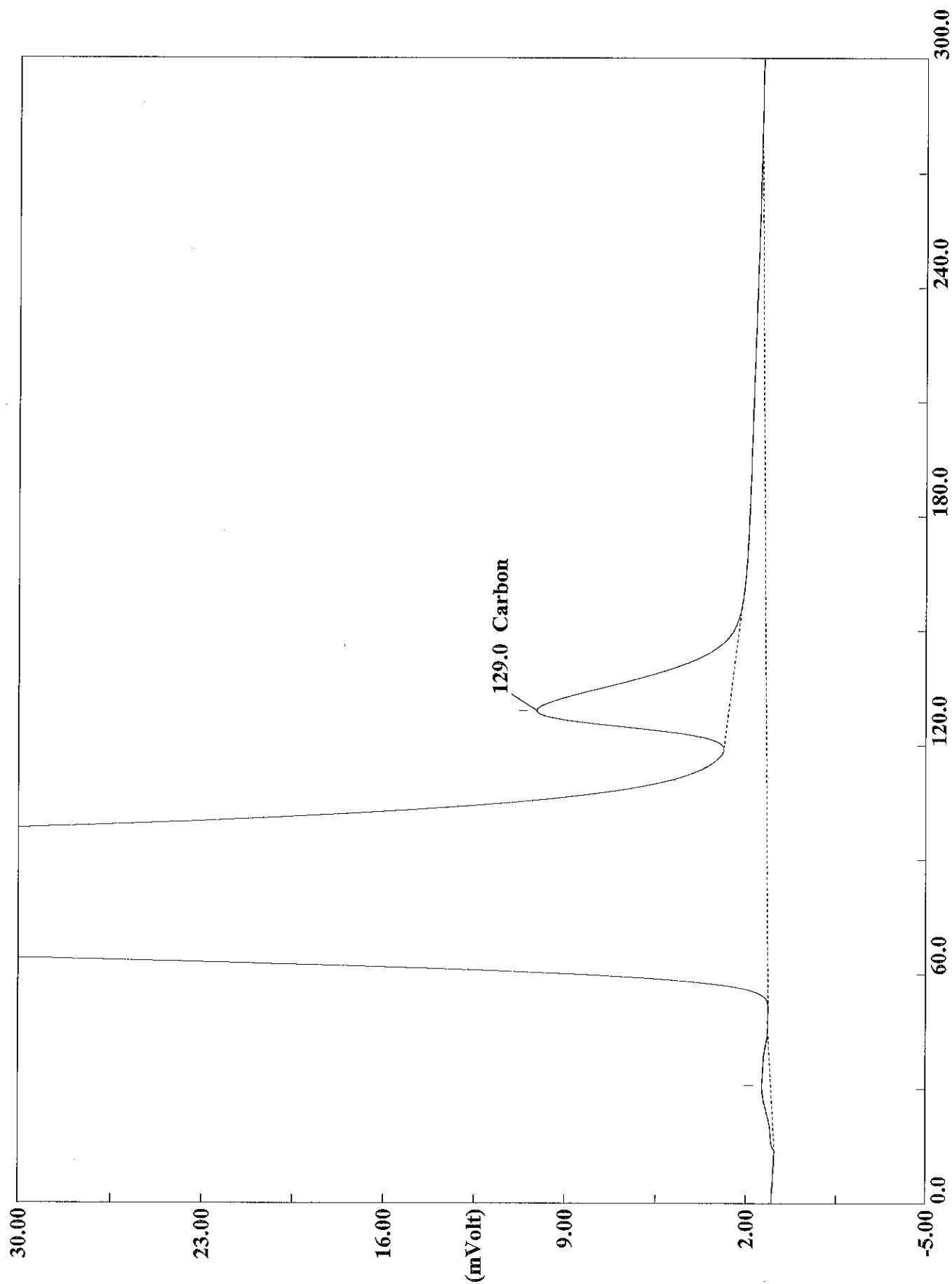
Sample name : 180-43458-d-7 ms Analysed : 05/07/2015 06:27

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715029.DAT

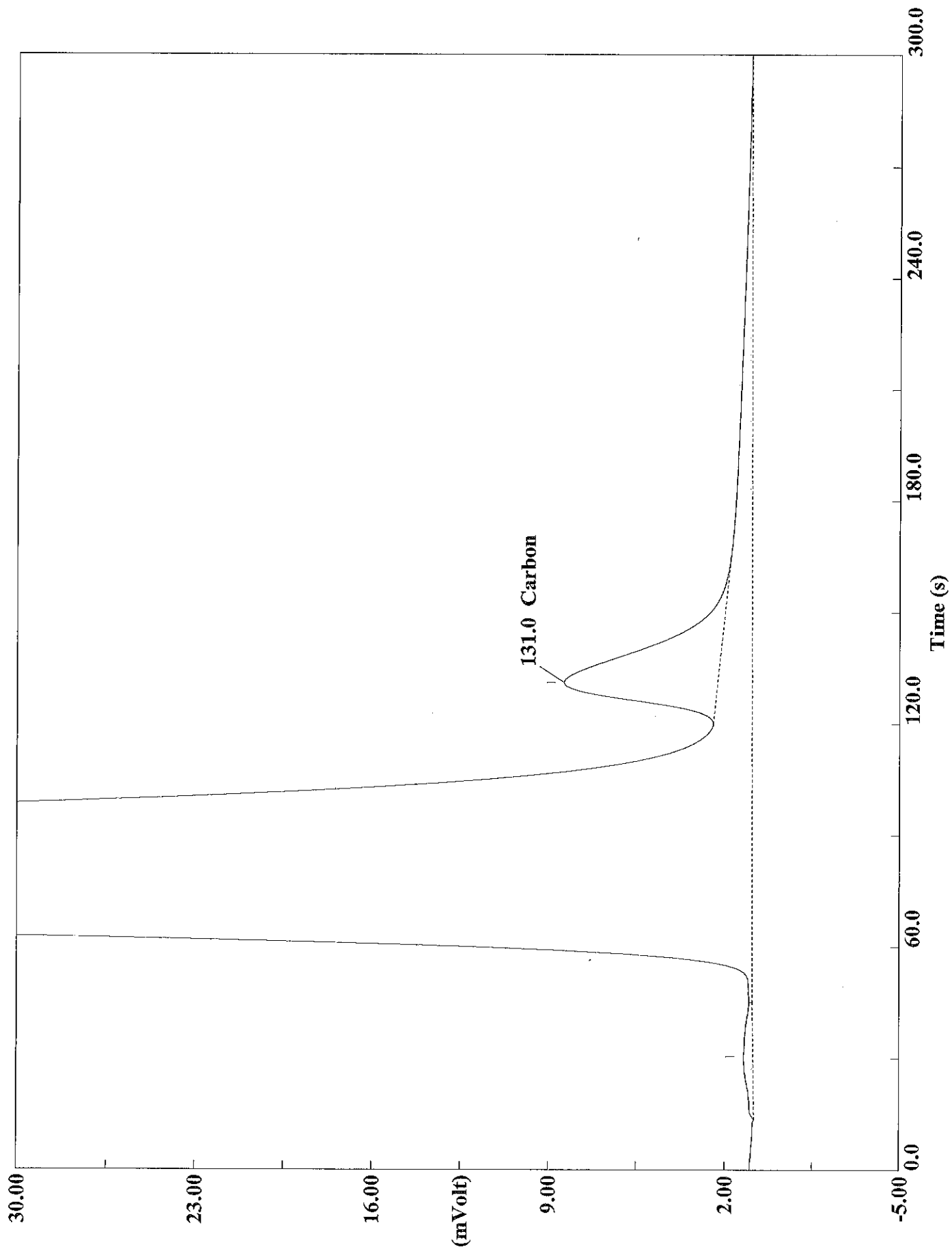
Sample name :rinse Analysed :05/07/2015 06:32



Filename C:\data\January\A050715030.DAT

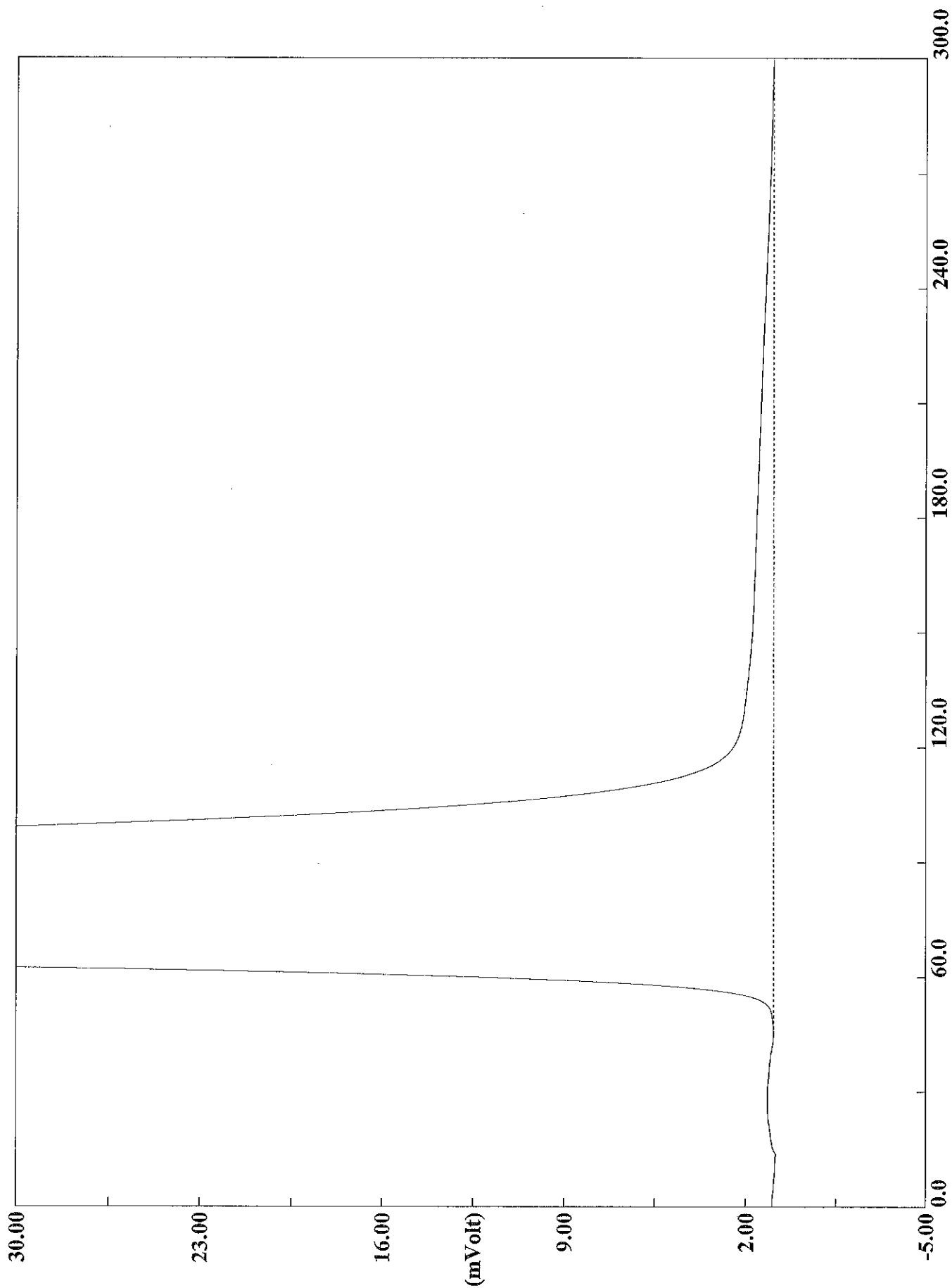
Sample name : 180-43458-d-7 msd Analysed : 05/07/2015 06:39

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715031.DAT  
Sample name :180-43458-d-7 msd Analysed :05/07/2015 06:44

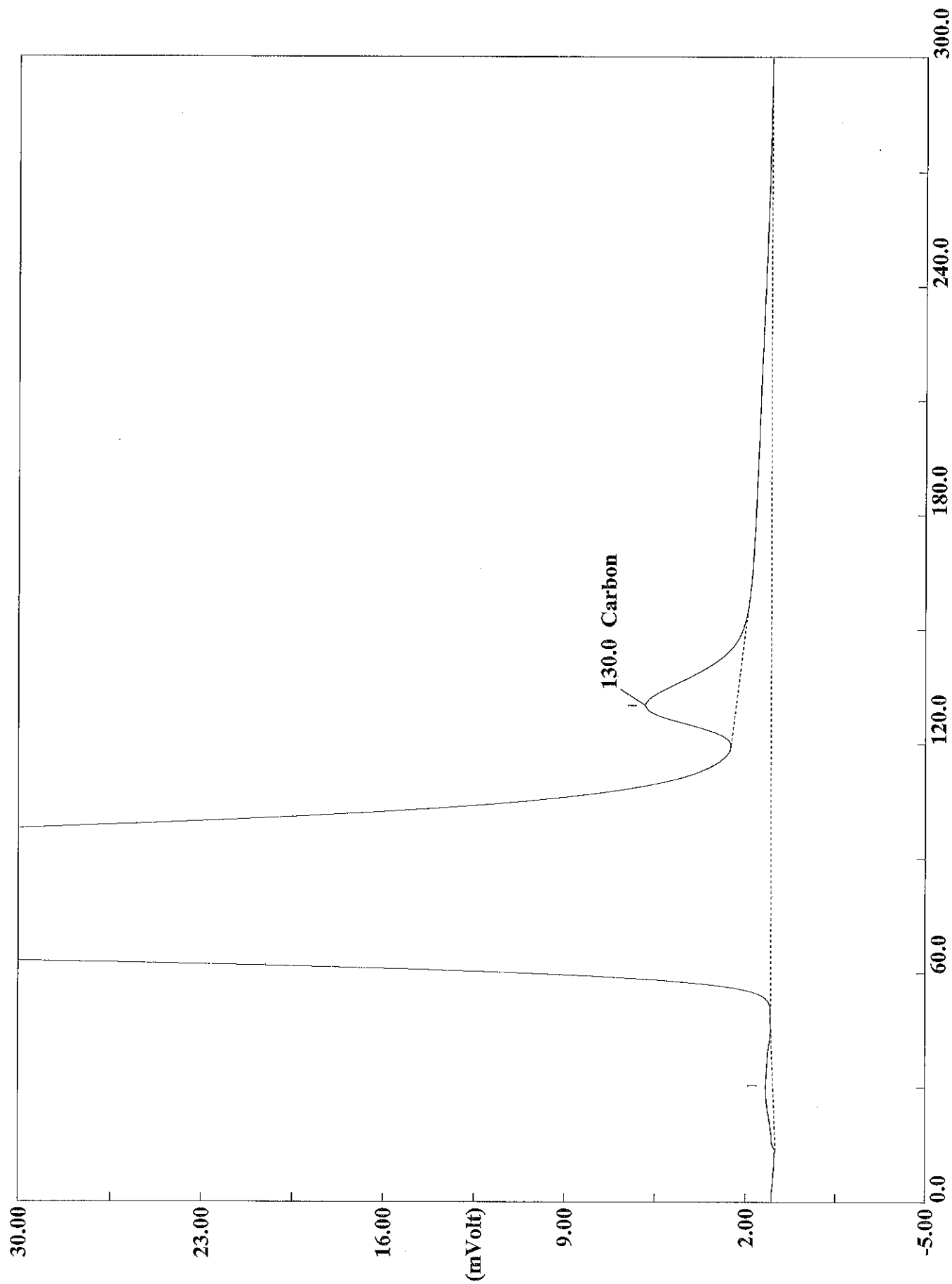
Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715032.DAT  
Sample name :rinse Analysed :05/07/2015 06:49



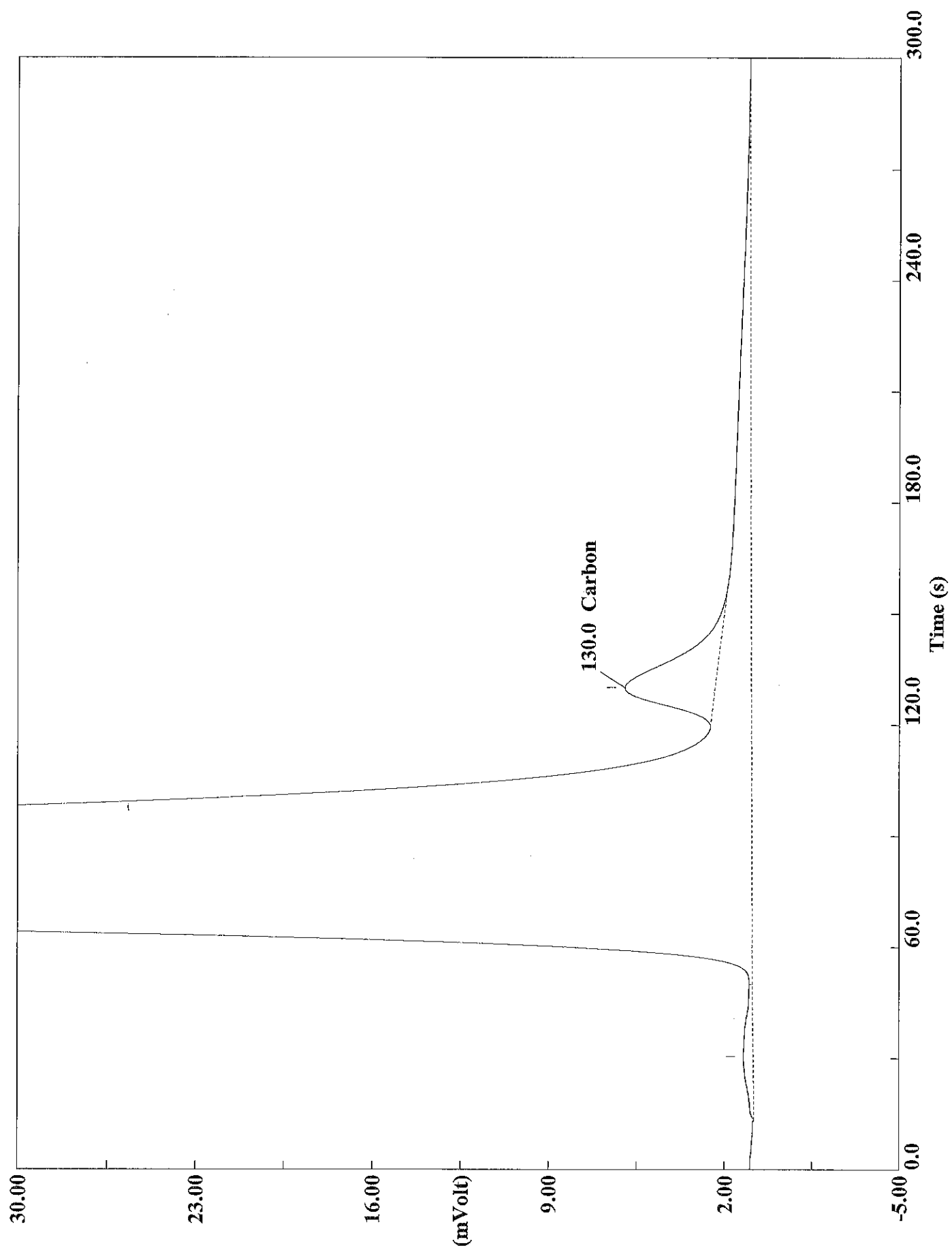
Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715033.DAT

Sample name :180-43458-d-7 du Analysed :05/07/2015 06:55

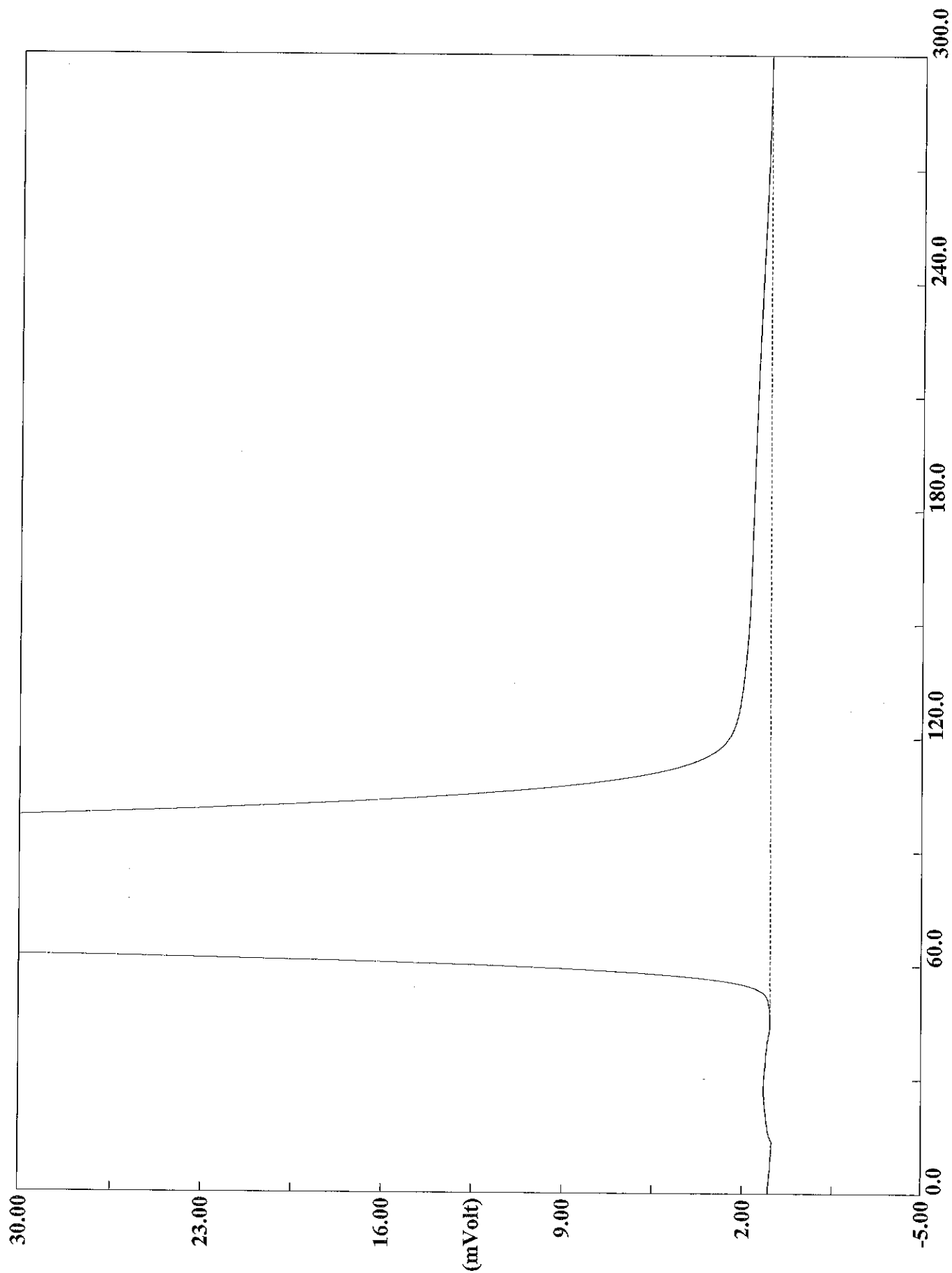
Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



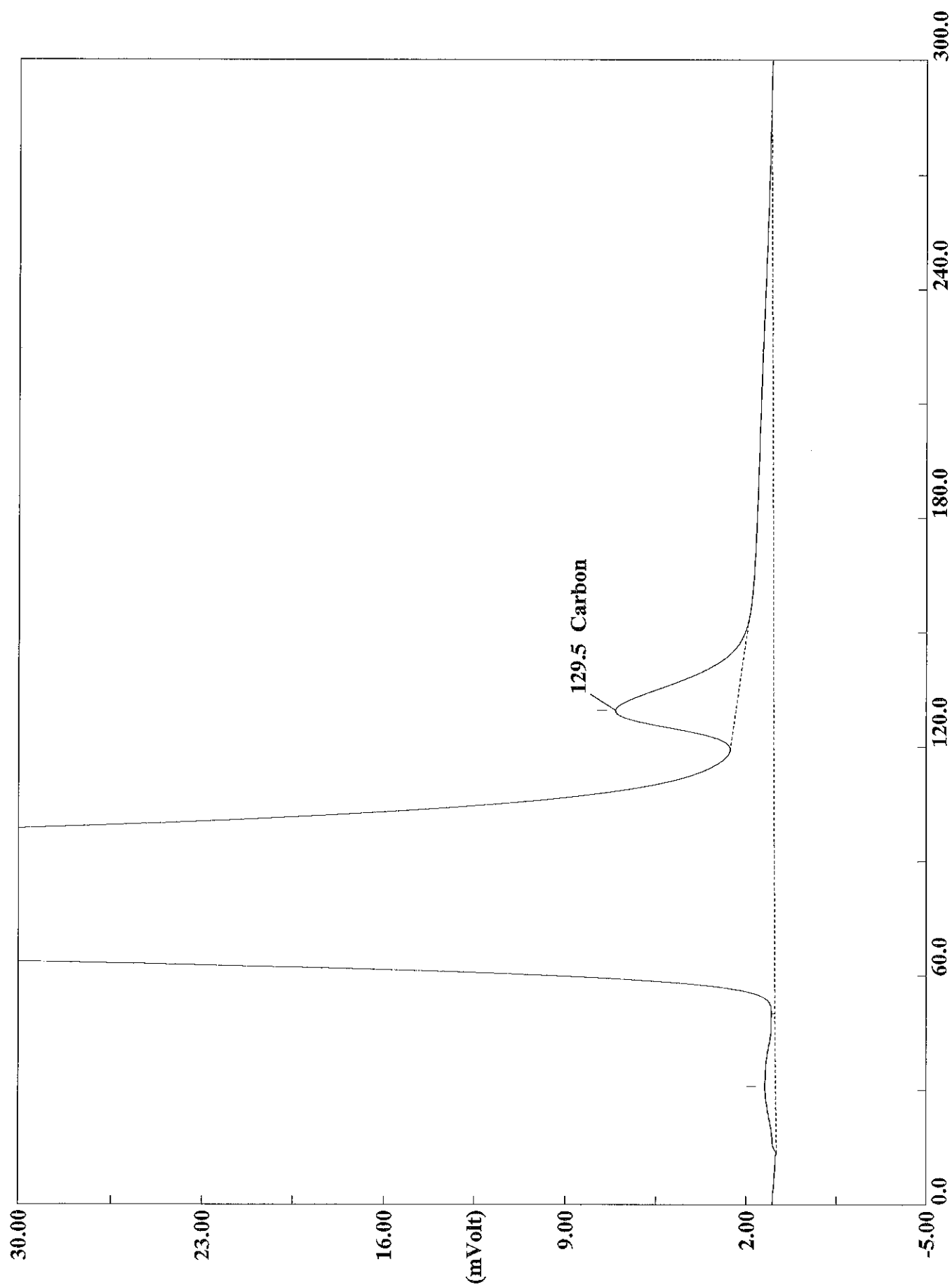
Filename C:\data\January\A050715034.DAT

Sample name :180-43458-d-7 du Analysed :05/07/2015 07:00

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



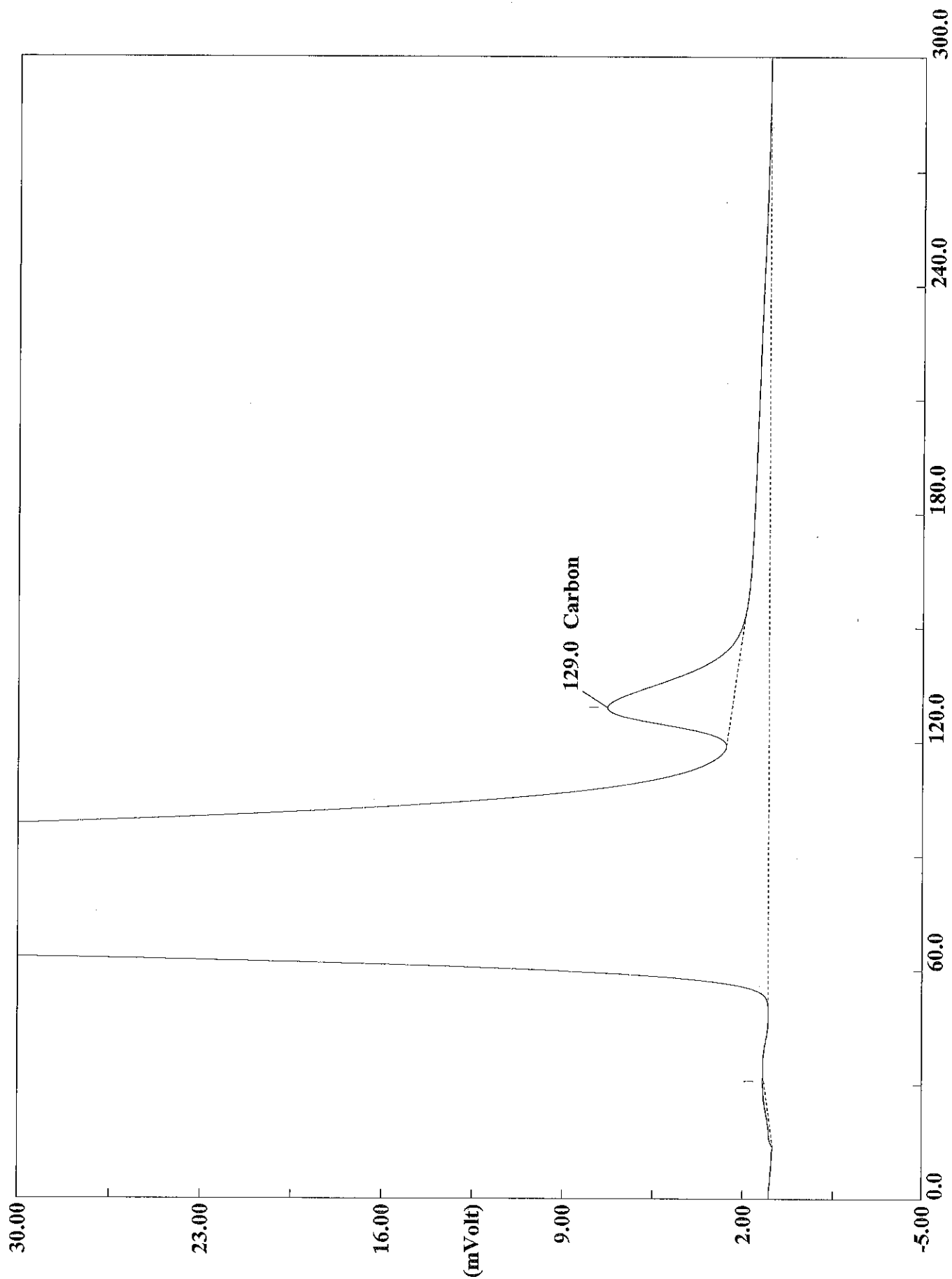
Filename C:\data\January\A050715035.DAT  
Sample name :rinse Analysed :05/07/2015 07:05



Filename C:\data\January\A050715036.DAT

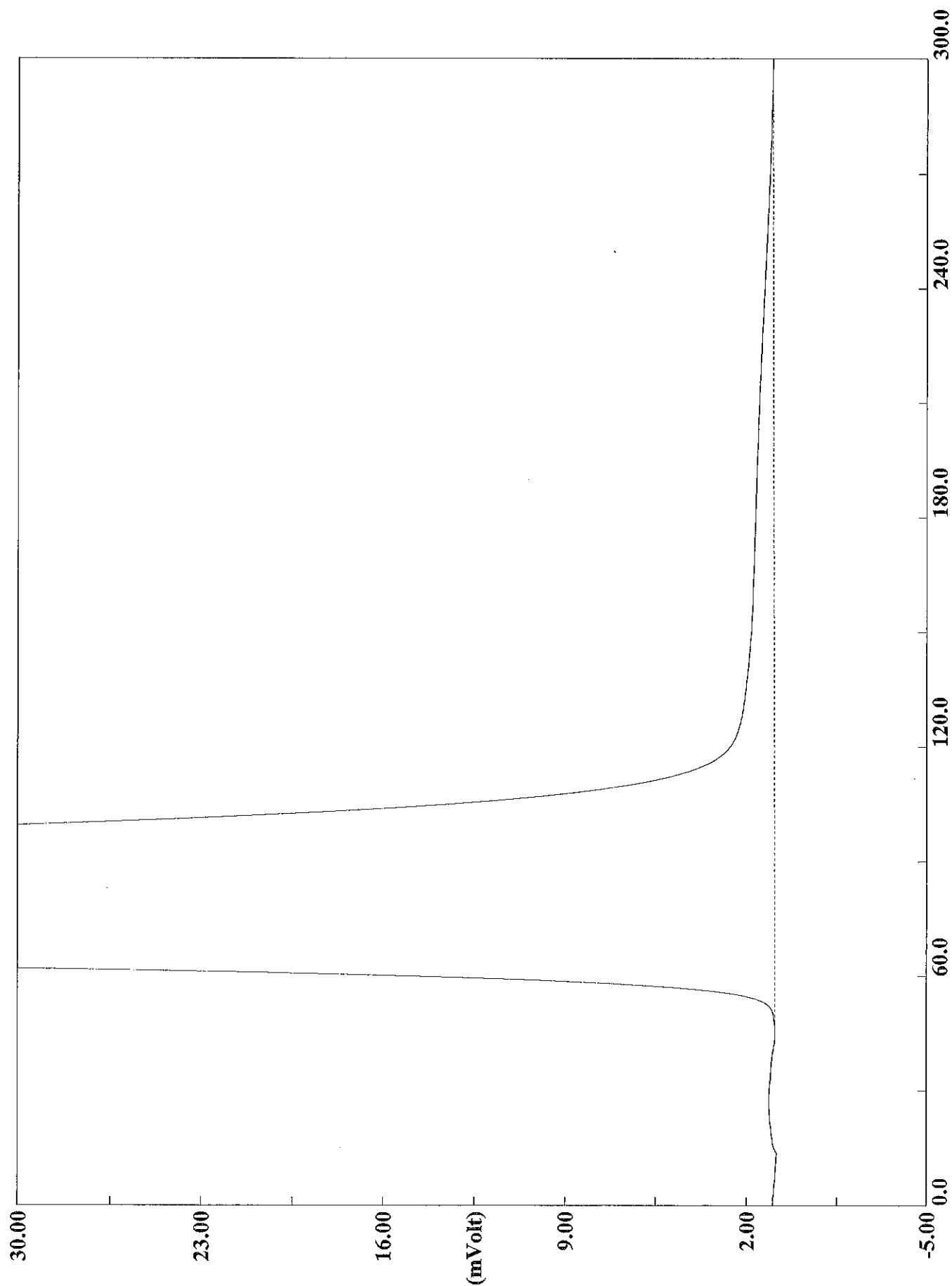
Sample name :180-43458-d-8 Analysed :05/07/2015 07:10

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw

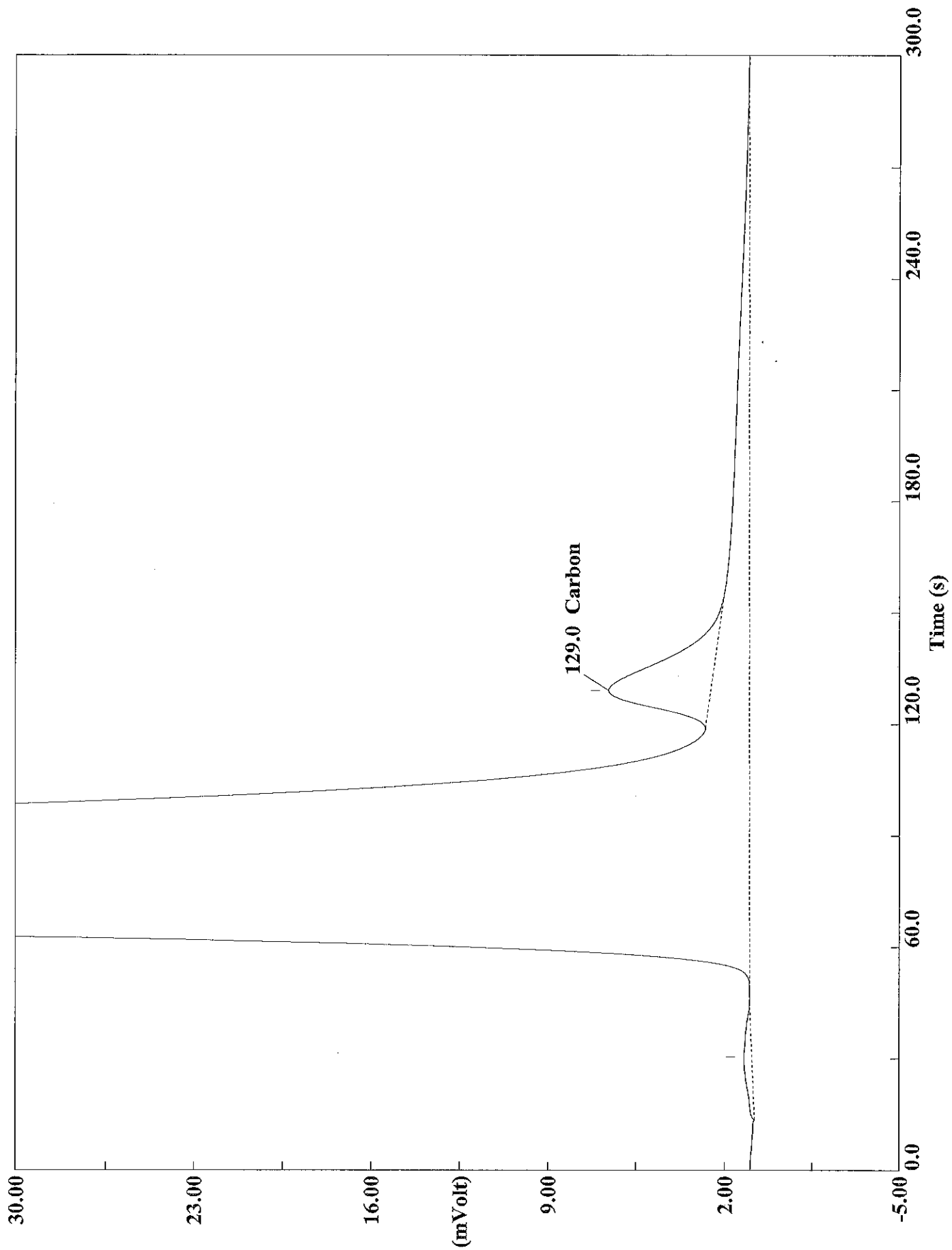


Filename C:\data\January\A050715037.DAT  
Sample name :180-43458-d-8 Analysed :05/07/2015 07:16

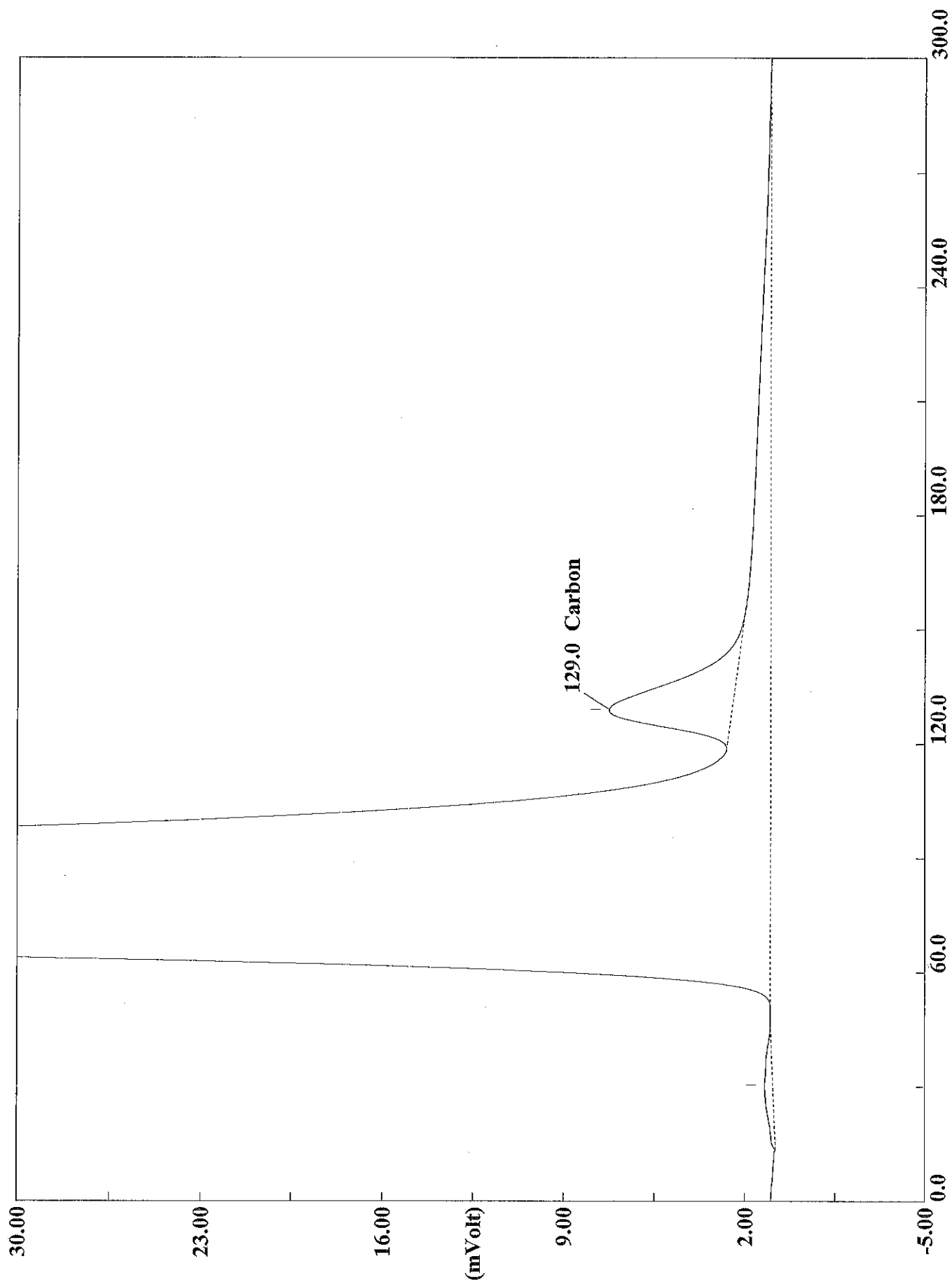
Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715038.DAT  
Sample name :rinse Analysed :05/07/2015 07:21



Filename C:\data\January\A050715039.DAT  
Sample name :180-43458-n-9 Analysed :05/07/2015 07:26

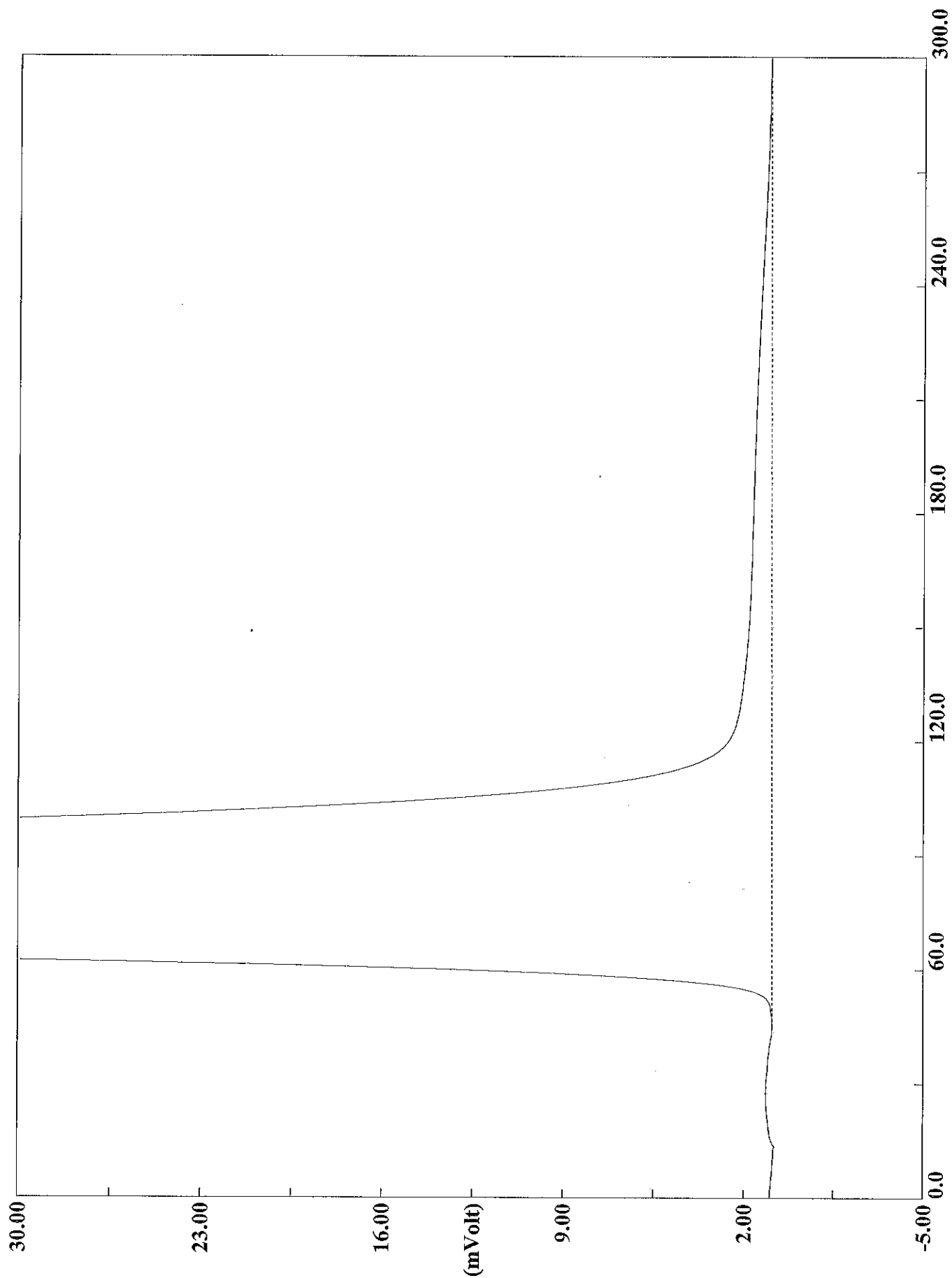


Filename C:\data\January\A050715040.DAT

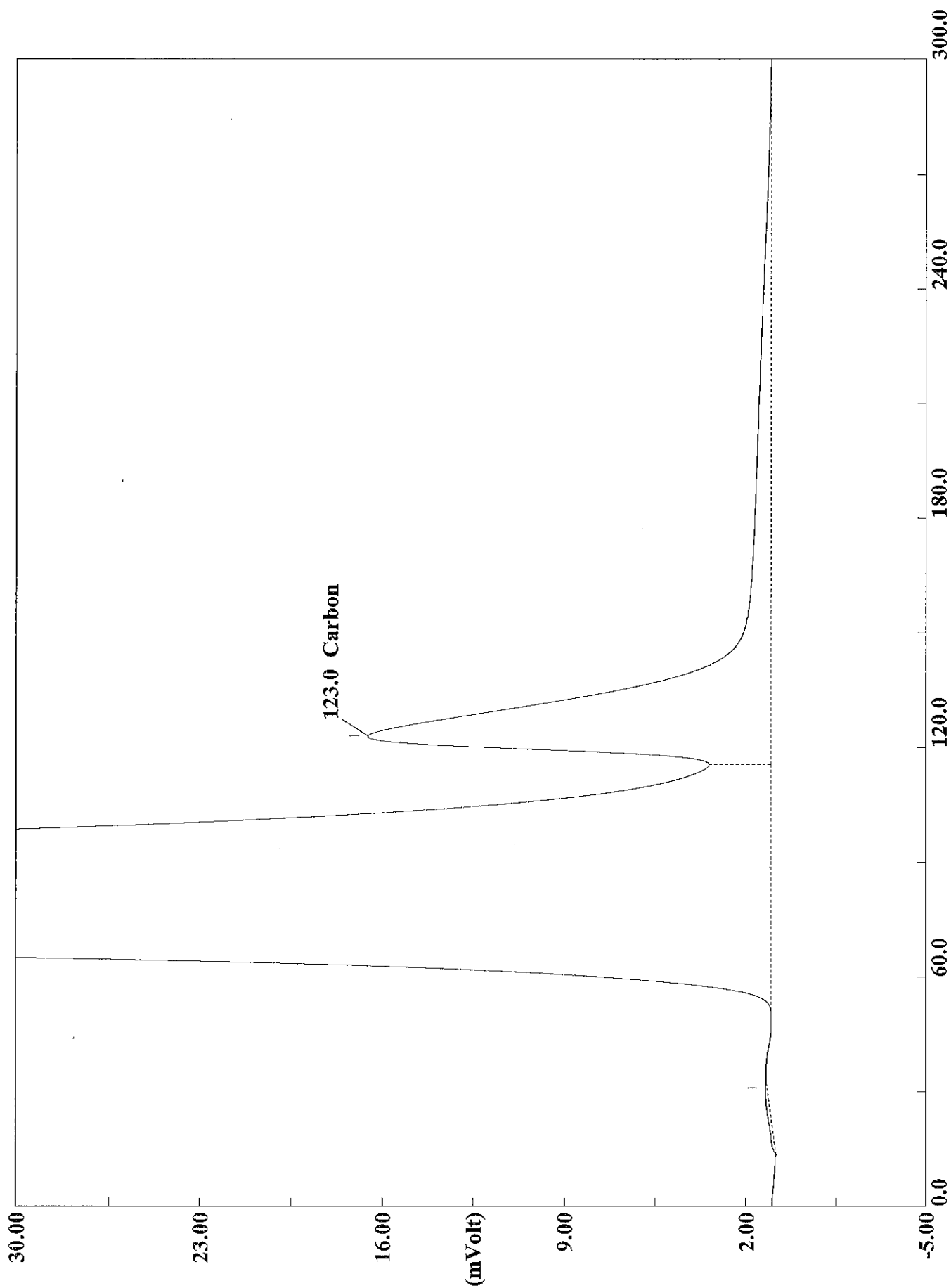
Sample name : 180-43458-n-9 Analysed : 05/07/2015 07:31



Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw

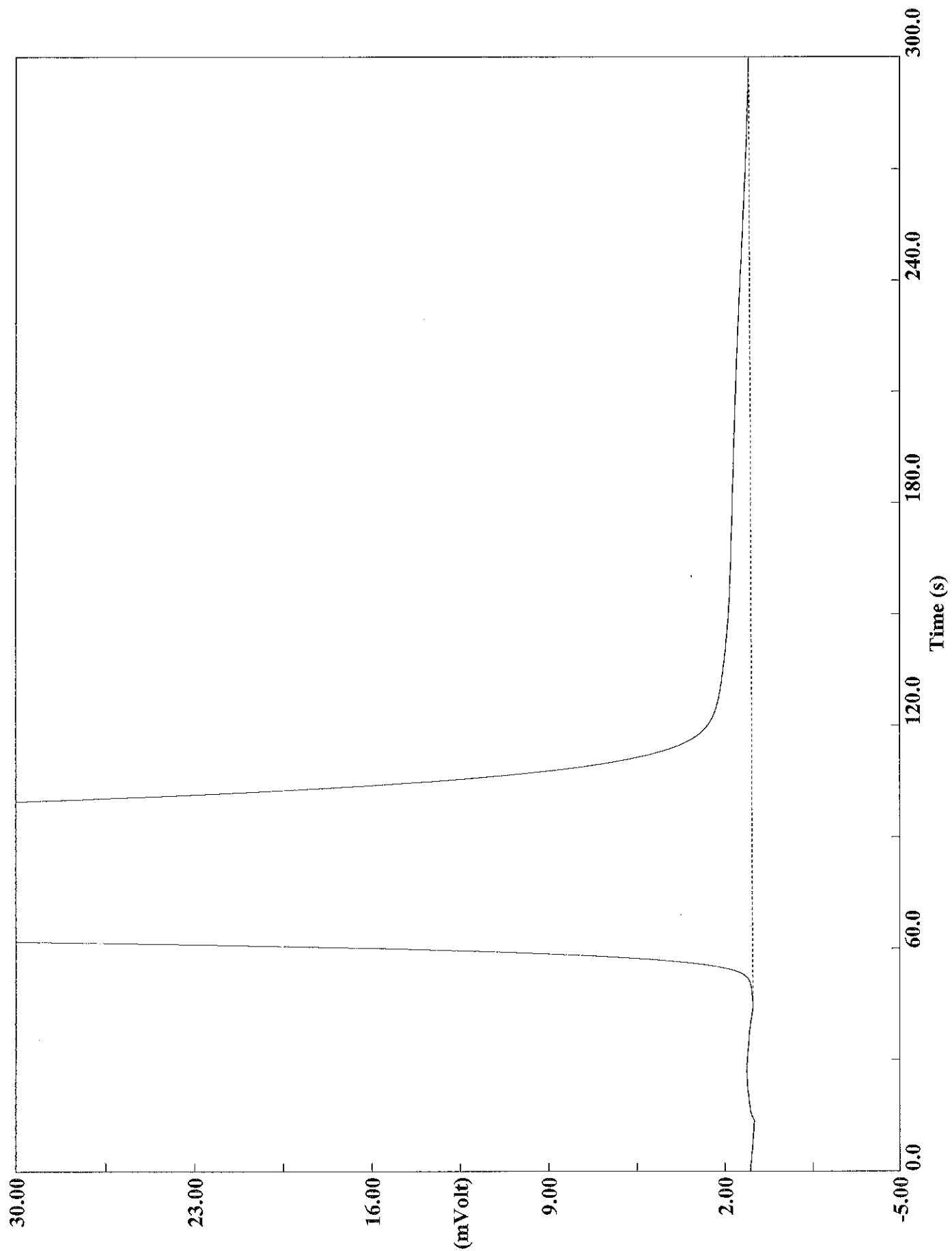


Filename C:\data\January\A050715041.DAT  
Sample name :rinse Analysed :05/07/2015 07:36

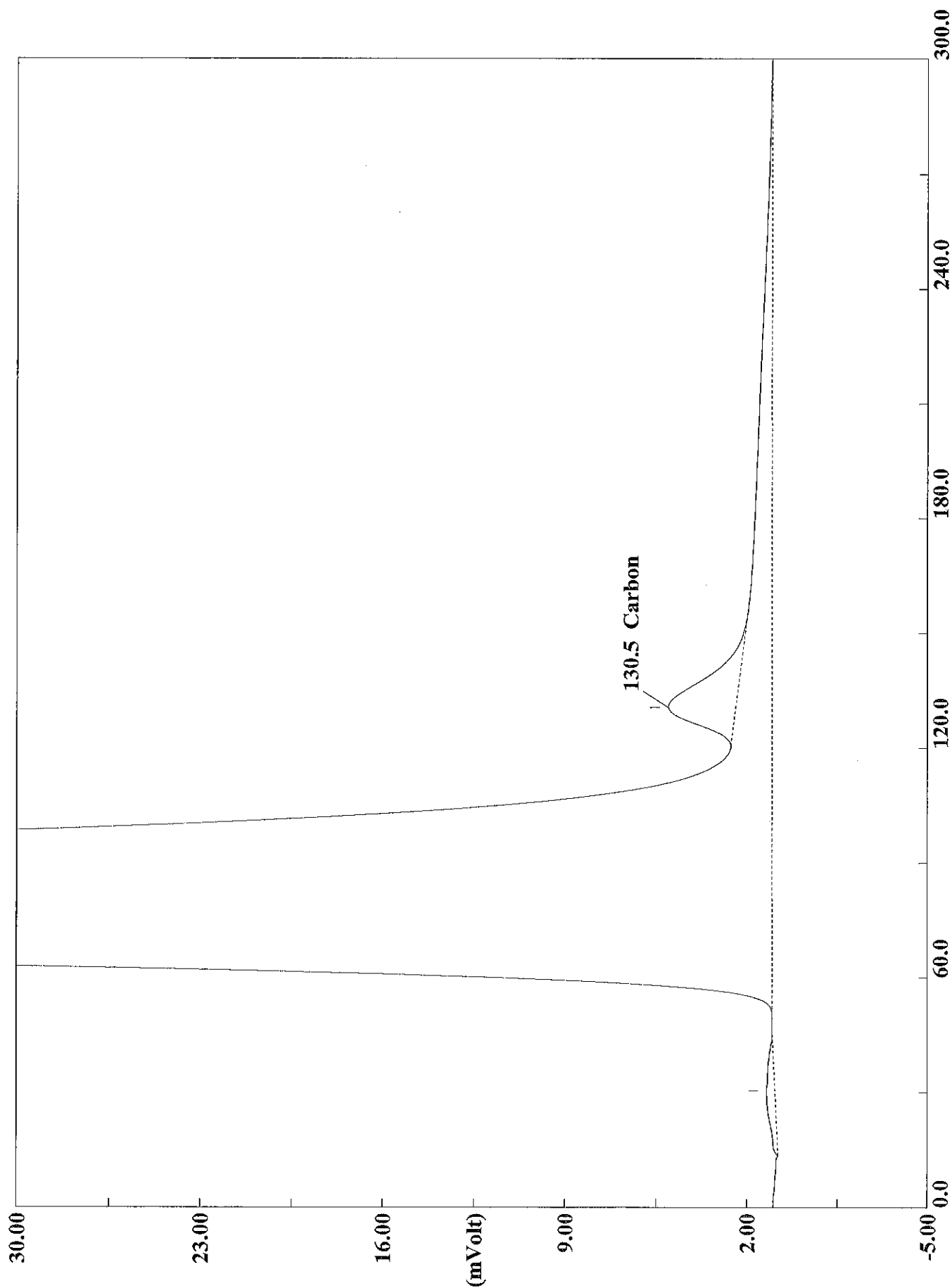


Filename C:\data\January\A050715042.DAT  
Sample name :ccv Analysed :05/07/2015 07:42

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



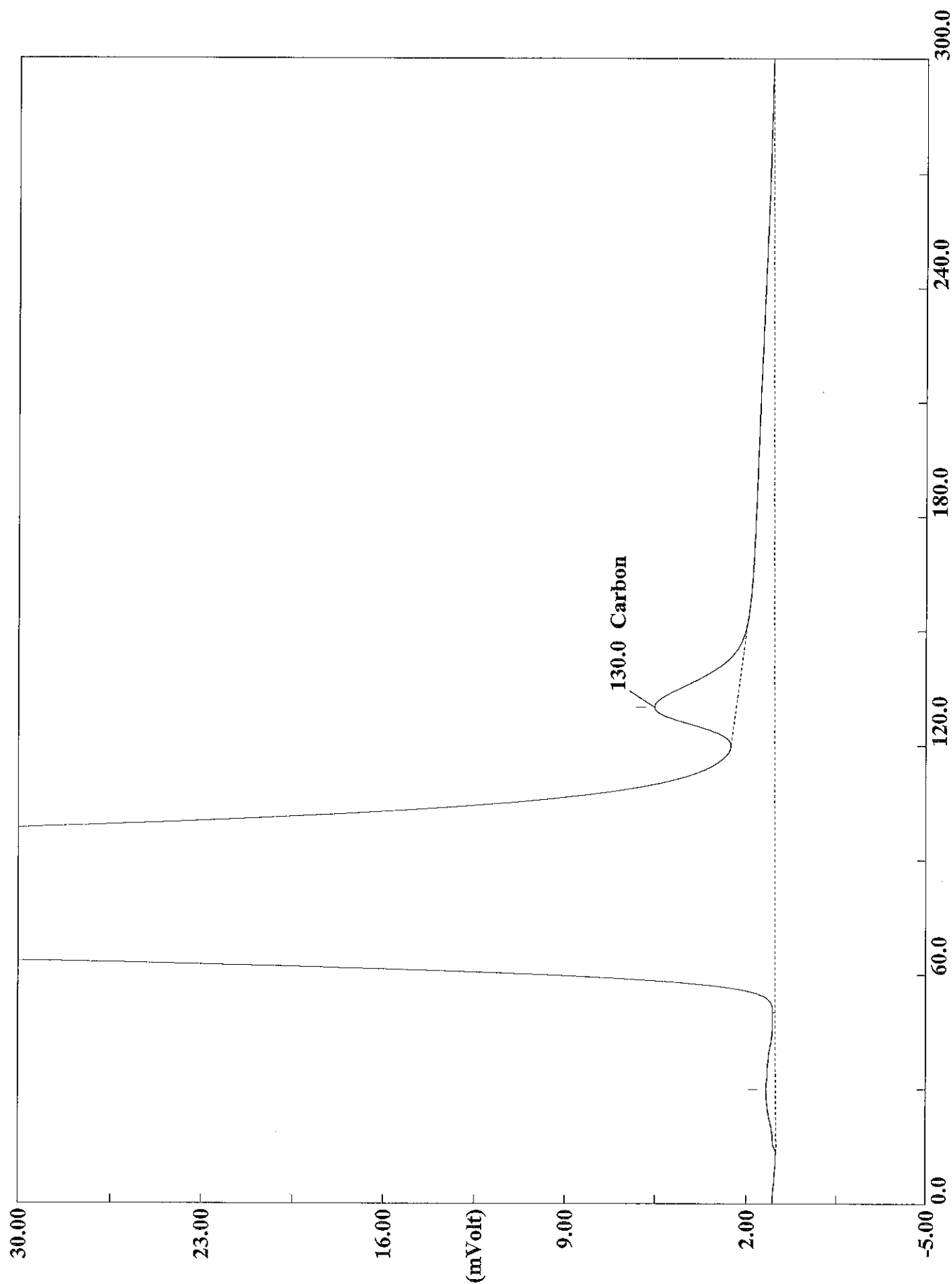
Filename C:\data\January\A050715043.DAT  
Sample name :ccb Analysed :05/07/2015 07:47



Filename C:\data\January\A050715044.DAT

Sample name :180-43458-d-10 Analysed :05/07/2015 07:52

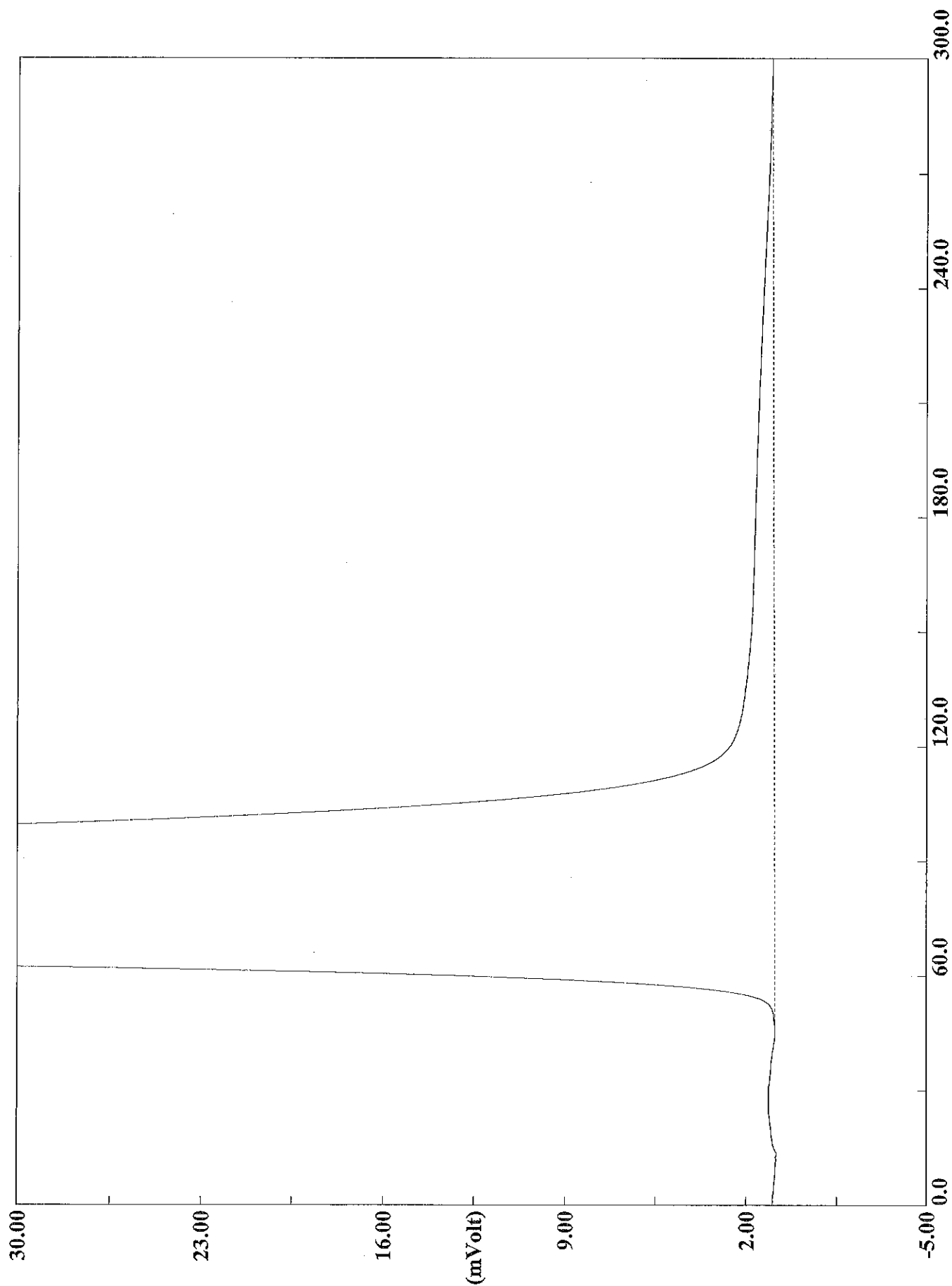
Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715045.DAT

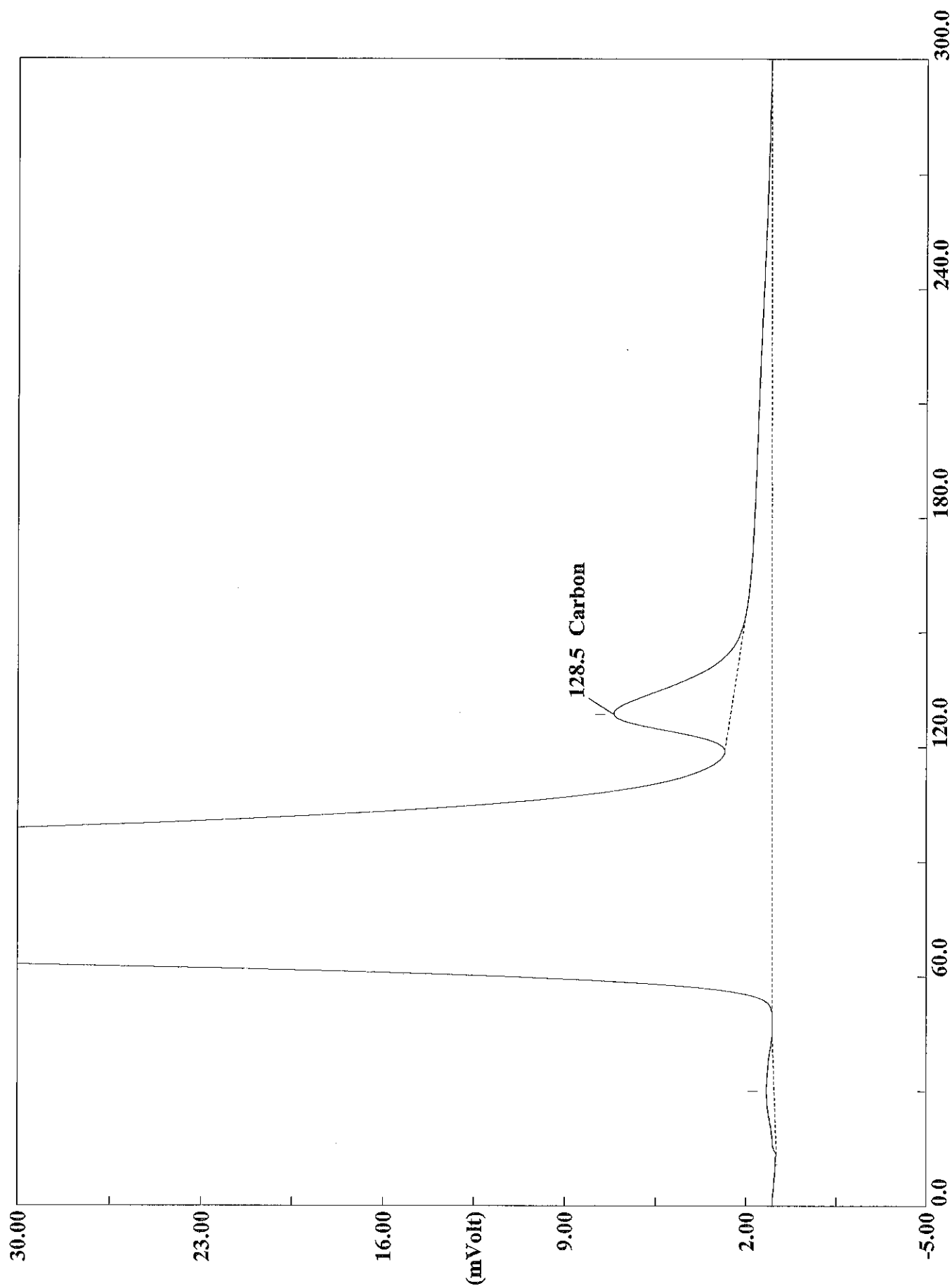
Sample name :180-43458-d-10 Analysed :05/07/2015 07:57

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw

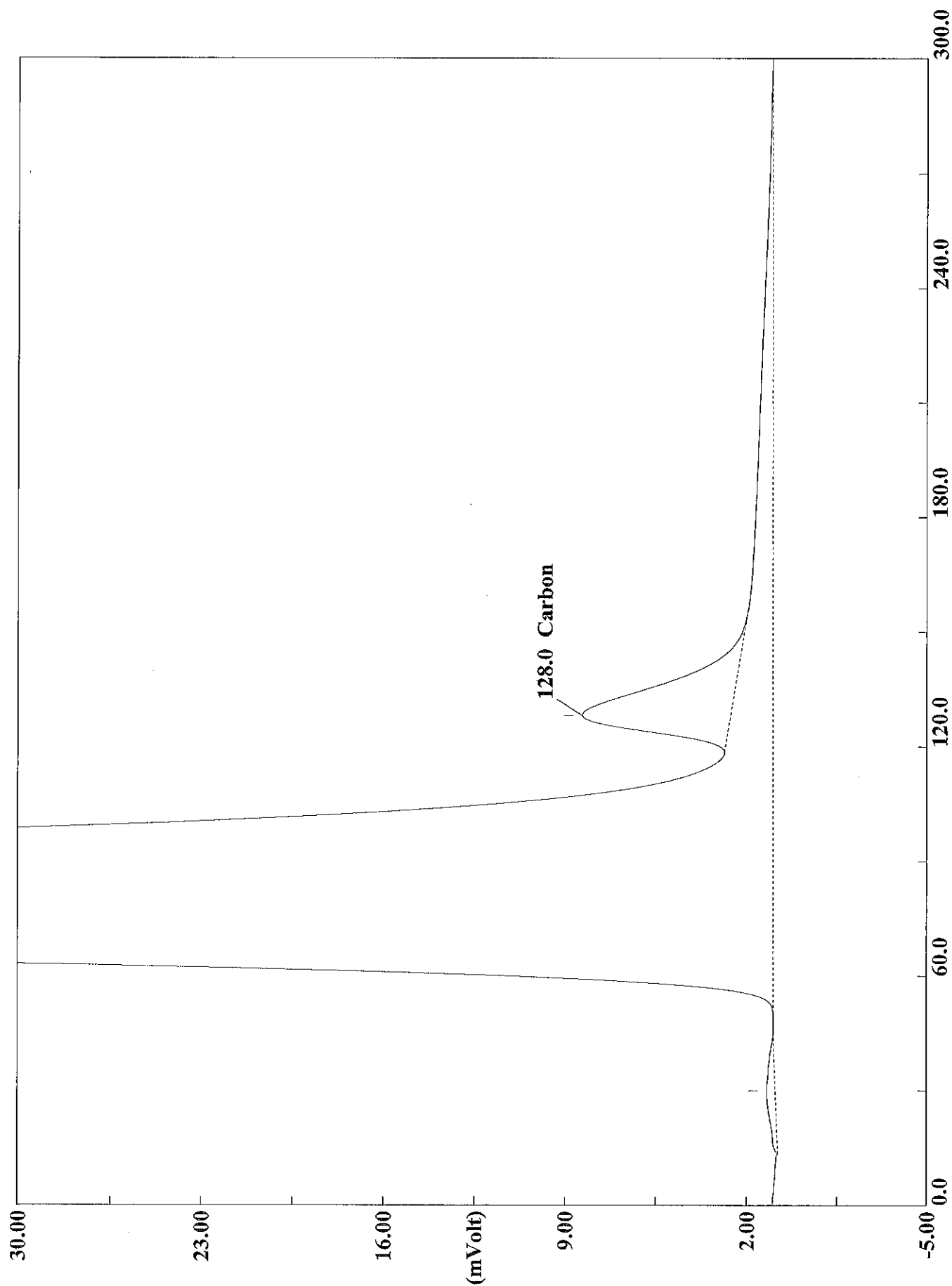


Filename C:\data\January\A050715046.DAT  
Sample name :rinse Analysed :05/07/2015 08:03

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



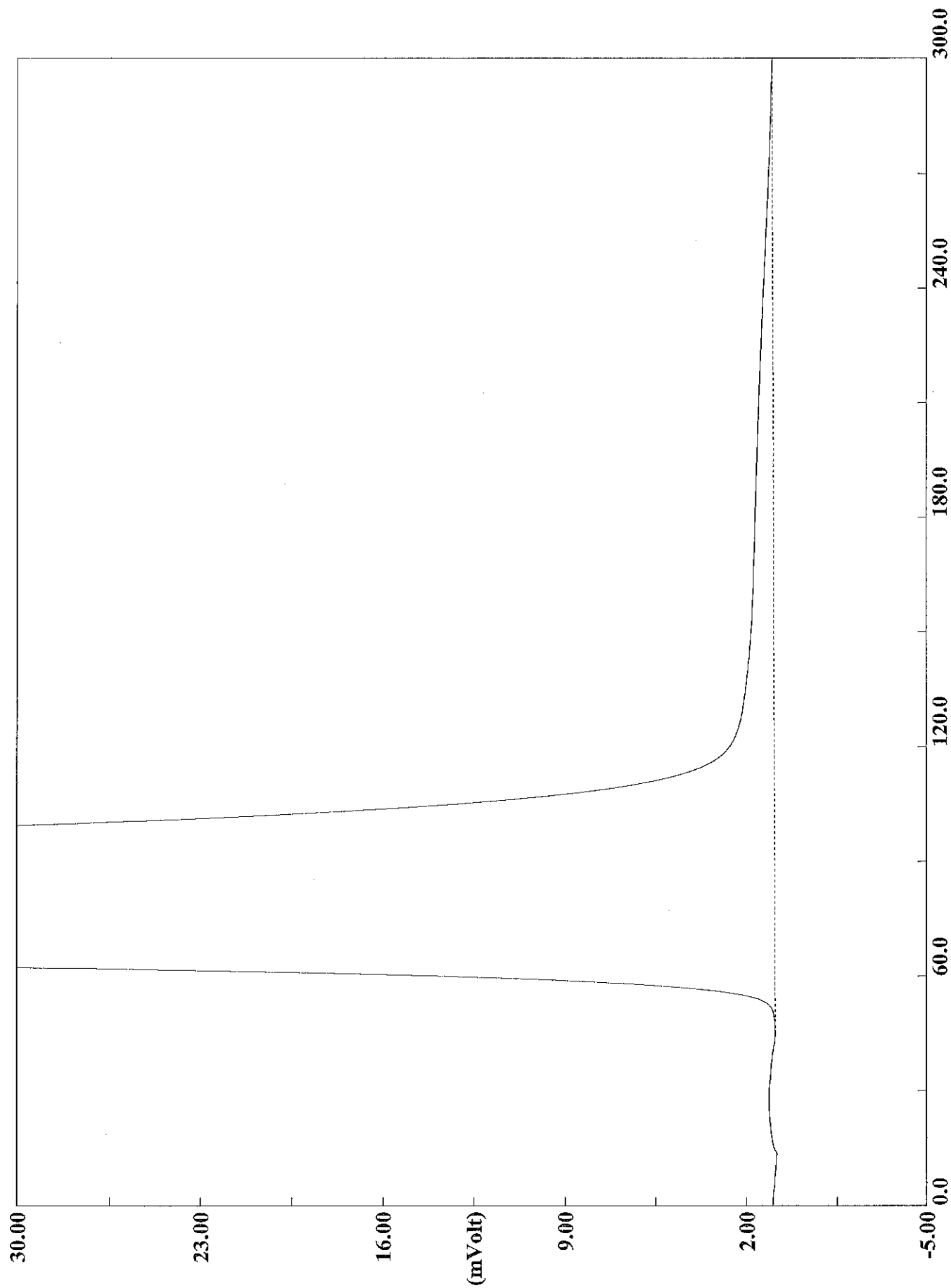
Filename C:\data\January\A050715047.DAT  
Sample name :180-43458-d-11 Analysed :05/07/2015 08:08



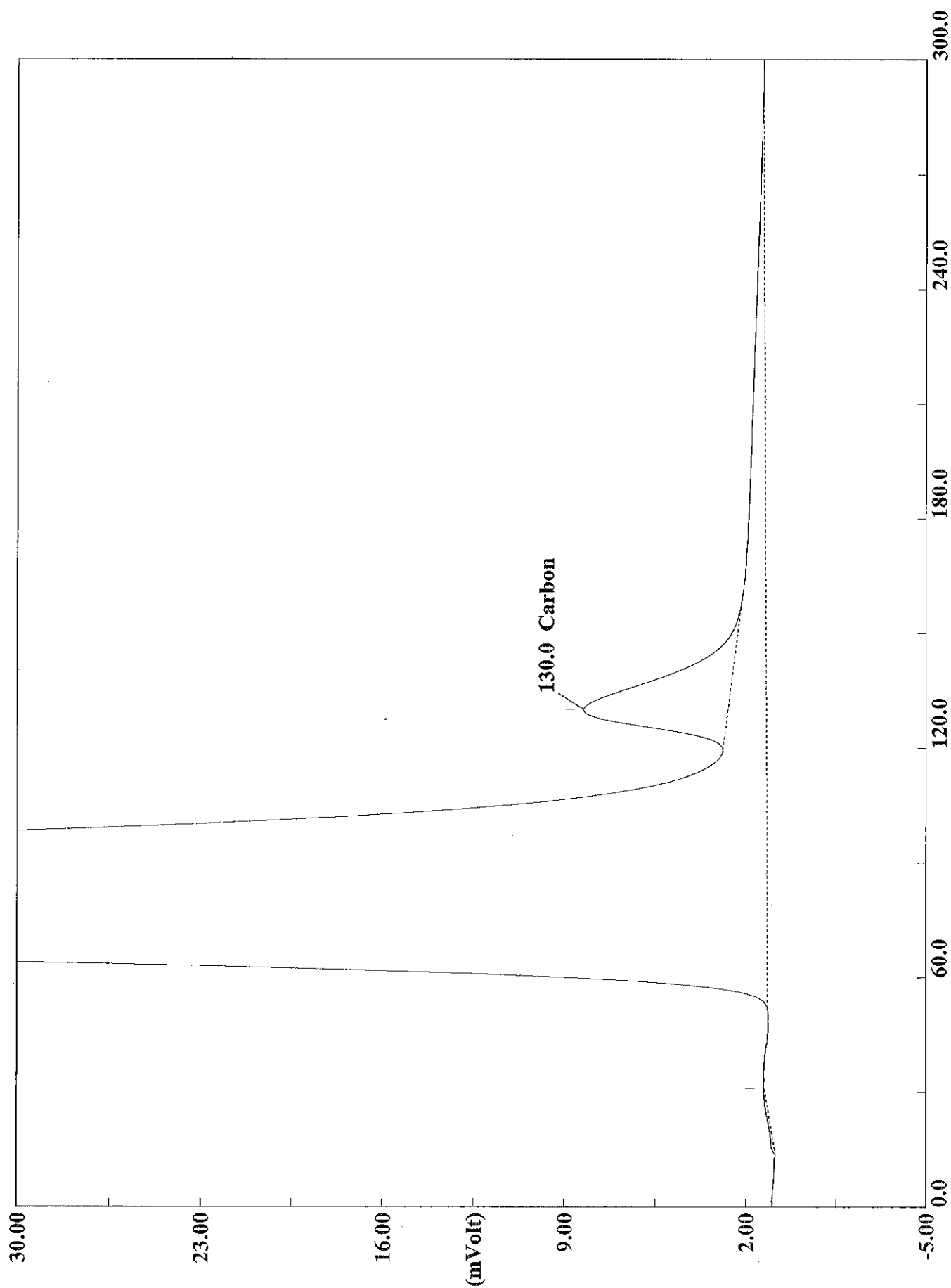
Filename C:\data\January\A050715048.DAT  
Sample name :180-43458-d-11 Analysed :05/07/2015 08:13



Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw

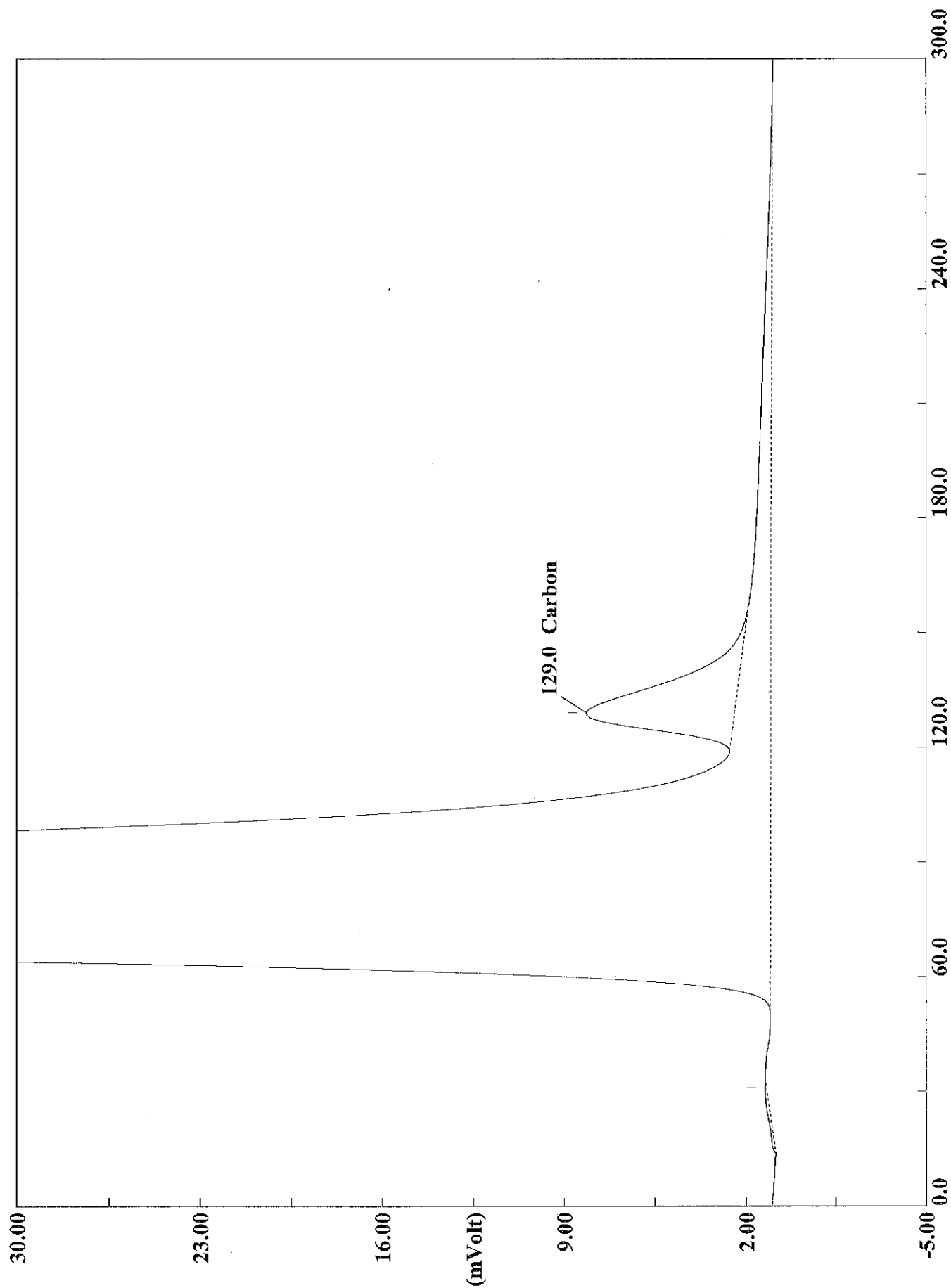


Filename C:\data\January\A050715049.DAT  
Sample name :rinse Analysed :05/07/2015 08:18



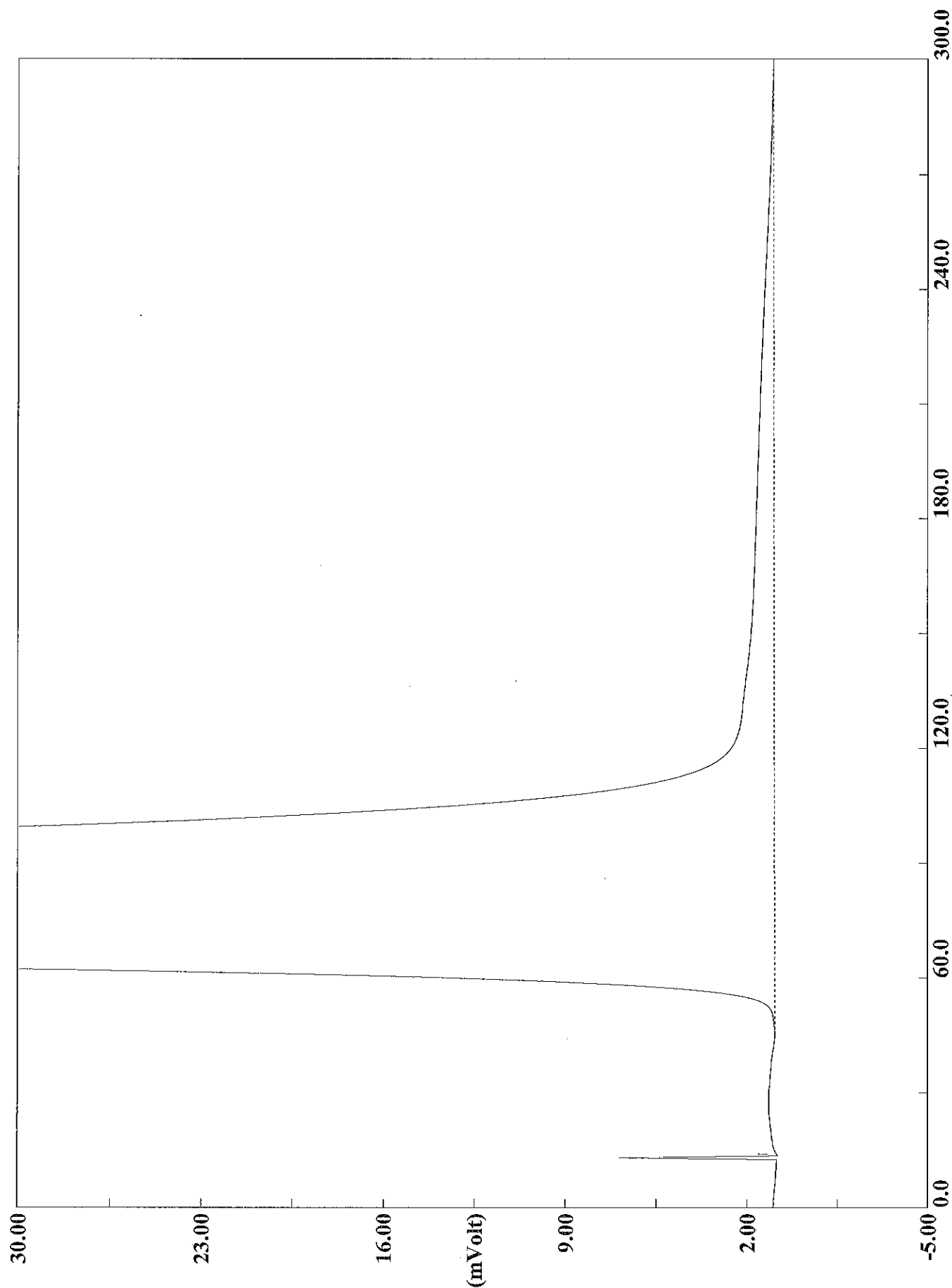
Filename C:\data\January\A050715050.DAT

Sample name :180-43458-d-12 Analysed :05/07/2015 08:25



Filename C:\data\January\A050715051.DAT  
Sample name :180-43458-d-12 Analysed :05/07/2015 08:30

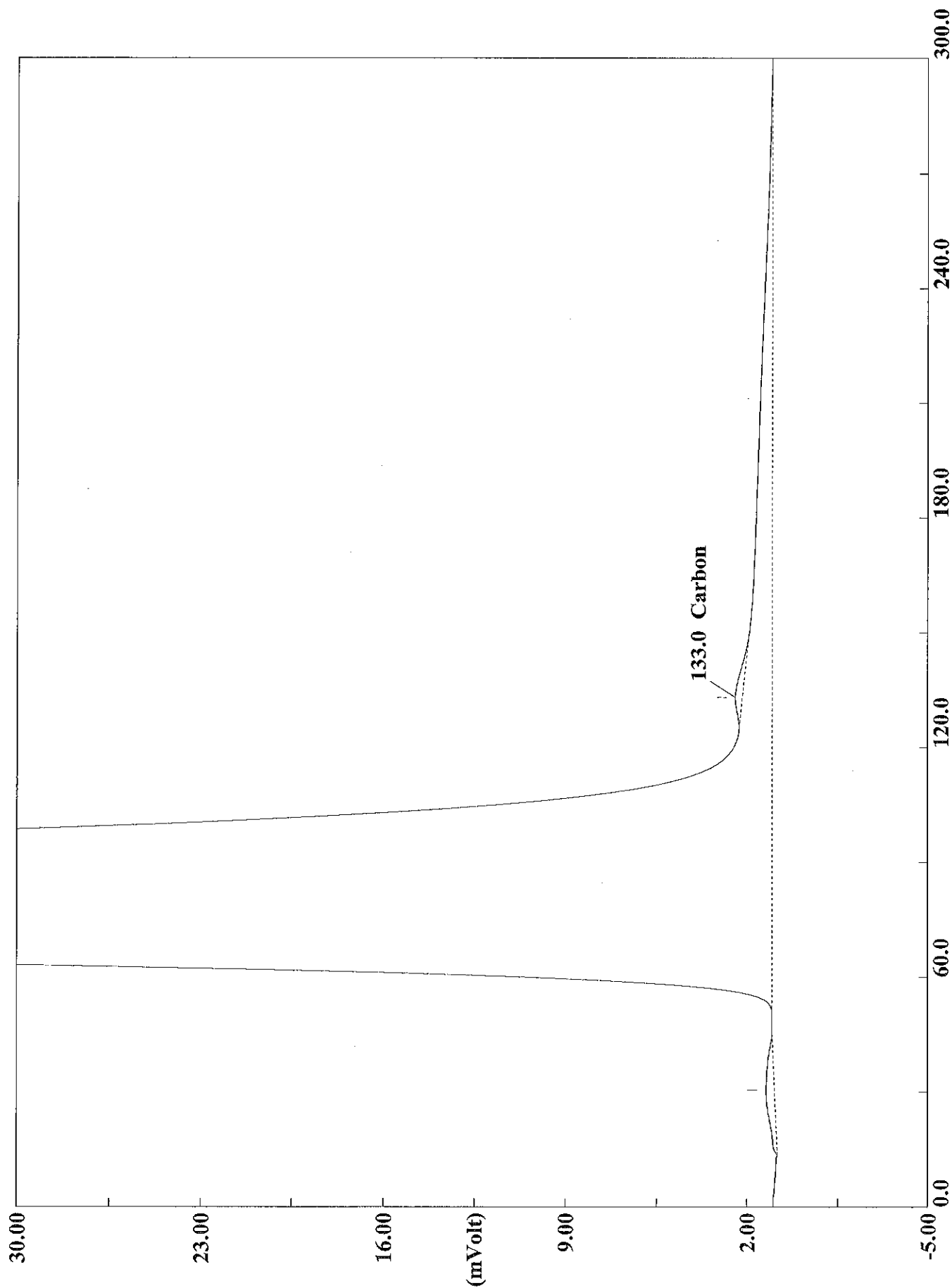
Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715052.DAT

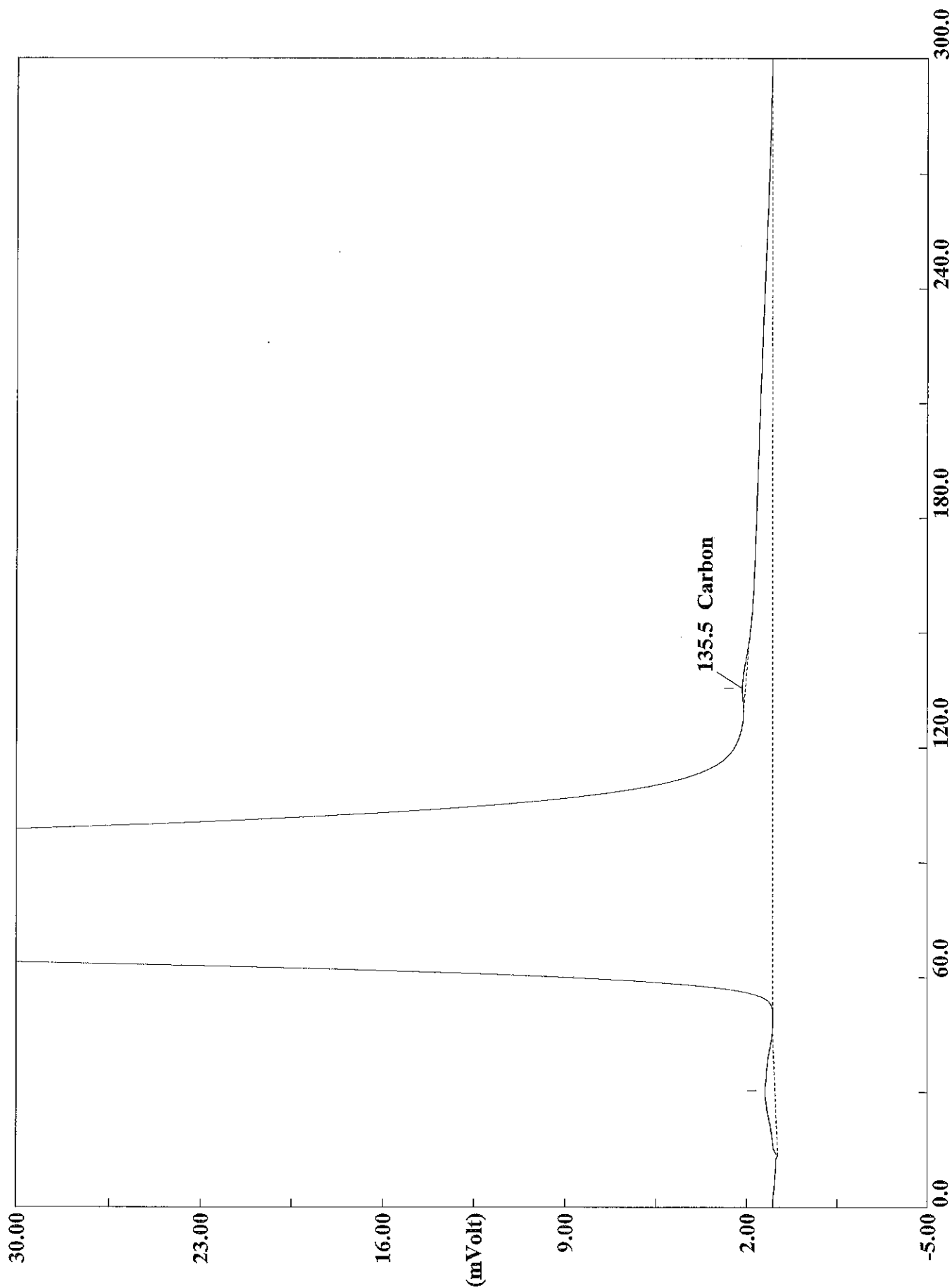
Sample name :rinse Analysed :05/07/2015 08:35

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715053.DAT

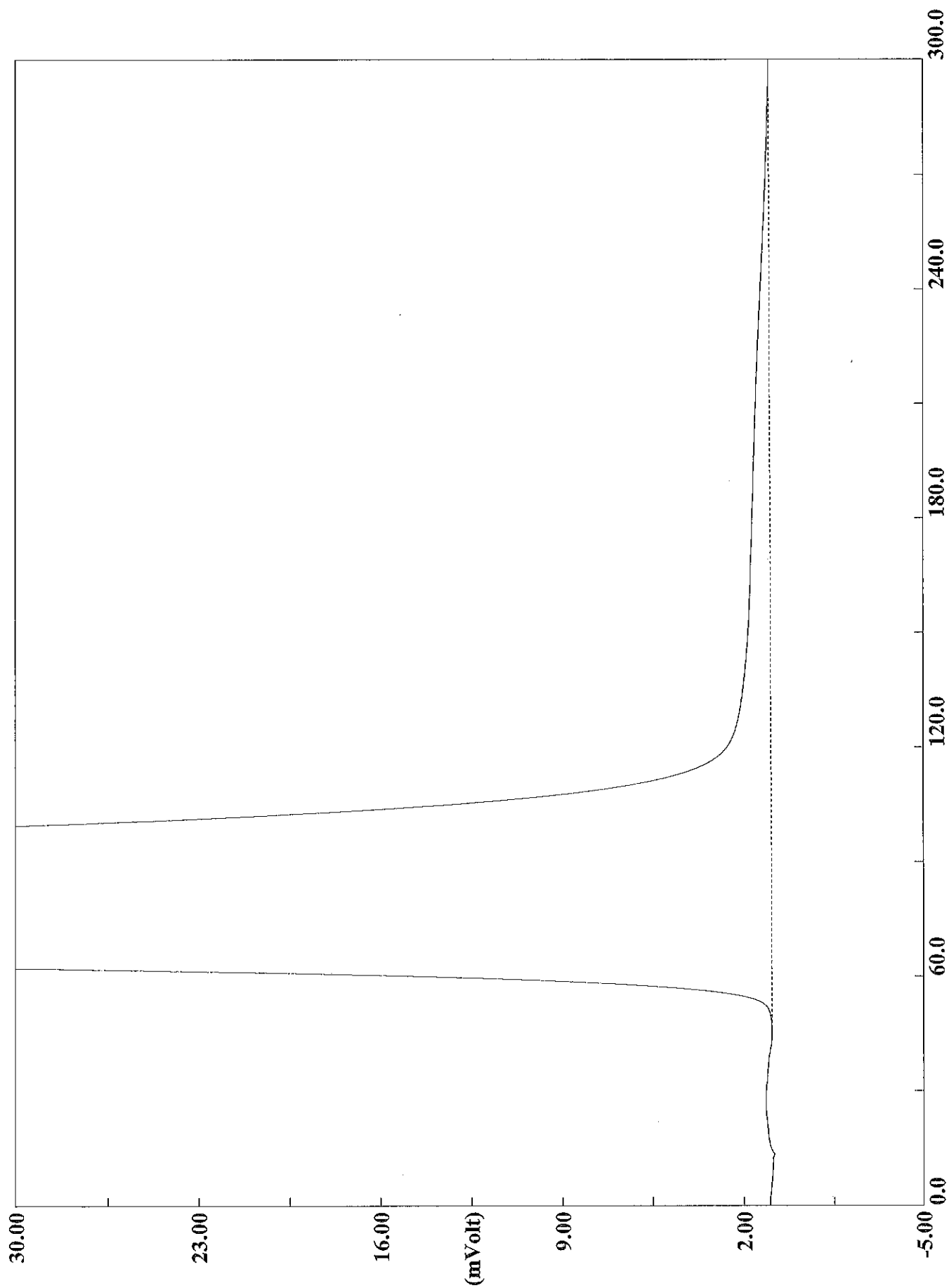
Sample name :180-43411-a-1 Analysed :05/07/2015 08:41



Filename C:\data\January\A050715054.DAT

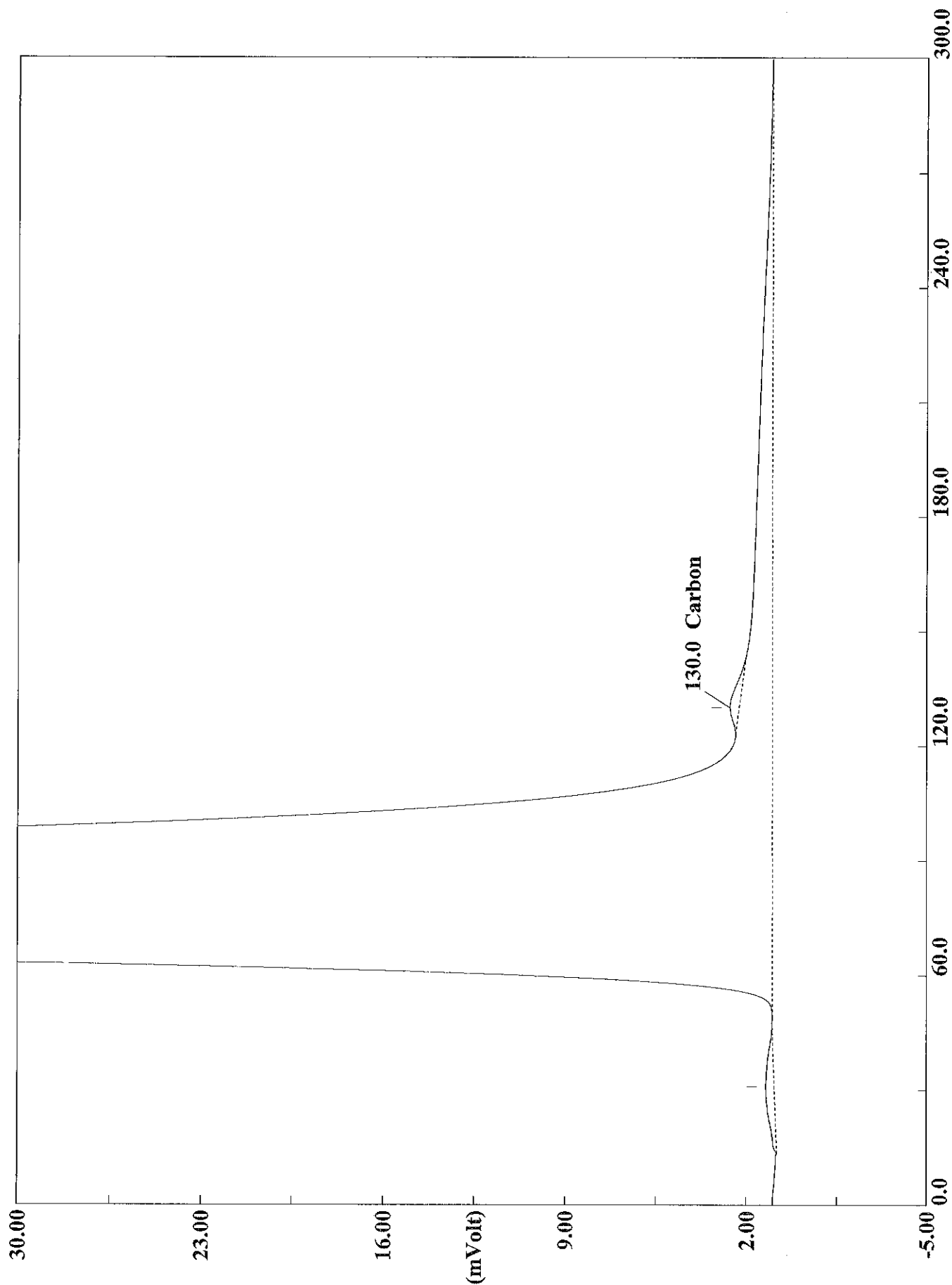
Sample name : 180-43411-a-1 Analysed : 05/07/2015 08:46

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715055.DAT  
Sample name :rinse Analysed :05/07/2015 08:51

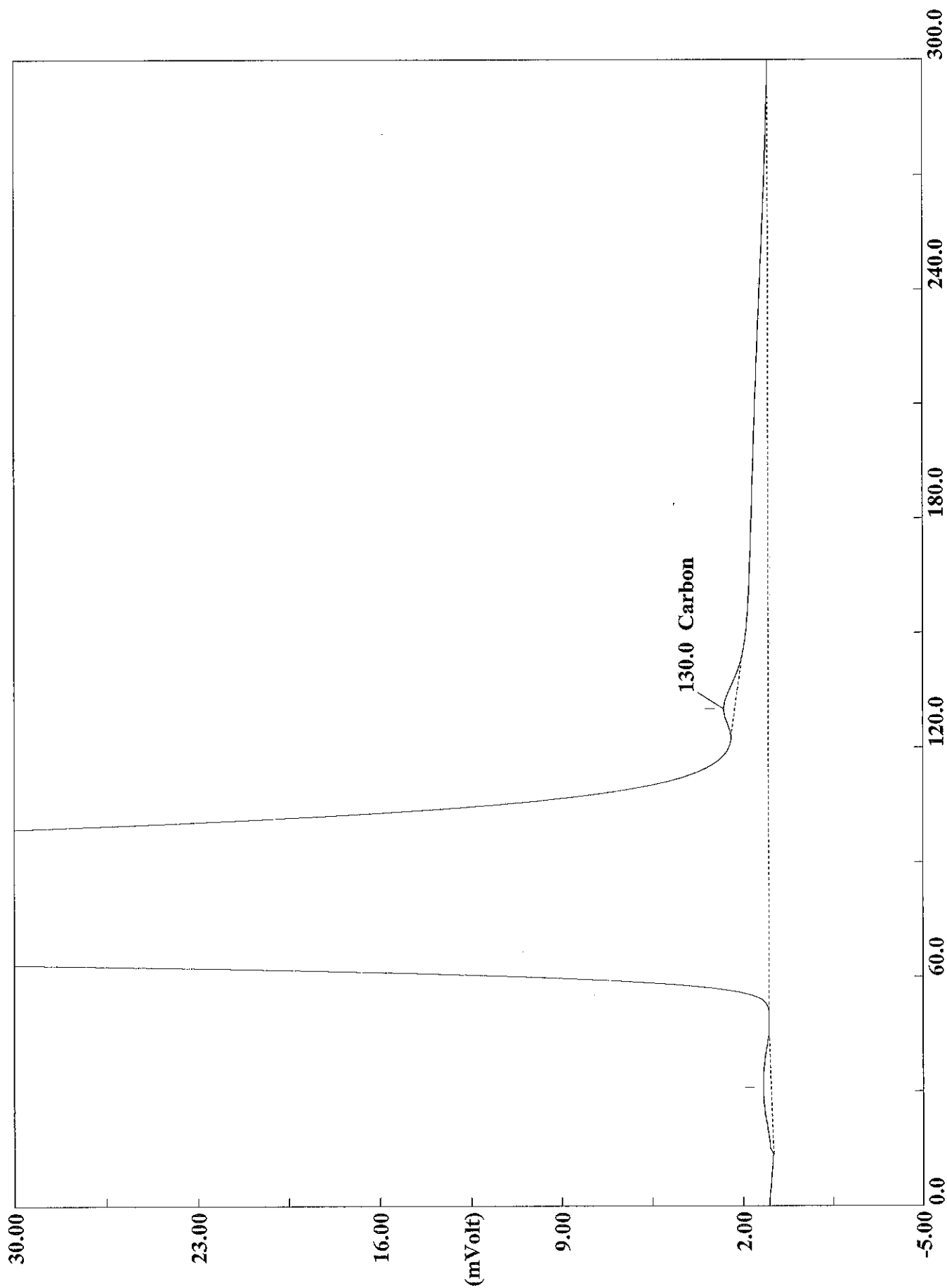
Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715056.DAT

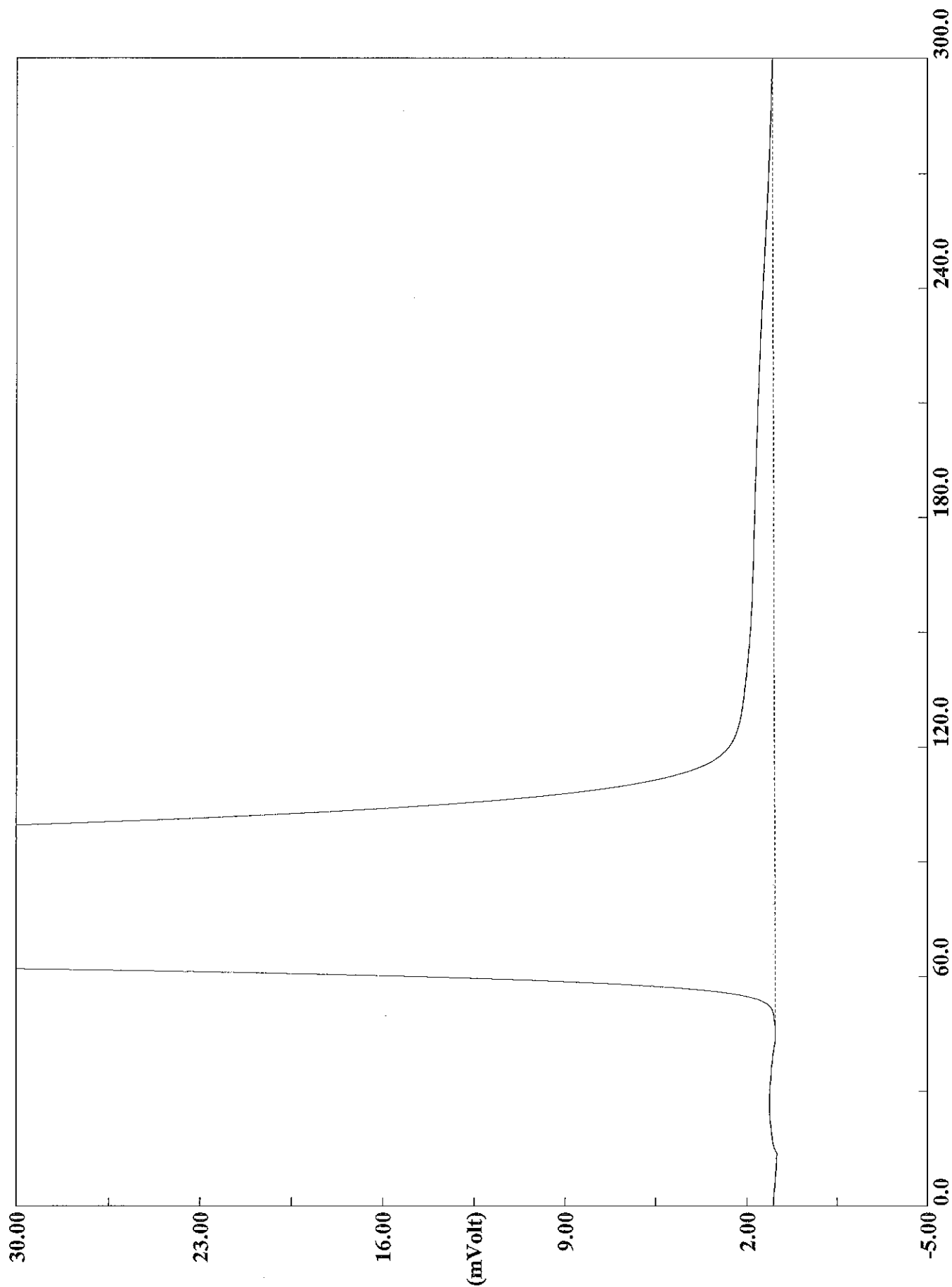
Sample name : 180-43411-a-2 Analysed : 05/07/2015 08:56





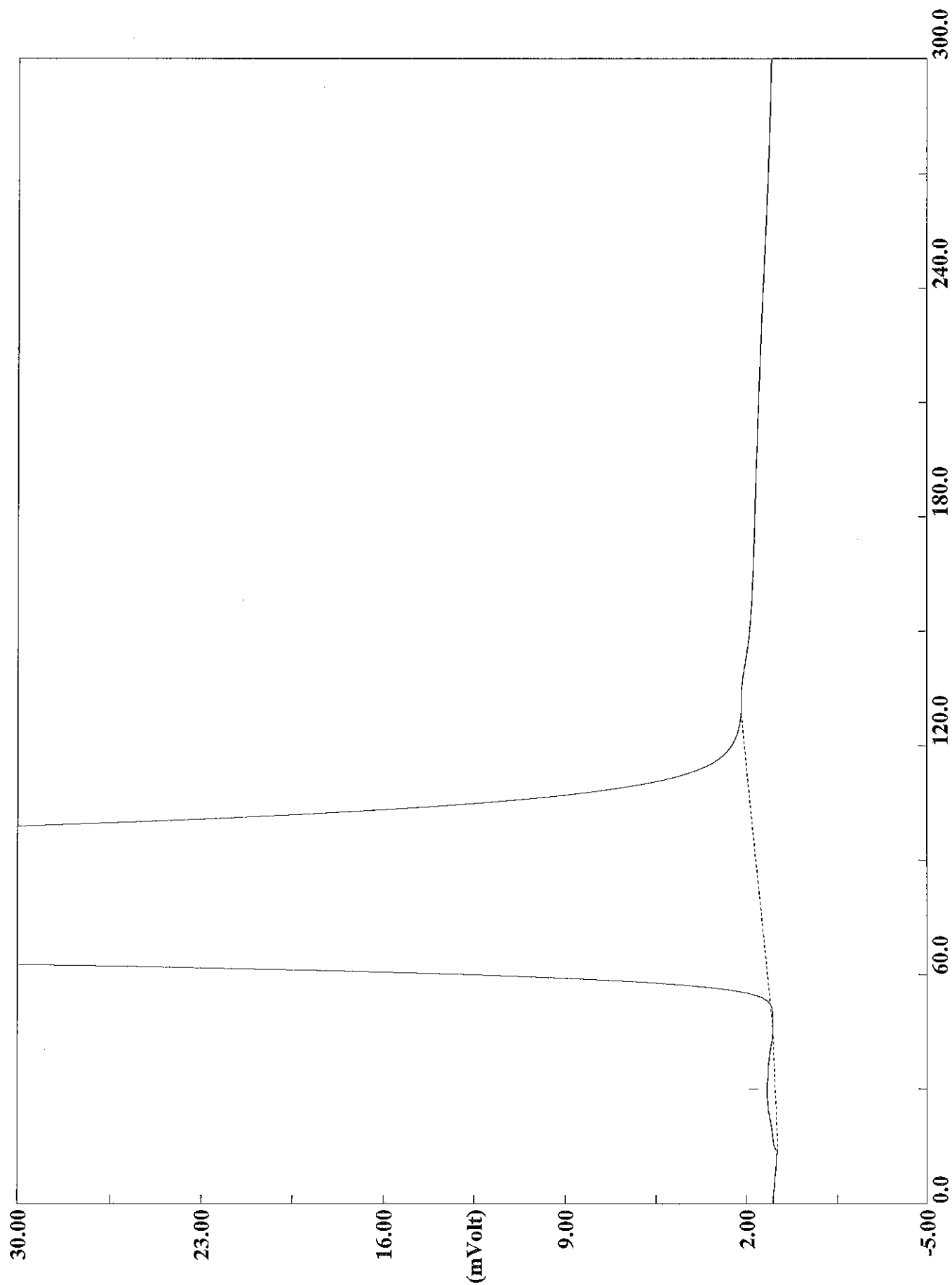
Filename C:\data\January\A050715057.DAT

Sample name :180-43411-a-2 Analysed :05/07/2015 09:02



Filename C:\data\January\A050715058.DAT  
Sample name :rinse Analysed :05/07/2015 09:07

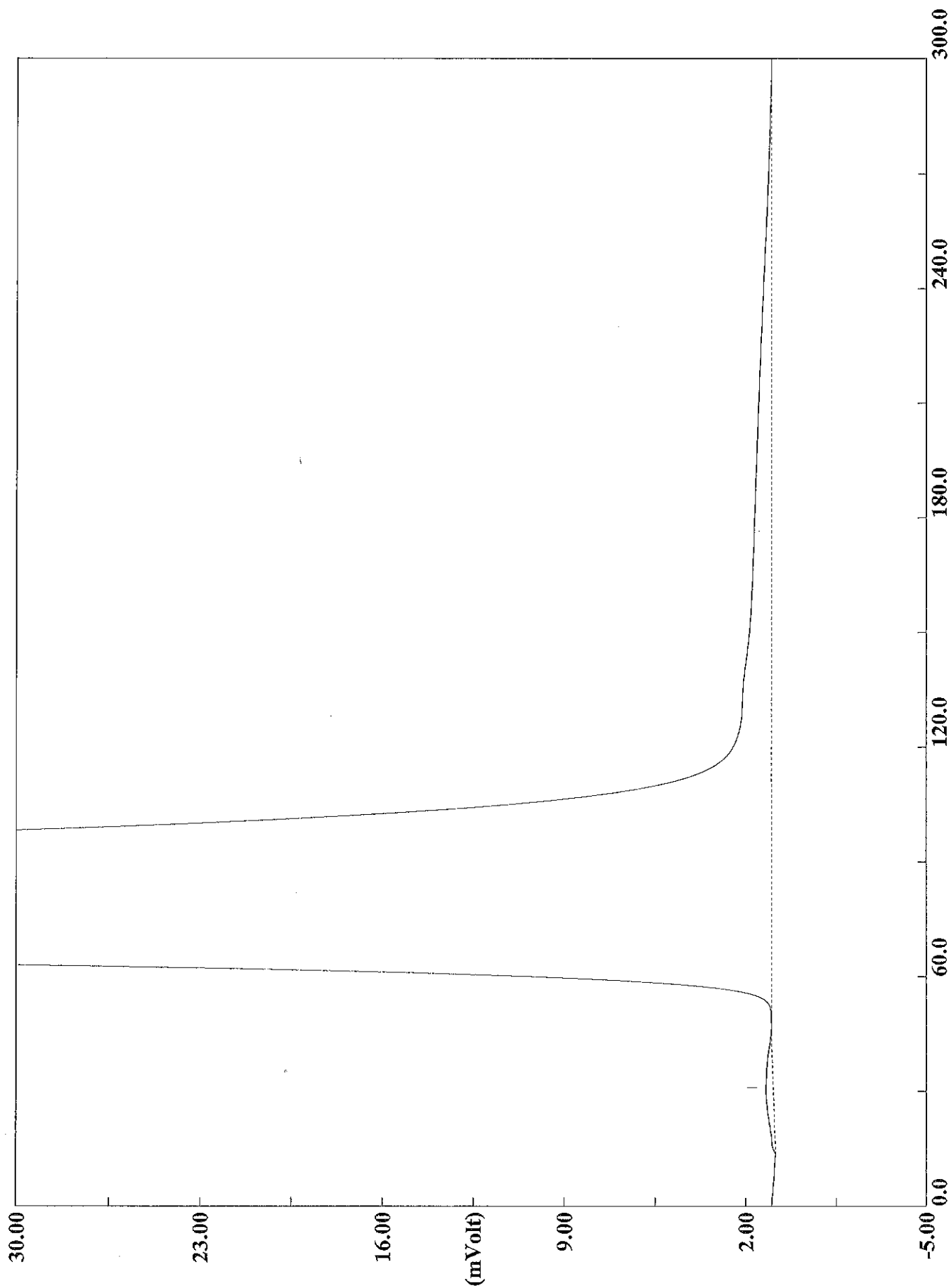
Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715059.DAT

Sample name :180-43423-d-2 Analysed :05/07/2015 09:12

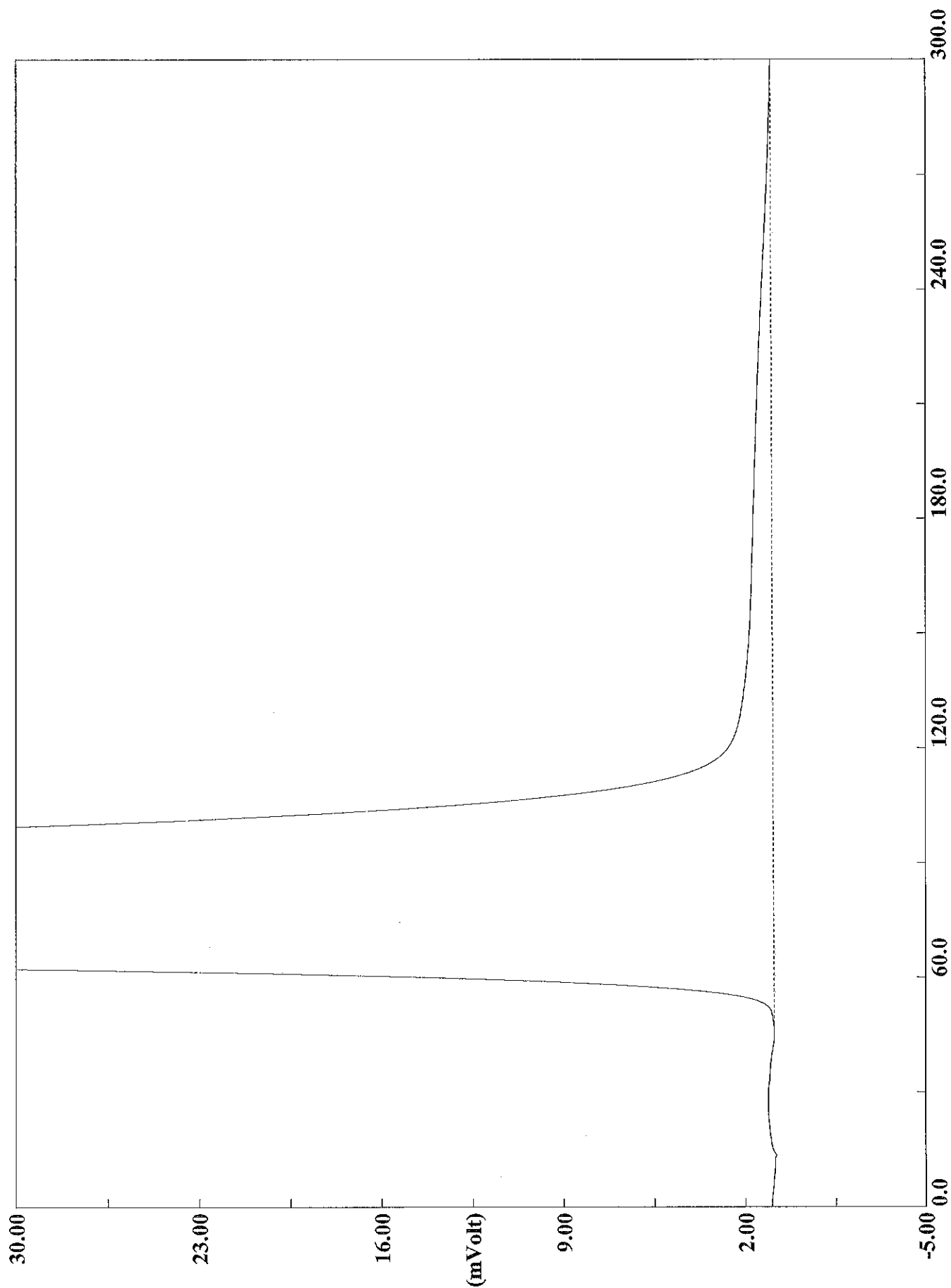
Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



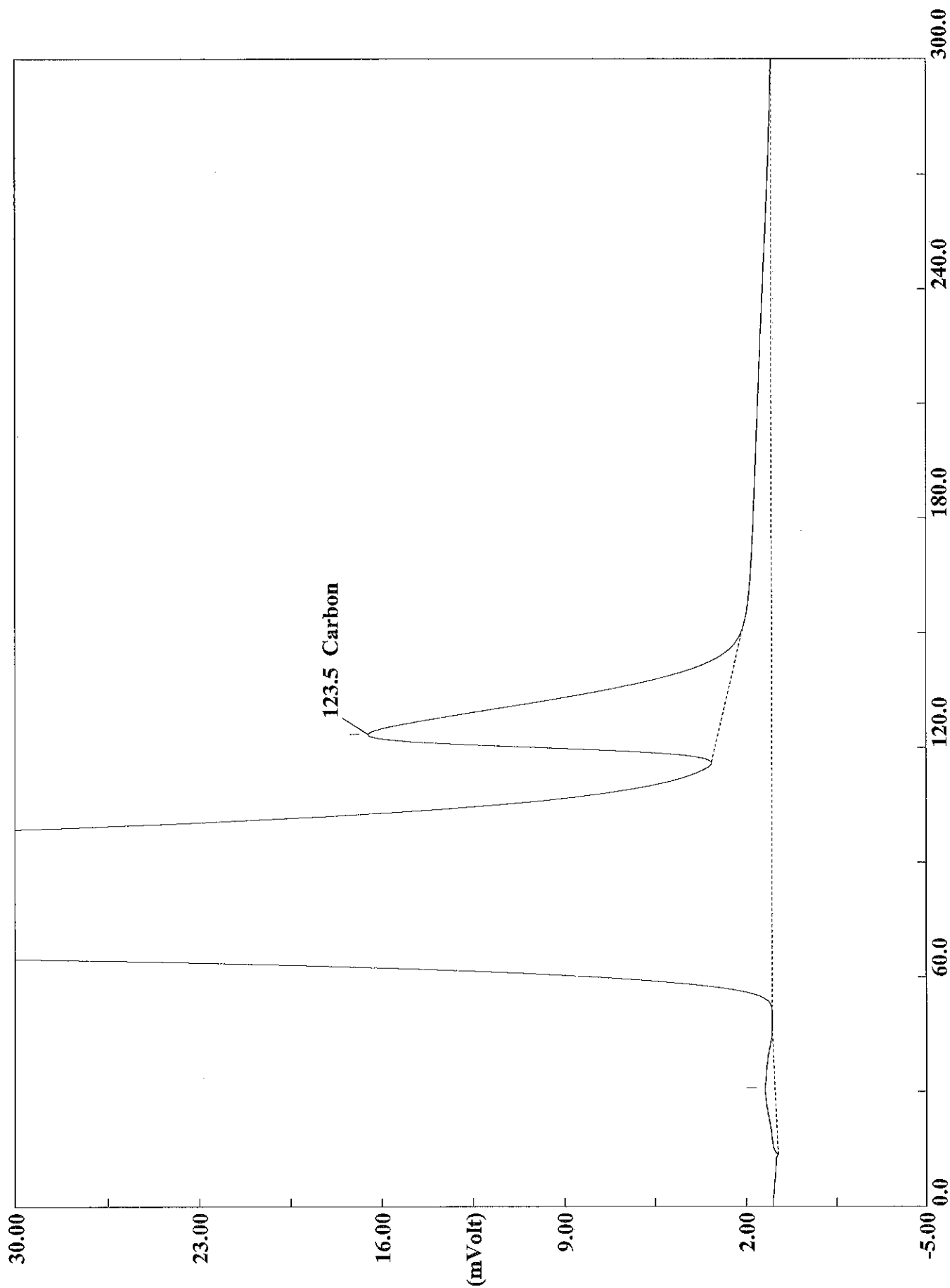
Filename C:\data\January\A050715060.DAT

Sample name :180-43423-d-2 Analysed :05/07/2015 09:17

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw

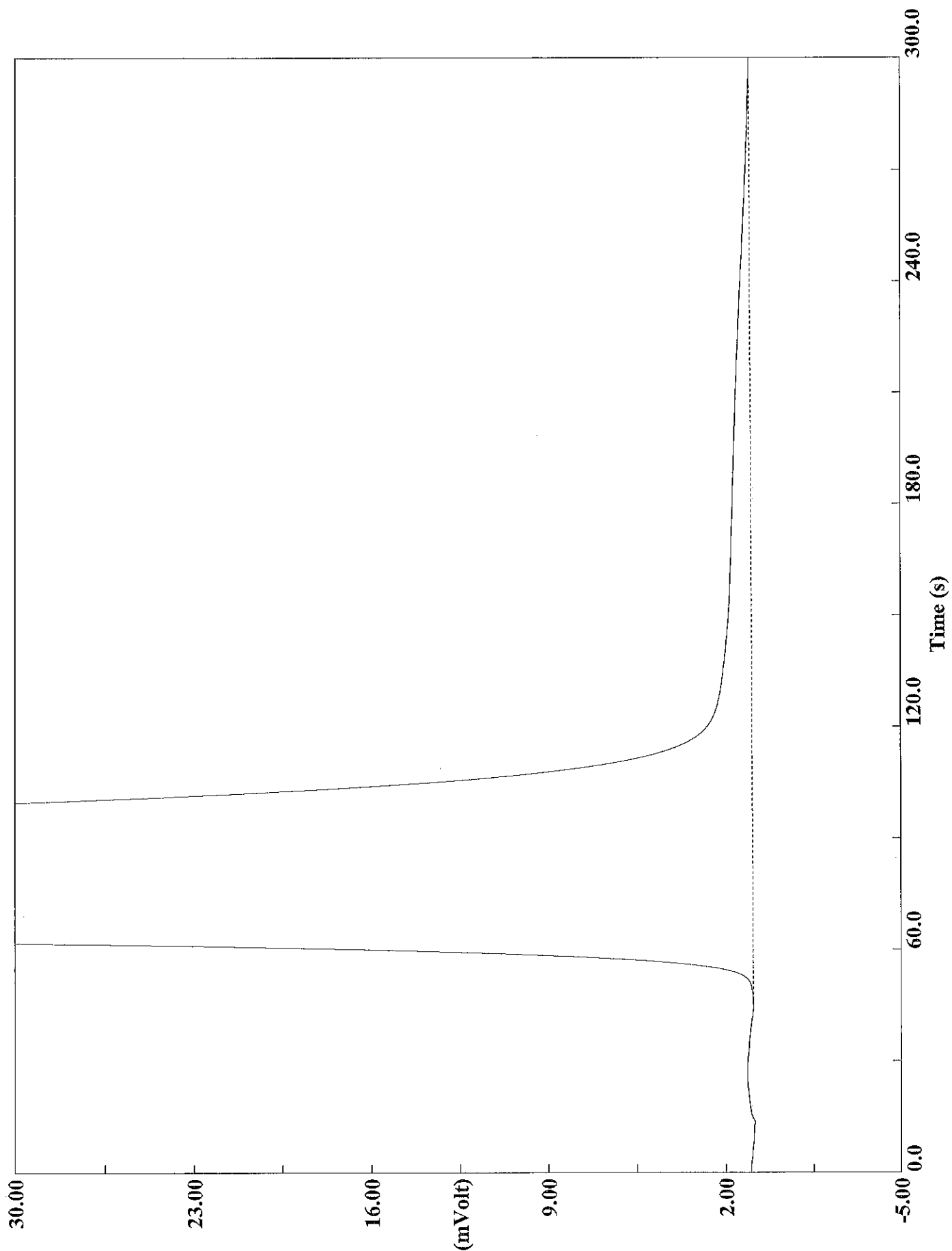


Filename C:\data\January\A050715061.DAT  
Sample name :rinse Analysed :05/07/2015 09:23

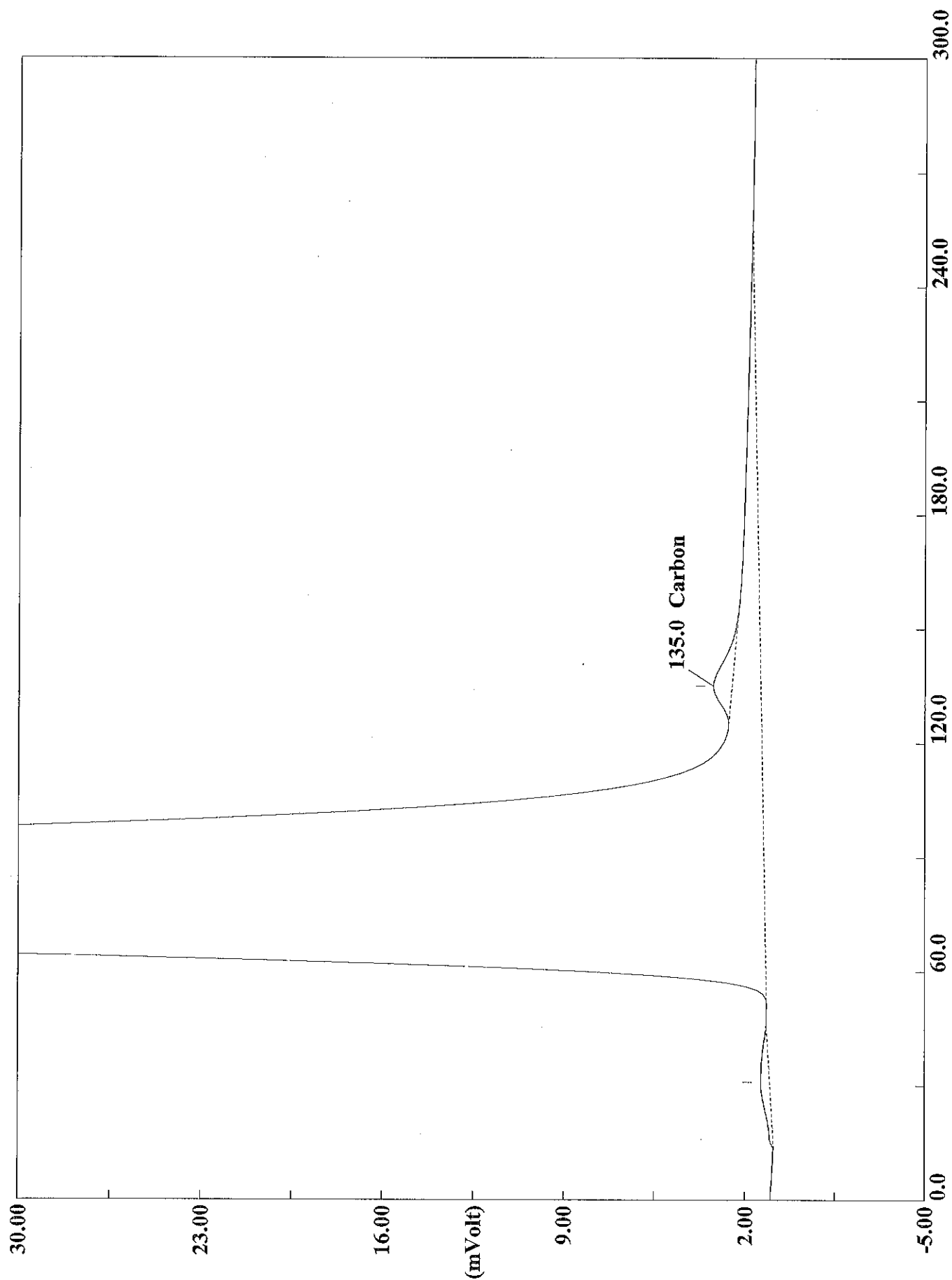


Filename C:\data\January\A050715062.DAT  
Sample name :ccv Analysed :05/07/2015 09:28

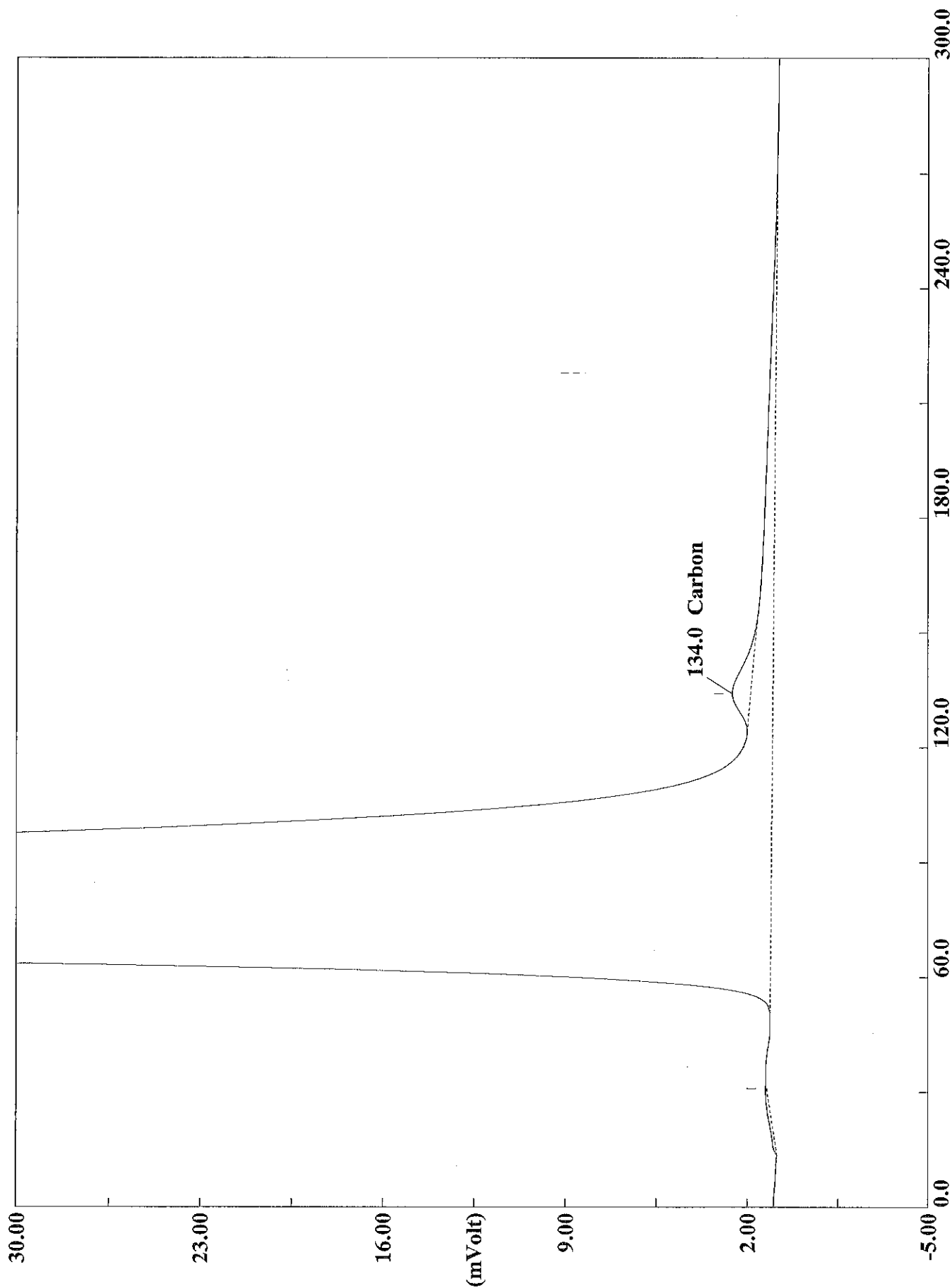
Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715063.DAT  
Sample name :ccb Analysed :05/07/2015 09:33



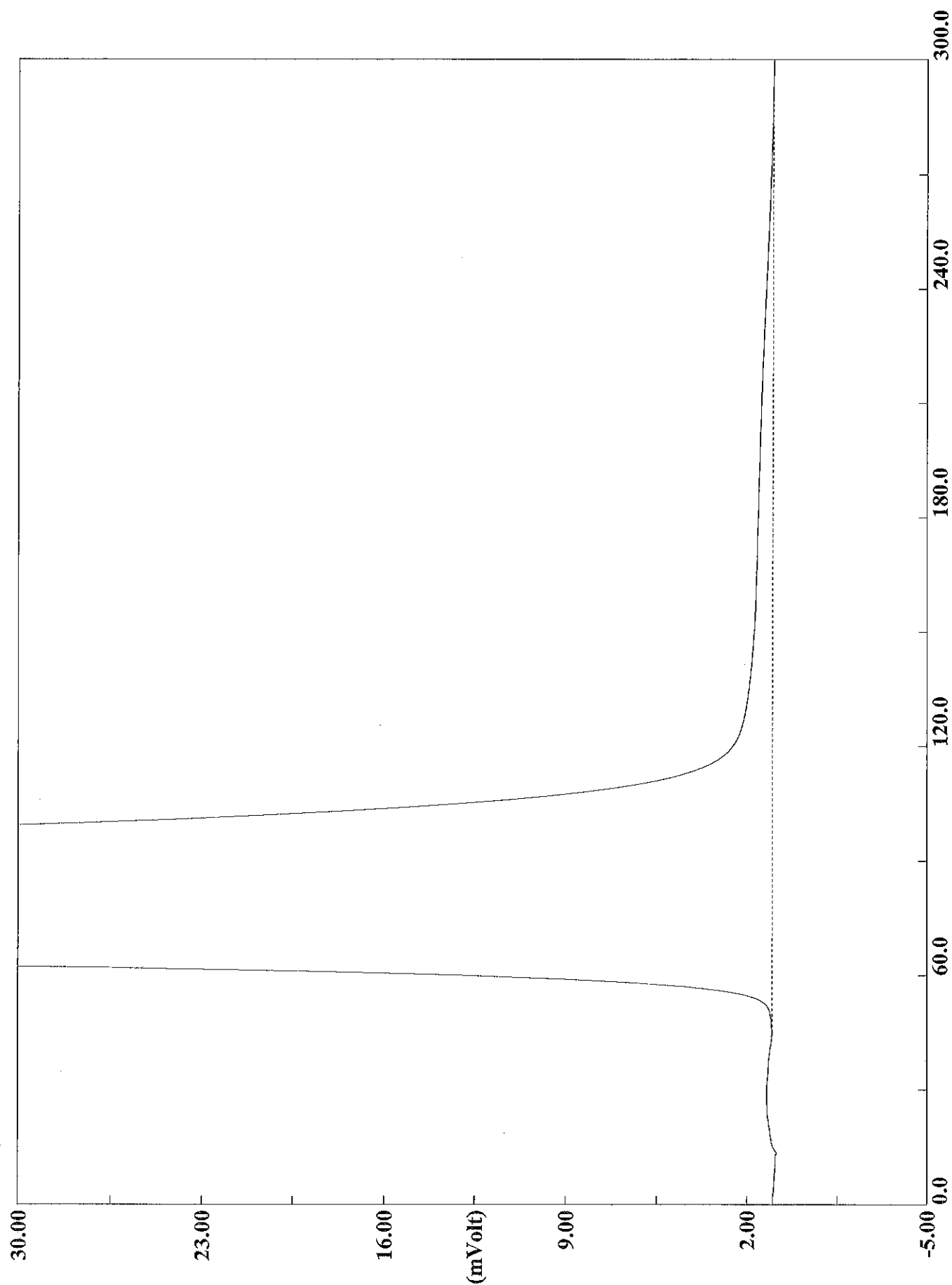




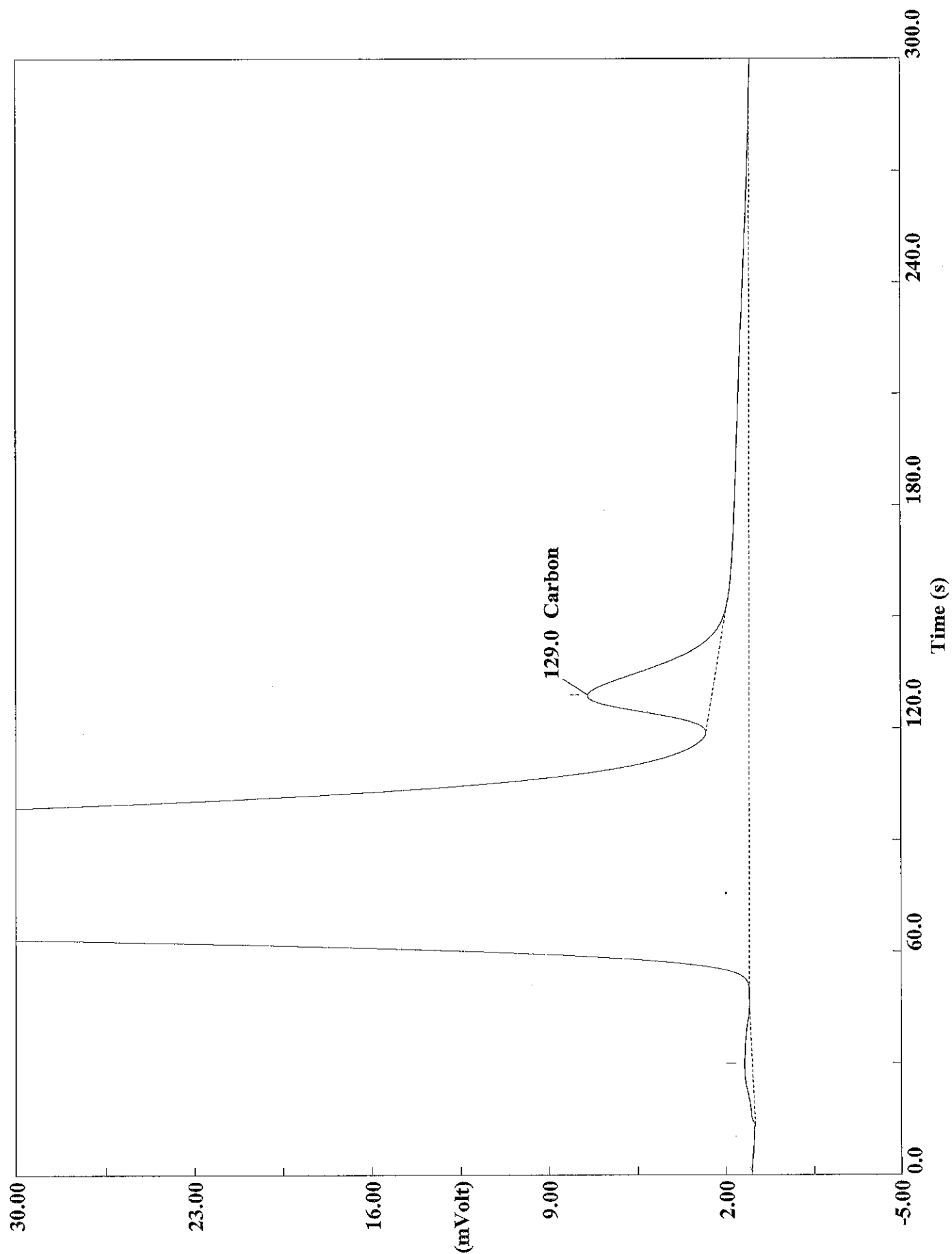
Filename C:\data\January\A050715065.DAT

Sample name : 180-43548-m-2 Analysed : 05/07/2015 09:48

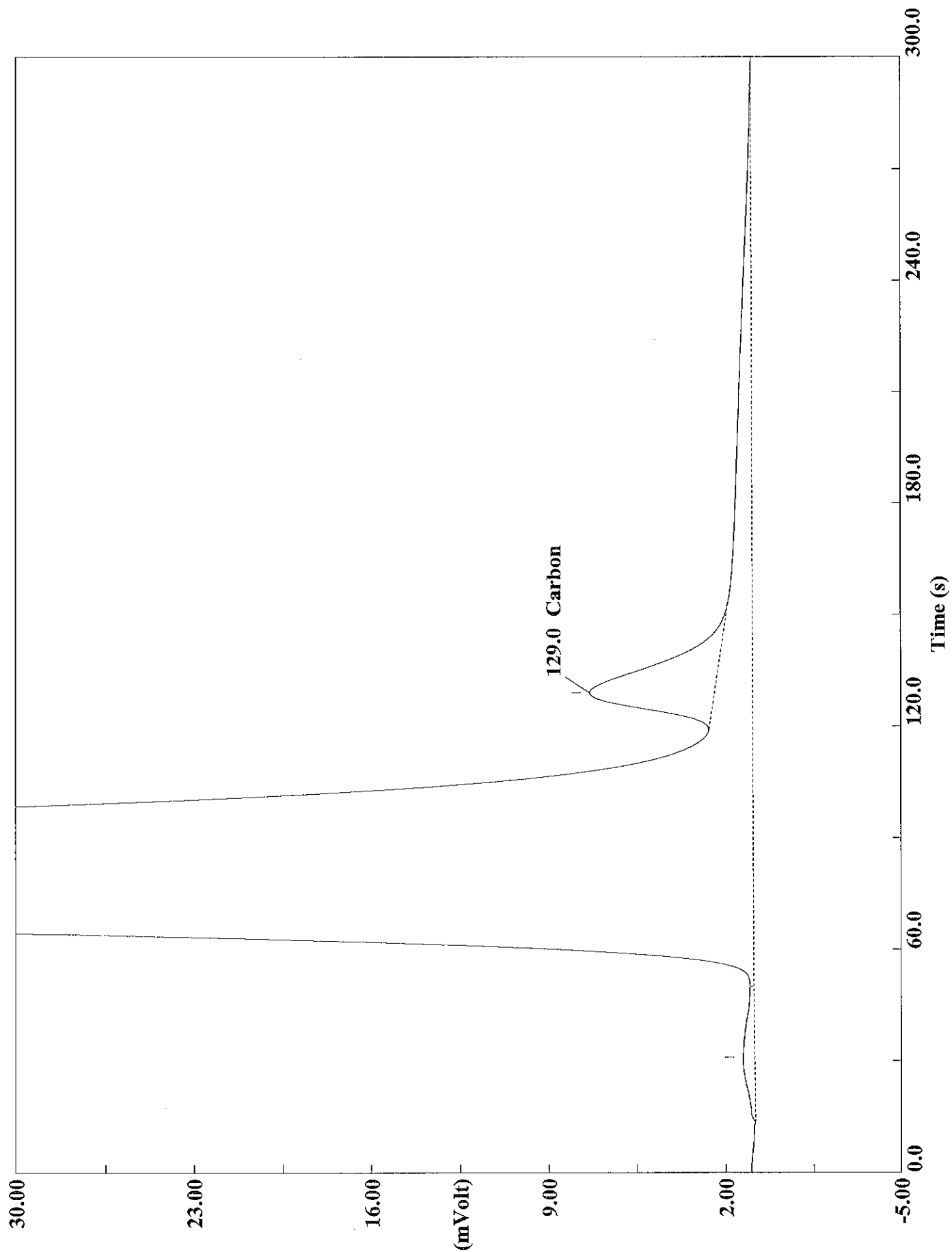
Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715066.DAT  
Sample name :rinse Analysed :05/07/2015 09:53

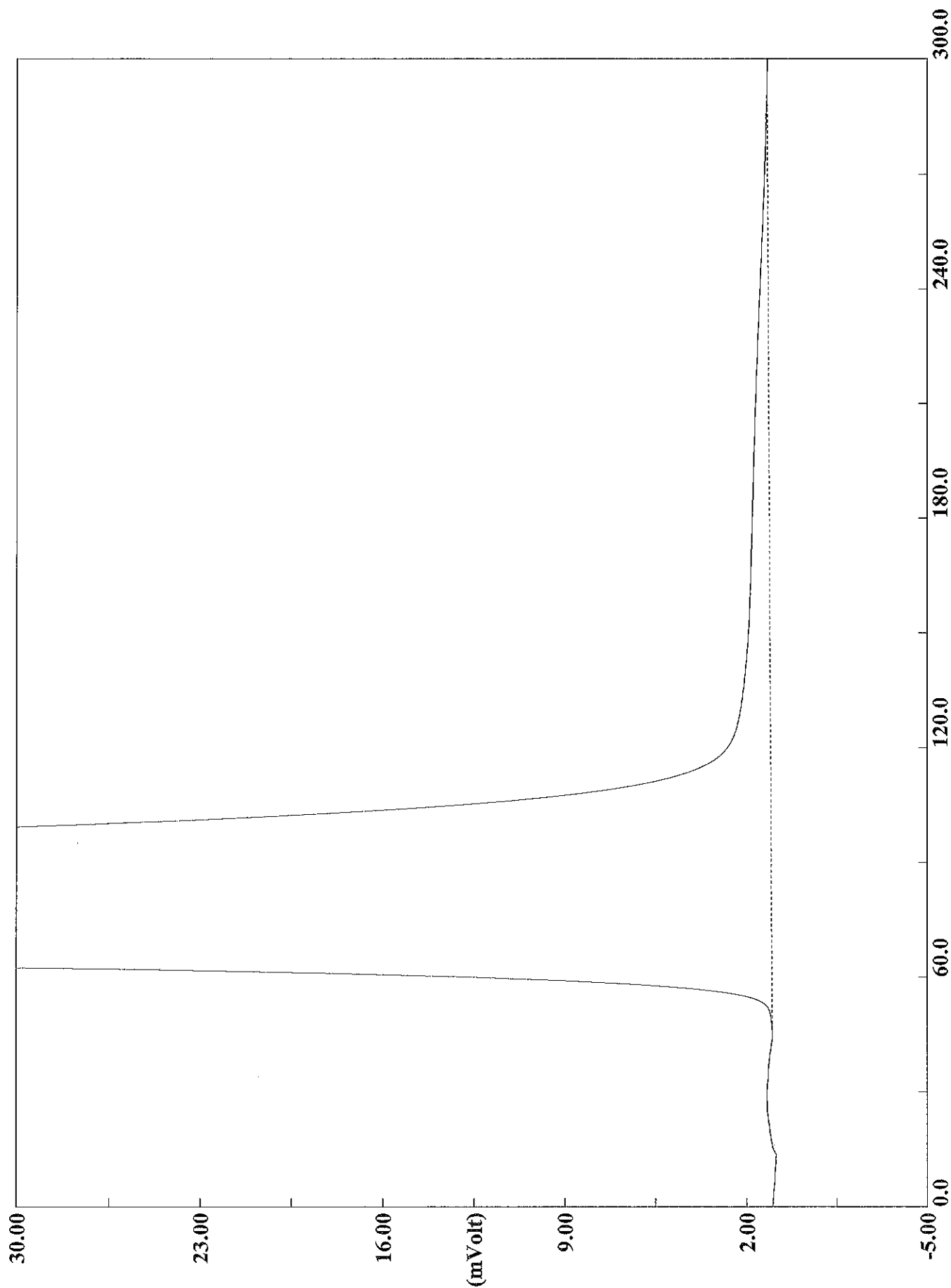


Filename C:\data\January\A050715067.DAT  
Sample name :180-43548-d-3 Analysed :05/07/2015 09:59

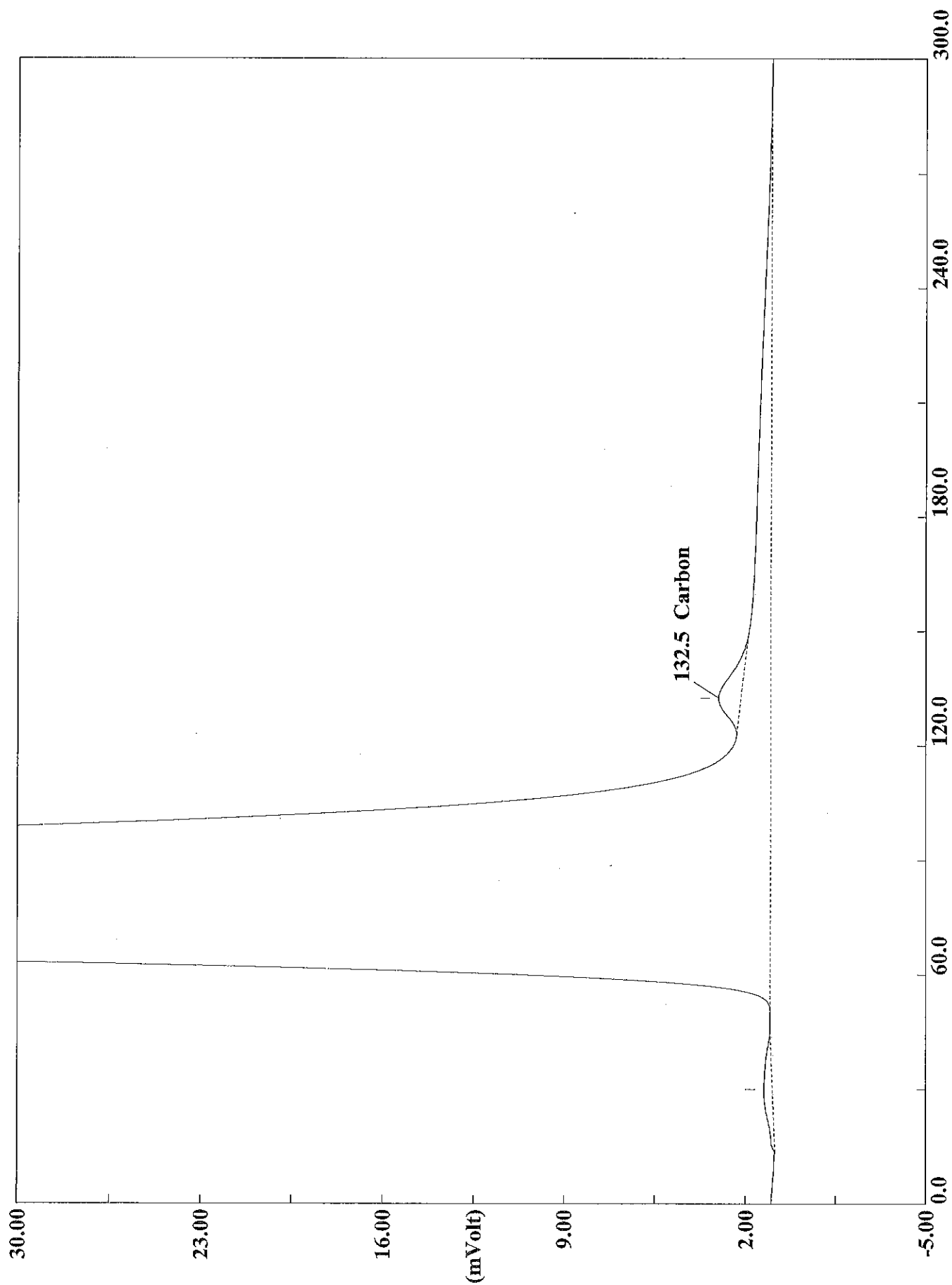


Filename C:\data\January\A050715068.DAT  
Sample name :180-43548-d-3 Analysed :05/07/2015 10:04

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



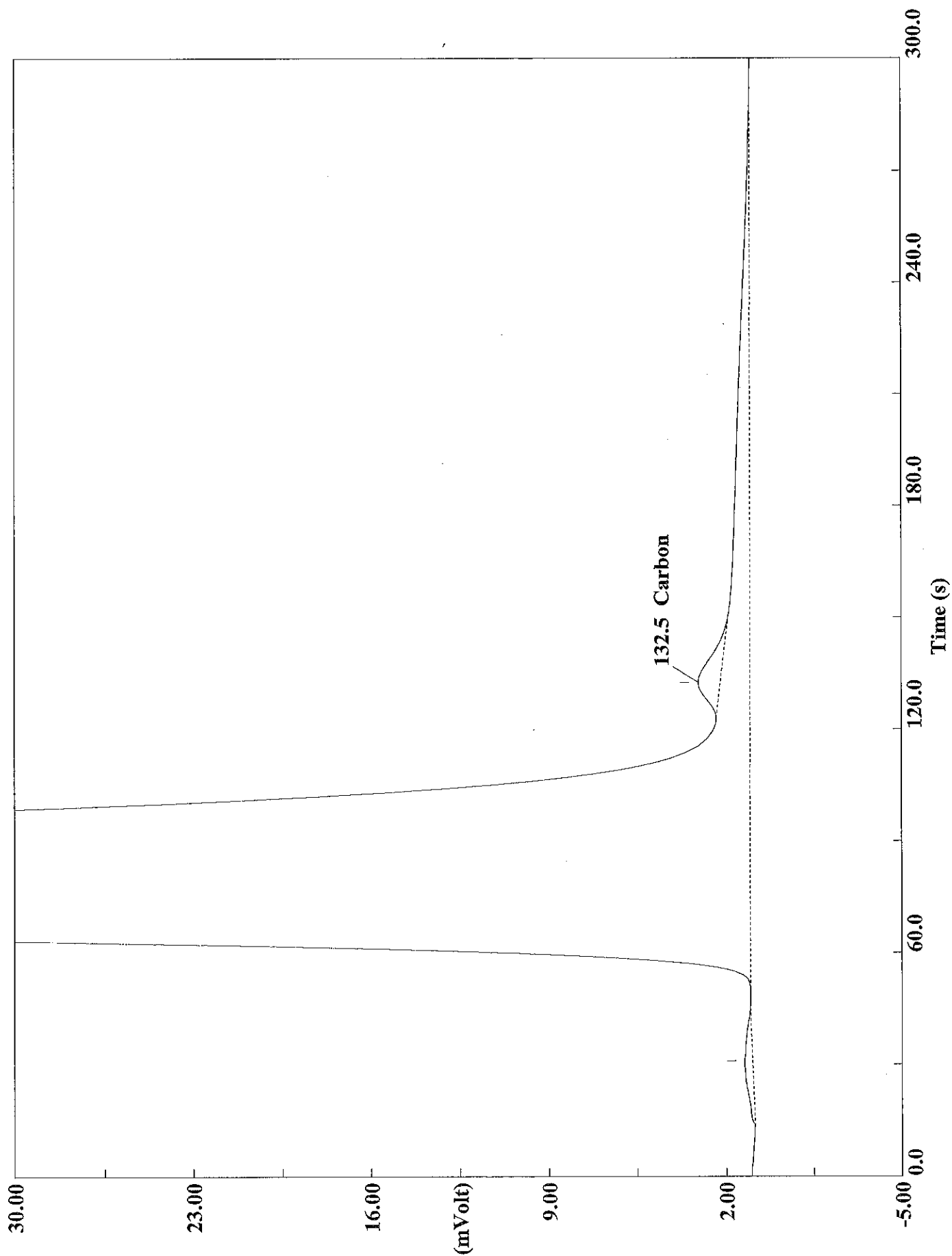
Filename C:\data\January\A050715069.DAT  
Sample name :rinse Analysed :05/07/2015 10:10



Filename C:\data\January\A050715070.DAT

Sample name : 180-43548-d-4 Analysed : 05/07/2015 10:15

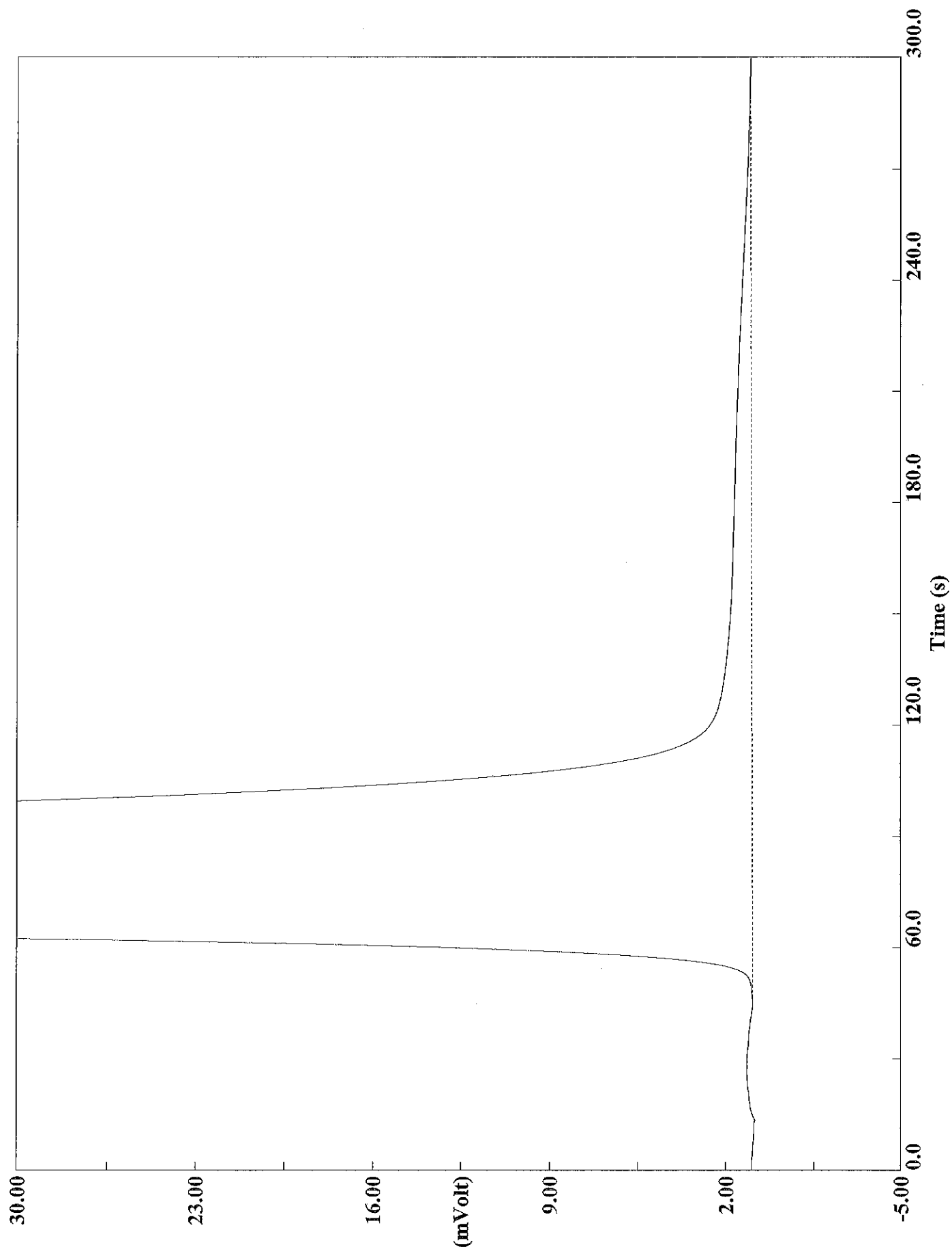
Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715071.DAT

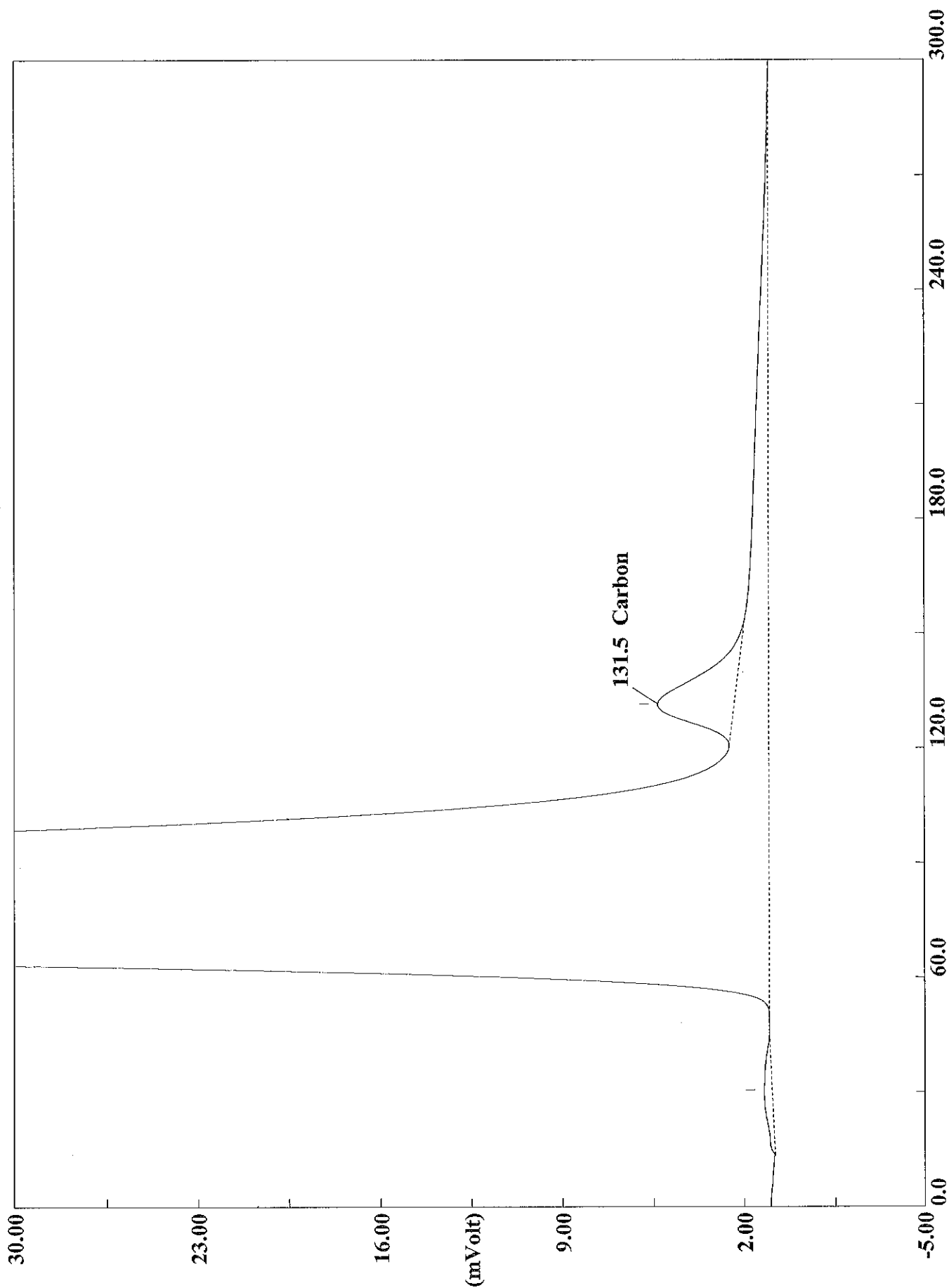
Sample name :180-43548-d-4 Analysed :05/07/2015 10:20

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw

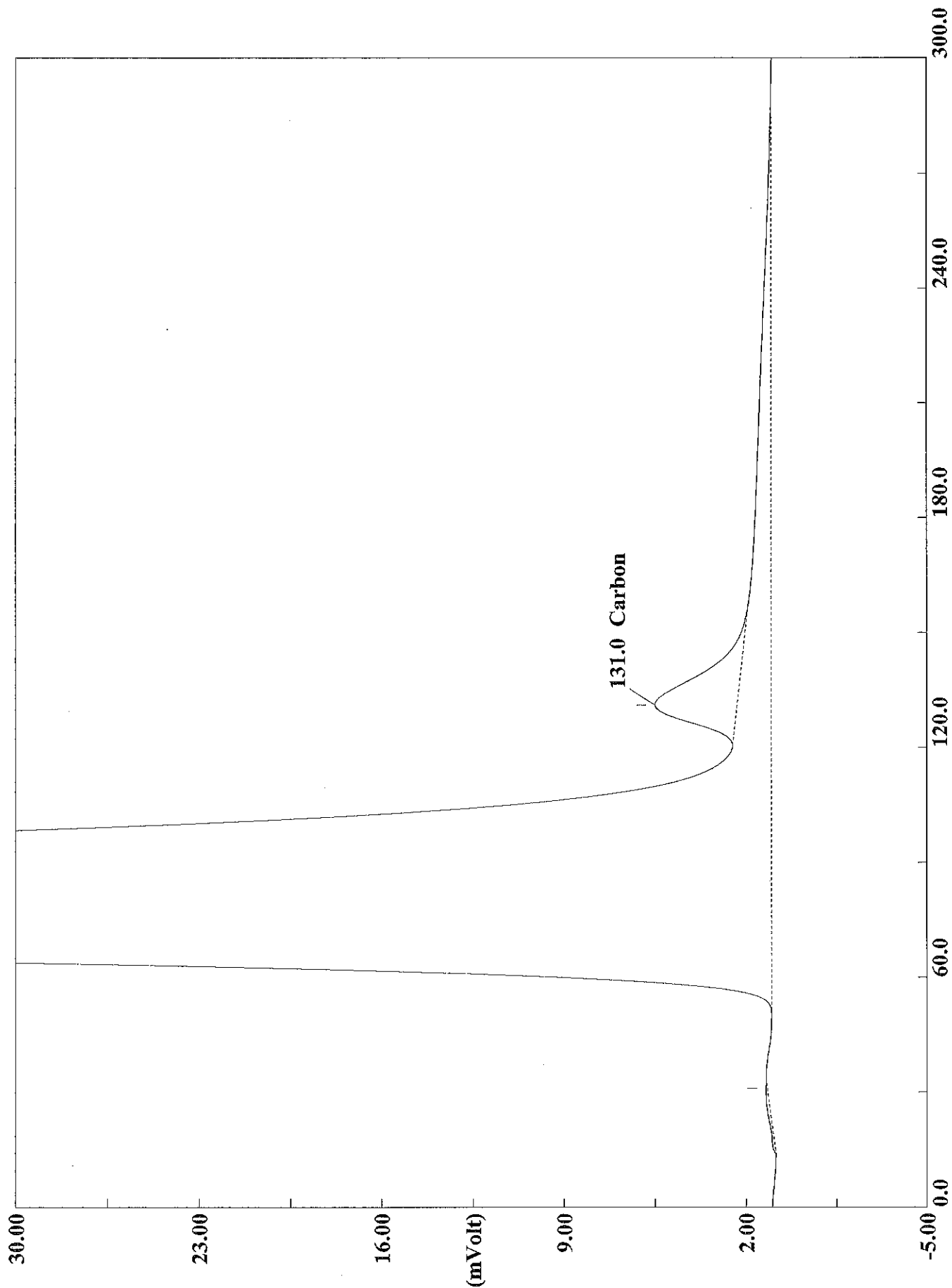


Filename C:\data\January\A050715072.DAT  
Sample name :rinse Analysed :05/07/2015 10:26



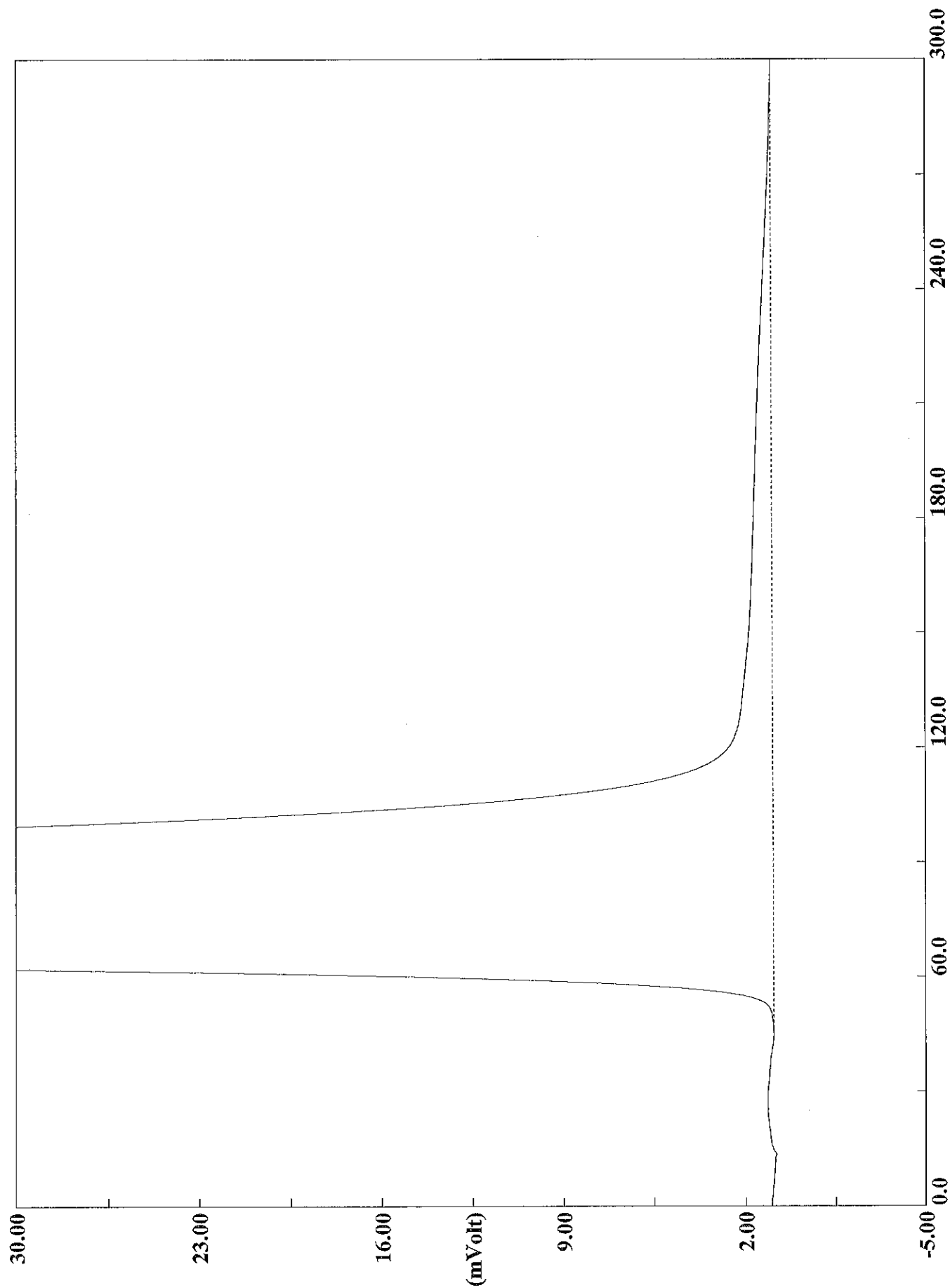


Filename C:\data\January\A050715073.DAT  
Sample name :180-43548-d-5 Analysed :05/07/2015 10:31

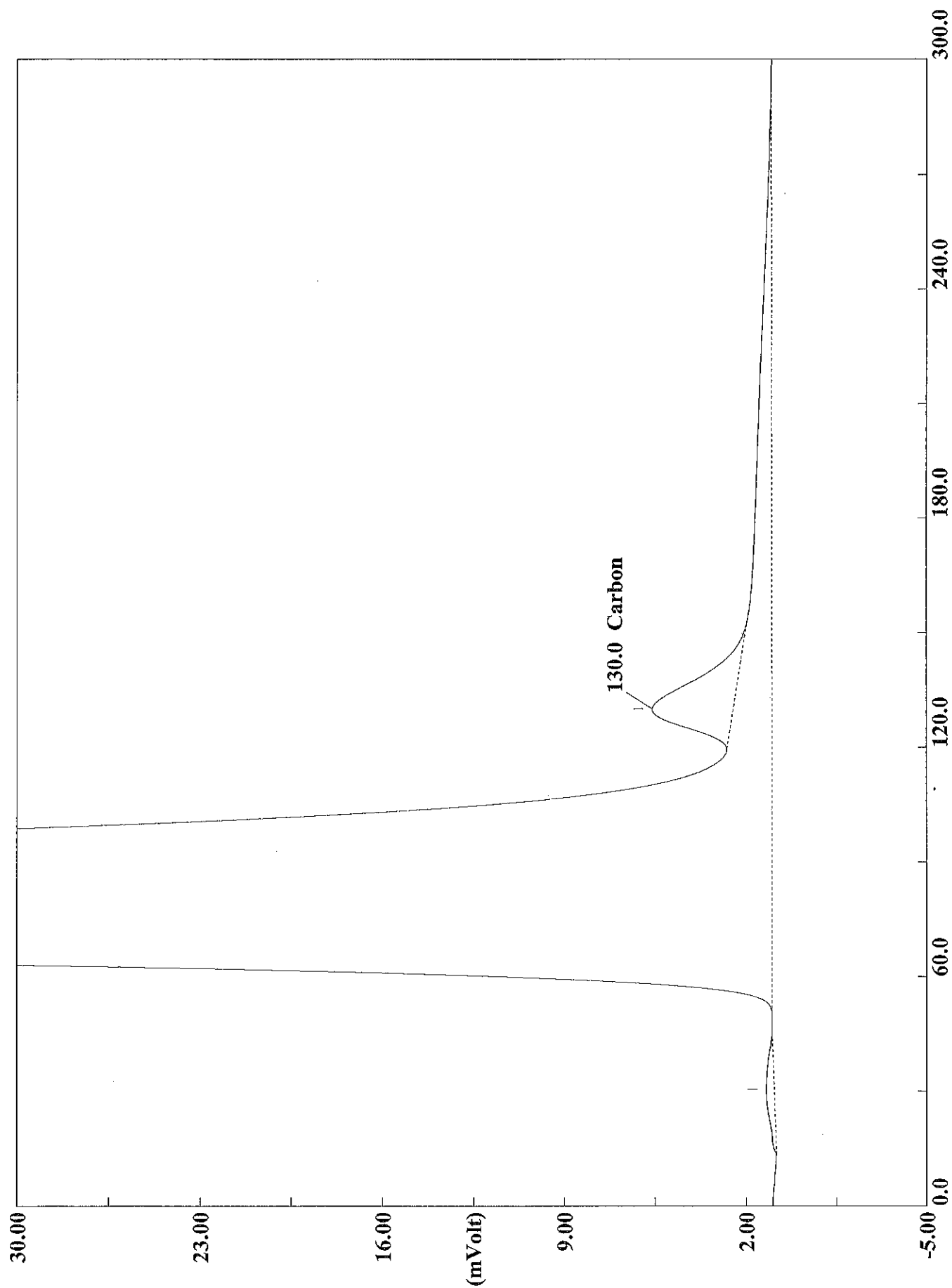


Filename C:\data\January\A050715074.DAT  
Sample name :180-43548-d-5 Analysed :05/07/2015 10:36

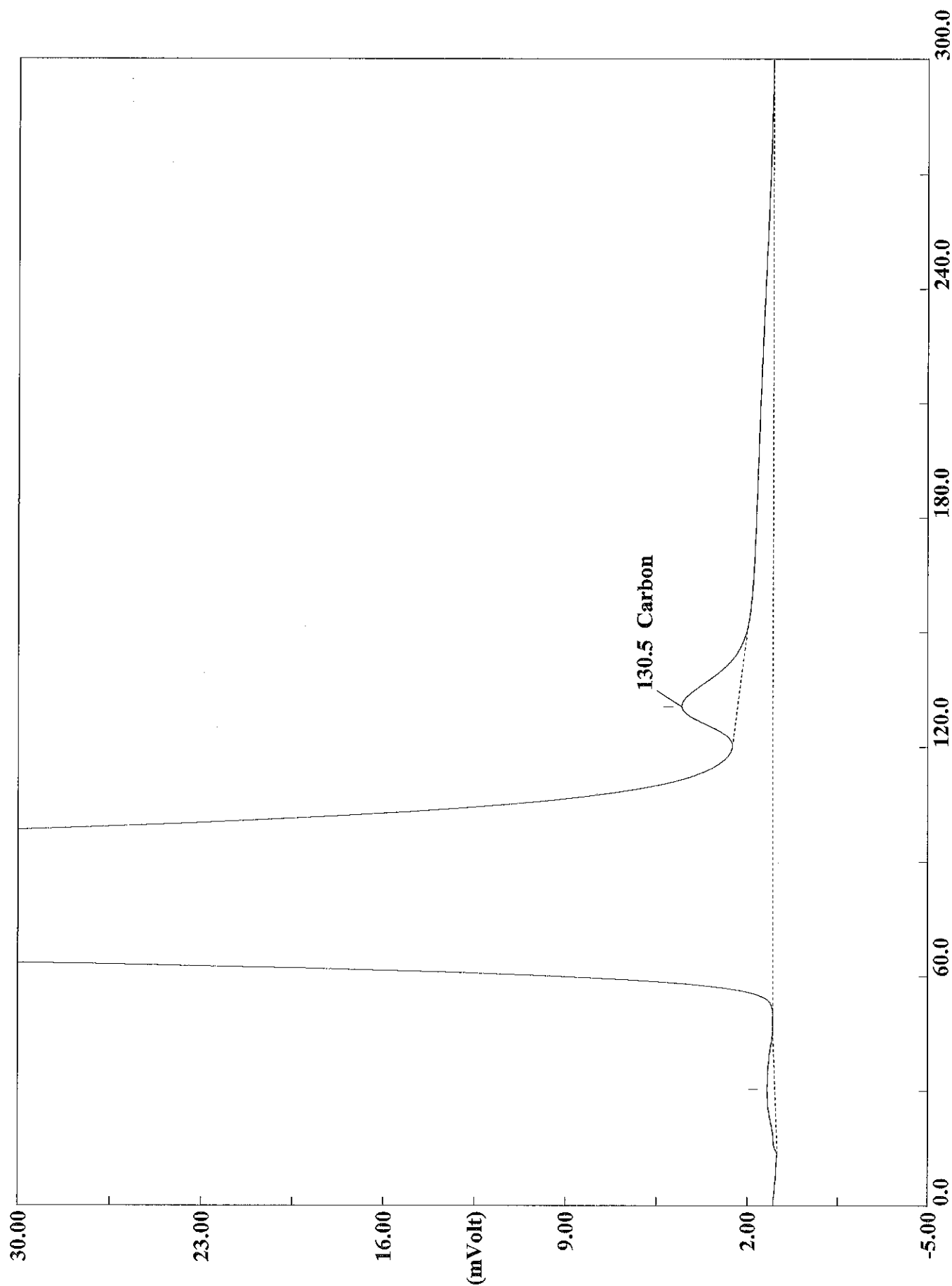
Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715075.DAT  
Sample name :rinse Analysed :05/07/2015 10:41



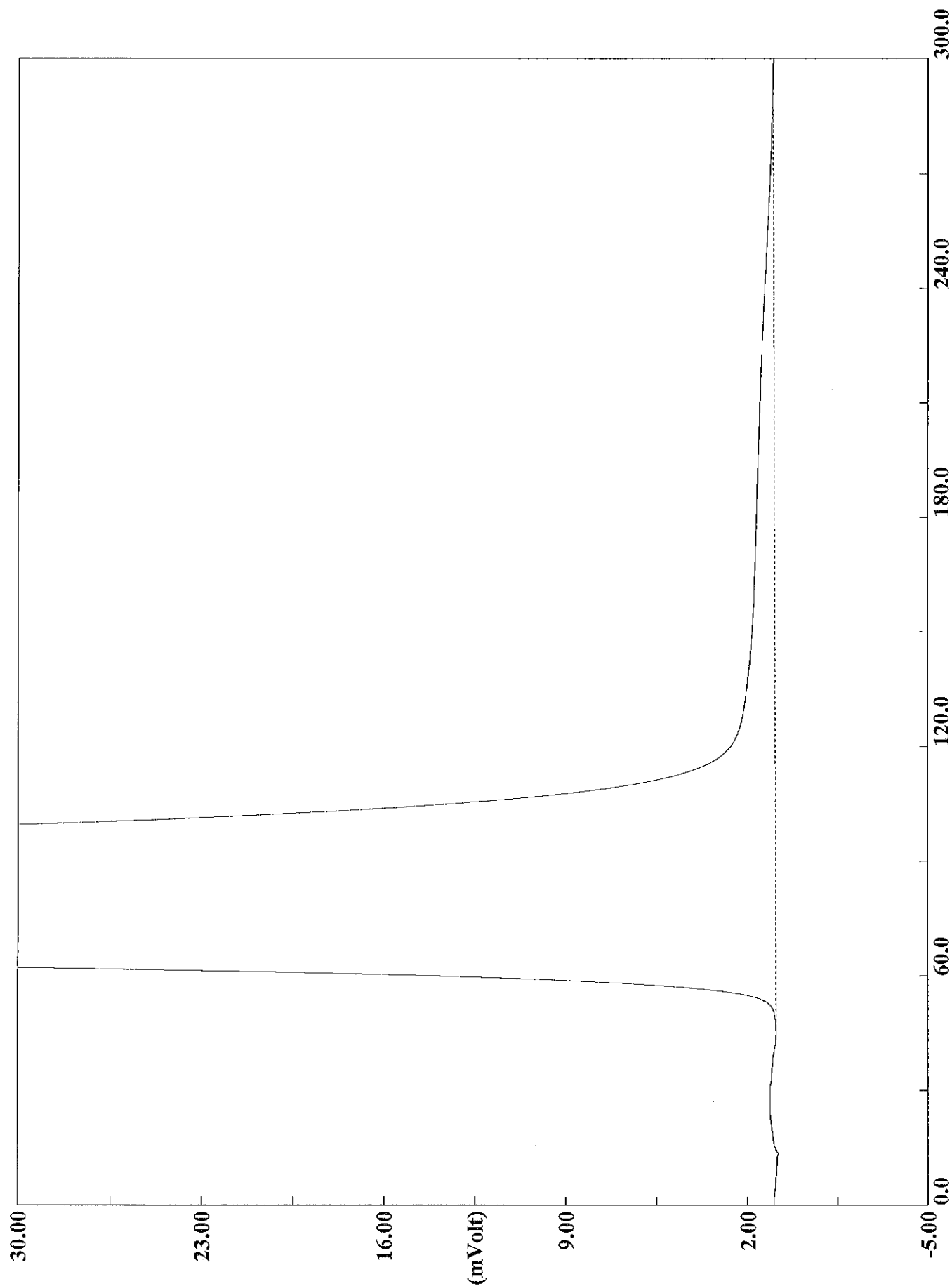
Filename C:\data\January\A050715076.DAT  
Sample name :180-43548-d-6 Analysed :05/07/2015 10:47



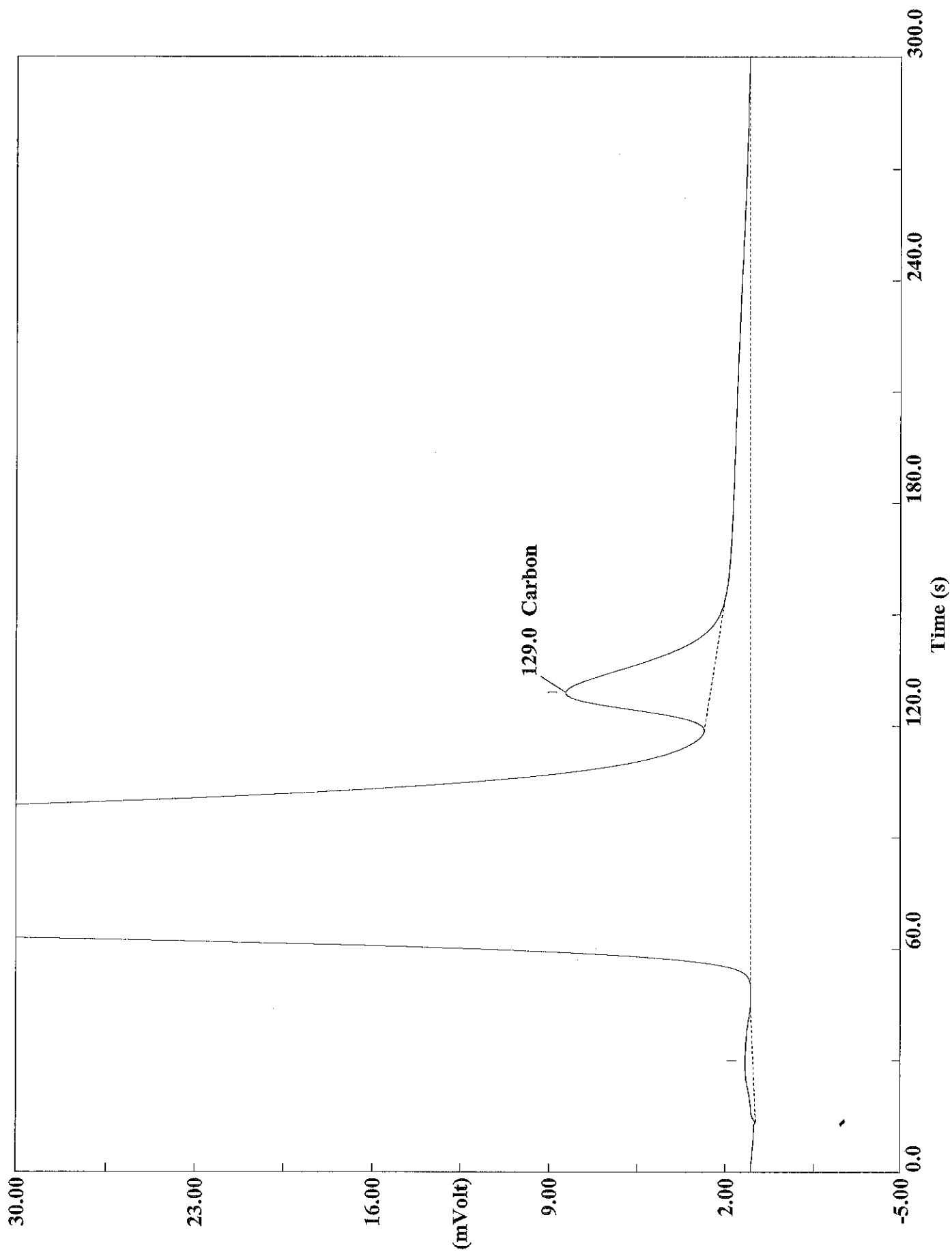
Filename C:\data\January\A050715077.DAT

Sample name : 180-43548-d-6 Analysed : 05/07/2015 10:52

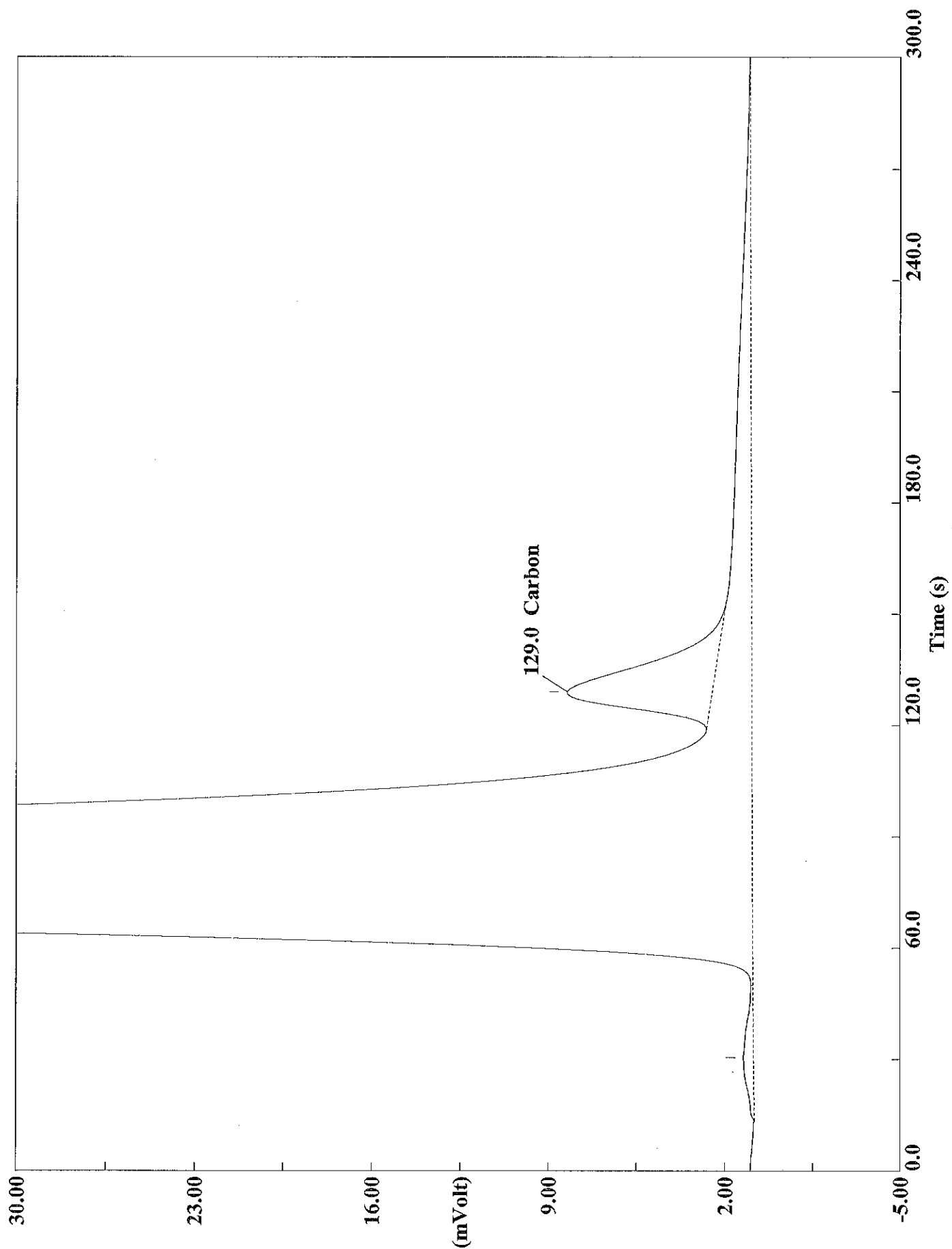
Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715078.DAT  
Sample name :rinse Analysed :05/07/2015 10:57



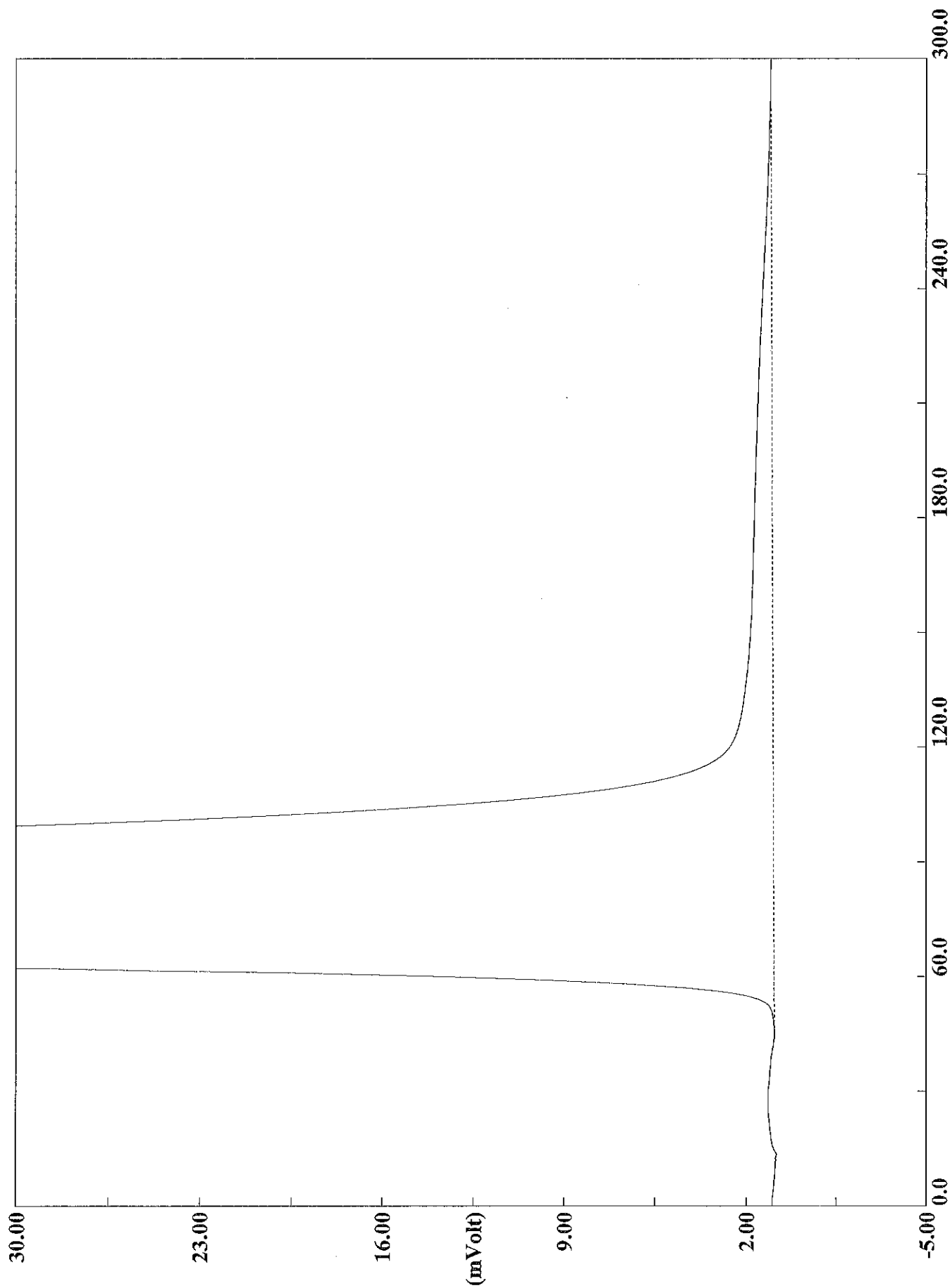
Filename C:\data\January\A050715079.DAT  
Sample name :180-43636-b-1 Analysed :05/07/2015 11:02



Filename C:\data\January\A050715080.DAT  
Sample name :180-43636-b-1 Analysed :05/07/2015 11:08

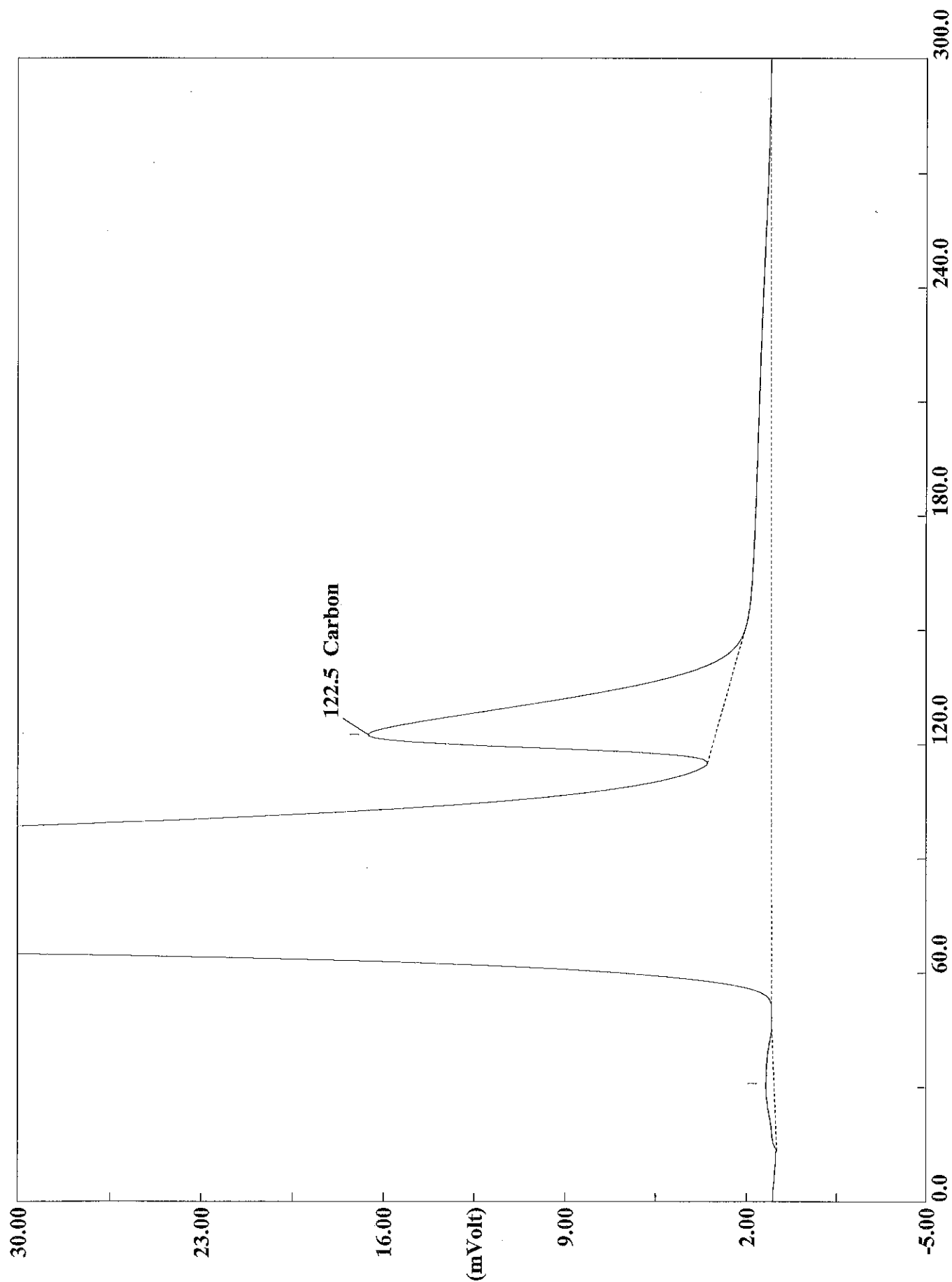


Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



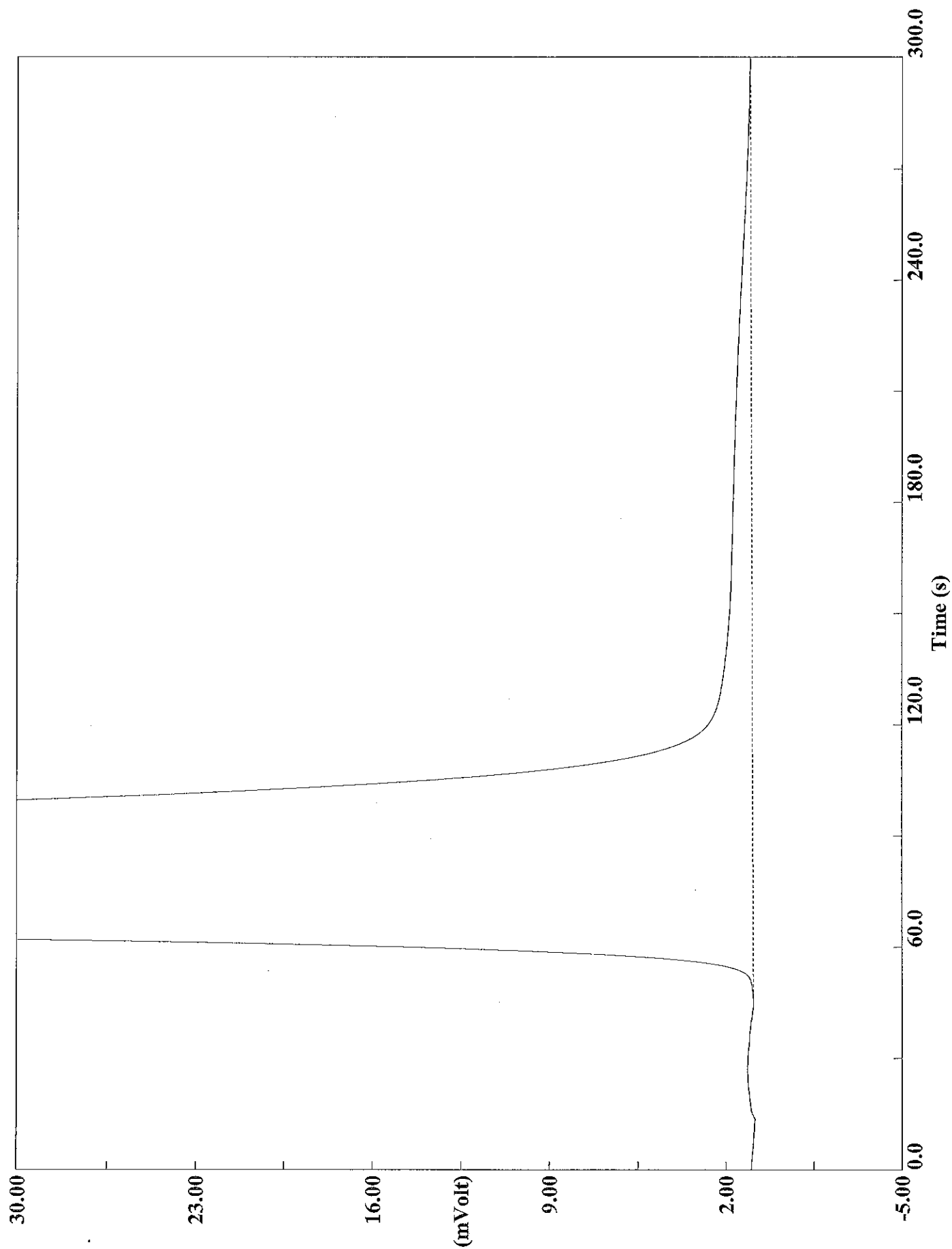
Filename C:\data\January\A050715081.DAT

Sample name :rinse Analysed :05/07/2015 11:13



Filename C:\data\January\A050715082.DAT  
Sample name :ccv Analysed :05/07/2015 11:18

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw

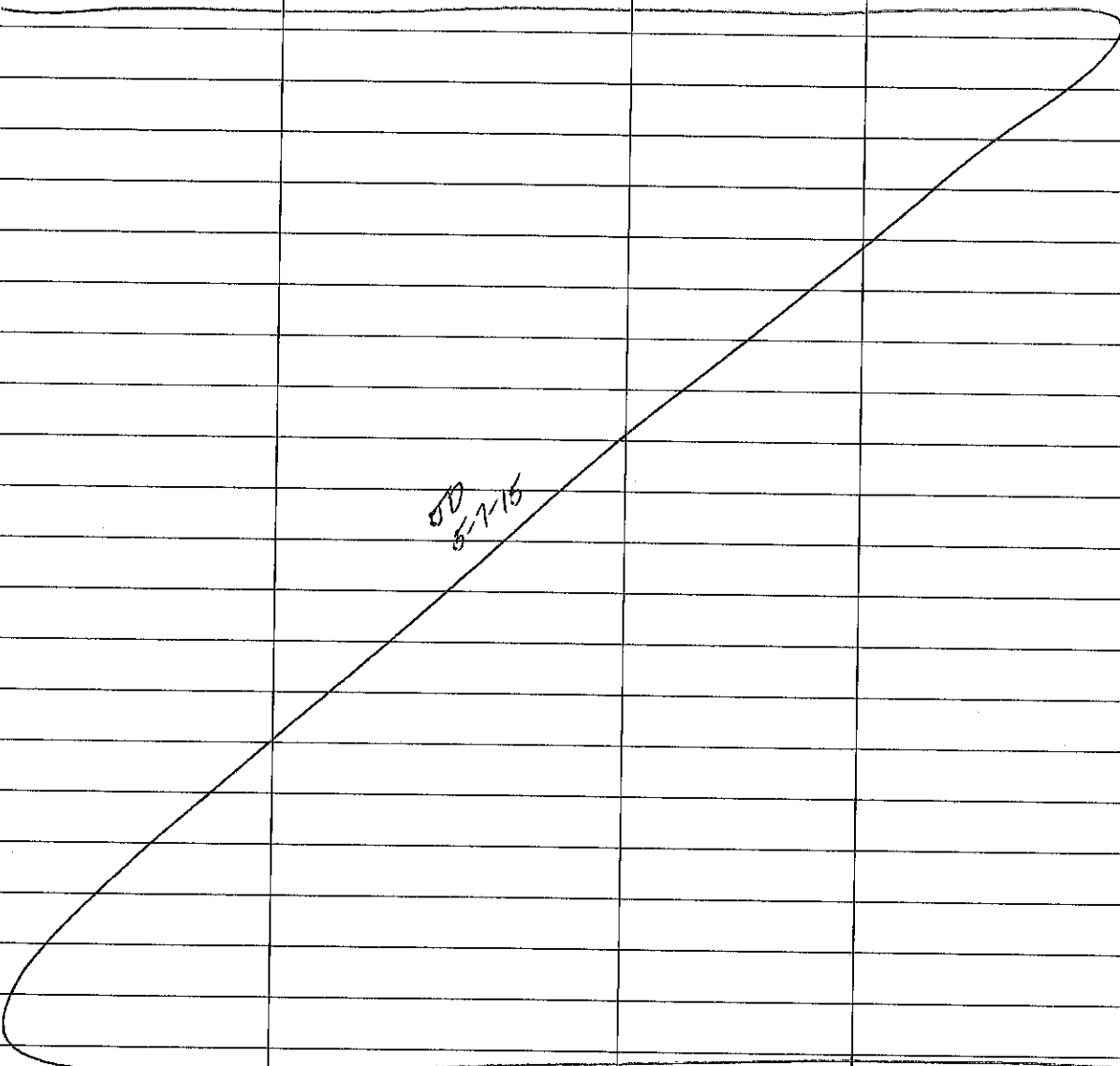


Filename C:\data\January\A050715083.DAT  
Sample name :ccb Analysed :05/07/2015 11:24

Pittsburgh Lab Lloyd Kahn SRM Prep Log

Analyst: JD

Date: 5-7-15

| Job No.   | Sample ID | Weight (mg) | Average Weights |
|---|-----------|-------------|-----------------|
| 43518, 43636<br>180-43458, 43411, 43423   | LCS       | 11.0        | 10.85           |
| ↓   | LCS       | 10.7        | ↓               |
| 180-43458   | 007 MS    | 11.4        | 11.55           |
| ↓   | 007 MS    | 11.7        | ↓               |
| ↓   | 007 MSD   | 10.3        | 10.5            |
| ↓   | 007 MSD   | 10.7        | ↓               |
|  |           |             |                 |
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|   |           |             |                 |

|    | A                 | B          | C          | D     | E      | F    | G | H       | I | J               | K        | L             | M               |
|----|-------------------|------------|------------|-------|--------|------|---|---------|---|-----------------|----------|---------------|-----------------|
| 1  |                   |            |            |       |        |      |   |         |   |                 |          |               |                 |
| 2  |                   |            |            |       |        |      |   |         |   |                 |          |               |                 |
| 3  |                   |            |            |       |        |      |   |         |   |                 |          |               |                 |
| 4  |                   |            |            |       |        |      |   |         |   |                 |          |               |                 |
| 5  |                   |            |            |       |        |      |   |         |   |                 |          |               |                 |
| 6  |                   |            |            |       |        |      |   |         |   |                 |          |               |                 |
| 7  |                   |            |            |       |        |      |   |         |   |                 |          |               |                 |
| 8  |                   |            |            |       |        |      |   |         |   |                 |          |               |                 |
| 9  |                   |            |            |       |        |      |   |         |   |                 |          |               |                 |
| 10 |                   |            |            |       |        |      |   |         |   |                 |          |               |                 |
| 11 |                   |            |            |       |        |      |   |         |   |                 |          |               |                 |
| 12 | Sample            | Data File  | Date       | Time  | Weight |      |   | Conc. % |   | Avg Conc. mg/kg | RPD %    | Higher Weight | Dilution Factor |
| 13 | ccv               | A050715001 | 05/07/2015 | 04:01 | 100    | 6.25 | 0 | 0.9747  |   |                 |          |               |                 |
| 14 | ccb               | A050715002 | 05/07/2015 | 04:06 | 20     | 6.25 | 0 | 0.0000  |   |                 |          |               |                 |
| 15 | 180-mb OS-2CB0290 | A050715003 | 05/07/2015 | 04:11 | 20.9   | 6.25 | 0 | 0.0000  |   | 0.00            | 0.0000   | 20.9          | 0.9569          |
| 16 | 180-mb OS-2CB0290 | A050715004 | 05/07/2015 | 04:16 | 20.9   | 6.25 | 0 | 0.0000  |   |                 |          |               |                 |
| 17 | 180-lcs           | A050715005 | 05/07/2015 | 04:25 | 11     | 6.25 | 0 | 2.4264  |   | 22864.47        | 12.2399  | 11            | 1.8182          |
| 18 | 180-lcs           | A050715006 | 05/07/2015 | 04:30 | 10.7   | 6.25 | 0 | 2.1465  |   |                 |          |               |                 |
| 19 | 180-43458-d-2     | A050715007 | 05/07/2015 | 04:35 | 16.1   | 6.25 | 0 | 1.7362  |   | 17367.97        | -0.1865  | 16.4          | 1.2195          |
| 20 | 180-43458-d-2     | A050715008 | 05/07/2015 | 04:40 | 16.4   | 6.25 | 0 | 1.7384  |   |                 |          |               |                 |
| 21 | 180-43458-d-3     | A050715010 | 05/07/2015 | 04:51 | 20.6   | 6.25 | 0 | 0.2908  |   | 2893.81         | 1.0050   | 21.7          | 0.9217          |
| 22 | 180-43458-d-3     | A050715011 | 05/07/2015 | 04:56 | 21.7   | 6.25 | 0 | 0.2879  |   |                 |          |               |                 |
| 23 | 180-43458-d-4     | A050715013 | 05/07/2015 | 05:07 | 12     | 6.25 | 0 | 2.8266  |   | 28932.53        | -4.6056  | 12            | 1.6667          |
| 24 | 180-43458-d-4     | A050715014 | 05/07/2015 | 05:12 | 11.8   | 6.25 | 0 | 2.9599  |   |                 |          |               |                 |
| 25 | 180-43458-d-5     | A050715016 | 05/07/2015 | 05:22 | 15.3   | 6.25 | 0 | 1.9457  |   | 20161.64        | -6.9917  | 15.3          | 1.3072          |
| 26 | 180-43458-d-5     | A050715017 | 05/07/2015 | 05:28 | 14.5   | 6.25 | 0 | 2.0866  |   |                 |          |               |                 |
| 27 | 180-43458-m-6     | A050715019 | 05/07/2015 | 05:38 | 15.4   | 6.25 | 0 | 2.0306  |   | 21429.82        | -10.4914 | 15.4          | 1.2987          |
| 28 | 180-43458-m-6     | A050715020 | 05/07/2015 | 05:44 | 15.3   | 6.25 | 0 | 2.2554  |   |                 |          |               |                 |
| 29 | ccv               | A050715022 | 05/07/2015 | 05:54 | 100    | 6.25 | 0 | 1.0452  |   |                 |          |               |                 |
| 30 | ccb               | A050715023 | 05/07/2015 | 06:00 | 20     | 6.25 | 0 | 0.0000  |   |                 |          |               |                 |
| 31 | 180-43458-d-7     | A050715024 | 05/07/2015 | 06:06 | 13     | 6.25 | 0 | 1.9141  |   | 19494.35        | -3.6211  | 13.8          | 1.4493          |
| 32 | 180-43458-d-7     | A050715025 | 05/07/2015 | 06:11 | 13.8   | 6.25 | 0 | 1.9847  |   |                 |          |               |                 |
| 33 | 180-43458-d-7 ms  | A050715027 | 05/07/2015 | 06:21 | 14.3   | 6.25 | 0 | 4.2980  |   | 41036.61        | 9.4738   | 14.3          | 1.3986          |
| 34 | 180-43458-d-7 ms  | A050715028 | 05/07/2015 | 06:27 | 13.4   | 6.25 | 0 | 3.9093  |   |                 |          |               |                 |
| 35 | 180-43458-d-7 msd | A050715030 | 05/07/2015 | 06:39 | 14.4   | 6.25 | 0 | 4.1614  |   | 40387.44        | 6.0762   | 14.4          | 1.3689          |
| 36 | 180-43458-d-7 msd | A050715031 | 05/07/2015 | 06:44 | 14.1   | 6.25 | 0 | 3.9160  |   |                 |          |               |                 |
| 37 | 180-43458-d-7 du  | A050715033 | 05/07/2015 | 06:55 | 14.1   | 6.25 | 0 | 2.1770  |   | 22249.72        | -4.3126  | 14.1          | 1.4184          |
| 38 | 180-43458-d-7 du  | A050715034 | 05/07/2015 | 07:00 | 13.7   | 6.25 | 0 | 2.2729  |   |                 |          |               |                 |
| 39 | 180-43458-d-8     | A050715036 | 05/07/2015 | 07:10 | 17.3   | 6.25 | 0 | 2.1847  |   | 22187.28        | -3.0703  | 17.5          | 1.1429          |
| 40 | 180-43458-d-8     | A050715037 | 05/07/2015 | 07:16 | 17.5   | 6.25 | 0 | 2.2528  |   |                 |          |               |                 |
| 41 | 180-43458-n-9     | A050715039 | 05/07/2015 | 07:26 | 13.6   | 6.25 | 0 | 2.5941  |   | 26502.49        | -4.2349  | 14            | 1.4266          |
| 42 | 180-43458-n-9     | A050715040 | 05/07/2015 | 07:31 | 14     | 6.25 | 0 | 2.7064  |   |                 |          |               |                 |
| 43 | ccv               | A050715042 | 05/07/2015 | 07:42 | 100    | 6.25 | 0 | 1.0220  |   |                 |          |               |                 |
| 44 | ccb               | A050715043 | 05/07/2015 | 07:47 | 20     | 6.25 | 0 | 0.0000  |   |                 |          |               |                 |
| 45 | 180-43458-d-10    | A050715044 | 05/07/2015 | 07:52 | 16     | 6.25 | 0 | 1.4277  |   | 14714.13        | -5.9477  | 17.3          | 1.1561          |
| 46 | 180-43458-d-10    | A050715045 | 05/07/2015 | 07:57 | 17.3   | 6.25 | 0 | 1.5152  |   |                 |          |               |                 |
| 47 | 180-43458-d-11    | A050715047 | 05/07/2015 | 08:08 | 14     | 6.25 | 0 | 2.6784  |   | 29071.30        | -15.7376 | 14.9          | 1.3423          |
| 48 | 180-43458-d-11    | A050715048 | 05/07/2015 | 08:13 | 14.9   | 6.25 | 0 | 3.1359  |   |                 |          |               |                 |
| 49 | 180-43458-d-12    | A050715050 | 05/07/2015 | 08:25 | 14.1   | 6.25 | 0 | 3.3575  |   | 33504.00        | 0.4219   | 14.1          | 1.4184          |

|    | A              | B          | C          | D     | E    | F    | G | I      | J        | K       | L    | M      |
|----|----------------|------------|------------|-------|------|------|---|--------|----------|---------|------|--------|
| 50 | 180-43458-d-12 | A050715051 | 05/07/2015 | 08:30 | 13.8 | 6.25 | 0 | 3.3433 |          |         |      |        |
| 51 | 180-43411-a-1  | A050715053 | 05/07/2015 | 08:41 | 21.7 | 6.25 | 0 | 0.2490 | 2326.14  | 14.0974 | 21.7 | 0.9217 |
| 52 | 180-43411-a-1  | A050715054 | 05/07/2015 | 08:46 | 20   | 6.25 | 0 | 0.2162 |          |         |      |        |
| 53 | 180-43411-a-2  | A050715056 | 05/07/2015 | 08:56 | 4.8  | 6.25 | 0 | 1.2171 | 11981.60 | 3.1572  | 5.3  | 3.7736 |
| 54 | 180-43411-a-2  | A050715057 | 05/07/2015 | 09:02 | 5.3  | 6.25 | 0 | 1.1792 |          |         |      |        |
| 55 | 180-43423-d-2  | A050715059 | 05/07/2015 | 09:12 | 21.2 | 6.25 | 0 | 0.1828 | 1836.06  | -0.8783 | 21.2 | 0.9434 |
| 56 | 180-43423-d-2  | A050715060 | 05/07/2015 | 09:17 | 20.4 | 6.25 | 0 | 0.1844 |          |         |      |        |
| 57 | ccv            | A050715062 | 05/07/2015 | 09:28 | 100  | 6.25 | 0 | 1.0424 |          |         |      |        |
| 58 | ccb            | A0507150   | 05/07/2015 | 09:33 | 20   | 6.25 | 0 | 0.0000 |          |         |      |        |
| 59 | 180-43548-m-2  | A050715064 | 05/07/2015 | 09:43 | 20.1 | 6.25 | 0 | 0.4307 | 4295.46  | 0.5548  | 21   | 0.9524 |
| 60 | 180-43548-m-2  | A050715065 | 05/07/2015 | 09:48 | 21   | 6.25 | 0 | 0.4284 |          |         |      |        |
| 61 | 180-43548-d-3  | A050715067 | 05/07/2015 | 09:59 | 12.9 | 6.25 | 0 | 3.1030 | 30963.08 | 0.4316  | 12.9 | 1.5504 |
| 62 | 180-43548-d-3  | A050715068 | 05/07/2015 | 10:04 | 12.8 | 6.25 | 0 | 3.0896 |          |         |      |        |
| 63 | 180-43548-d-4  | A050715070 | 05/07/2015 | 10:15 | 20.6 | 6.25 | 0 | 0.4638 | 4546.92  | 4.0053  | 21   | 0.9524 |
| 64 | 180-43548-d-4  | A050715071 | 05/07/2015 | 10:20 | 21   | 6.25 | 0 | 0.4456 |          |         |      |        |
| 65 | 180-43548-d-5  | A050715073 | 05/07/2015 | 10:31 | 16.5 | 6.25 | 0 | 1.6702 | 16517.72 | -9.8775 | 16.5 | 1.2121 |
| 66 | 180-43548-d-5  | A050715074 | 05/07/2015 | 10:36 | 15.9 | 6.25 | 0 | 1.7333 |          |         |      |        |
| 67 | 180-43548-d-6  | A050715076 | 05/07/2015 | 10:47 | 13.4 | 6.25 | 0 | 2.0824 | 17460.34 | 38.5284 | 14   | 1.4286 |
| 68 | 180-43548-d-6  | A050715077 | 05/07/2015 | 10:52 | 14   | 6.25 | 0 | 1.4097 |          |         |      |        |
| 69 | 180-43636-b-1  | A050715079 | 05/07/2015 | 11:02 | 13.7 | 6.25 | 0 | 3.4654 | 34391.71 | 1.5251  | 13.7 | 1.4599 |
| 70 | 180-43636-b-1  | A050715080 | 05/07/2015 | 11:08 | 13.1 | 6.25 | 0 | 3.4129 |          |         |      |        |
| 71 | ccv            | A050715082 | 05/07/2015 | 11:18 | 100  | 6.25 | 0 | 1.0155 |          |         |      |        |
| 72 | ccb            | A050715083 | 05/07/2015 | 11:24 | 20   | 6.25 | 0 | 0.0000 |          |         |      |        |

# Eager Xperience

Method name : Lloyd Kahn  
Method filename : C:\data\January\050715.mth

## Sample table

Chromatogram overwrite : Enabled

| #  | Sample name    | Filename   | Type | Weight | Hum. % |
|----|----------------|------------|------|--------|--------|
| 1  | BY PASS        | A050615100 | ByP  | -      | 0      |
| 2  | BLANK          | A050615101 | Unk  | 20     | 0      |
| 3  | BLANK          | A050615102 | Unk  | 20     | 0      |
| 4  | 1,000 KHP      | A050615103 | Std  | 200    | 0      |
| 5  | 2,500 KHP      | A050615104 | Std  | 50     | 0      |
| 6  | 5,000 KHP      | A050615105 | Std  | 100    | 0      |
| 7  | 10,000 KHP     | A050615106 | Std  | 200    | 0      |
| 8  | 25,000 KHP     | A050615107 | Std  | 50     | 0      |
| 9  | 50,000 KHP     | A050615108 | Std  | 100    | 0      |
| 10 | 100,000 KHP    | A050615109 | Std  | 200    | 0      |
| 11 | ICV 22,900 KHP | A050615110 | Unk  | 11.3   | 0      |
| 12 | ccv            | A050615111 | Unk  | 100    | 0      |
| 13 | ccb            | A050615112 | Unk  | 20     | 0      |
| 14 | ccv            | A050715001 | Unk  | 100    | 0      |
| 15 | ccb            | A050715002 | Unk  | 20     | 0      |
| 16 | mb OS-2CB0290  | A050715003 | Unk  | 20.9   | 0      |
| 17 | mb OS-2CB0290  | A050715004 | Unk  | 20.9   | 0      |
| 18 | lcs            | A050715005 | Unk  | 11     | 0      |
| 19 | lcs            | A050715006 | Unk  | 10.7   | 0      |
| 20 | 180-43458-d-2  | A050715007 | Unk  | 16.1   | 0      |
| 21 | 180-43458-d-2  | A050715008 | Unk  | 16.4   | 0      |
| 22 | rinse          | A050715009 | Unk  | 1      | 0      |
| 23 | 180-43458-d-3  | A050715010 | Unk  | 20.6   | 0      |
| 24 | 180-43458-d-3  | A050715011 | Unk  | 21.7   | 0      |
| 25 | rinse          | A050715012 | Unk  | 1      | 0      |
| 26 | 180-43458-d-4  | A050715013 | Unk  | 12     | 0      |
| 27 | 180-43458-d-4  | A050715014 | Unk  | 11.8   | 0      |
| 28 | rinse          | A050715015 | Unk  | 1      | 0      |
| 29 | 180-43458-d-5  | A050715016 | Unk  | 15.3   | 0      |
| 30 | 180-43458-d-5  | A050715017 | Unk  | 14.5   | 0      |
| 31 | rinse          | A050715018 | Unk  | 1      | 0      |
| 32 | 180-43458-m-6  | A050715019 | Unk  | 15.4   | 0      |
| 33 | 180-43458-m-6  | A050715020 | Unk  | 15.3   | 0      |
| 34 | rinse          | A050715021 | Unk  | 1      | 0      |
| 35 | ccv            | A050715022 | Unk  | 100    | 0      |
| 36 | ccb            | A050715023 | Unk  | 20     | 0      |
| 37 | 180-43458-d-7  | A050715024 | Unk  | 13     | 0      |

| #  | Sample name       | Filename   | Type | Weight | Hum. % |
|----|-------------------|------------|------|--------|--------|
| 38 | 180-43458-d-7     | A050715025 | Unk  | 13.8   | 0      |
| 39 | rinse             | A050715026 | Unk  | 1      | 0      |
| 40 | 180-43458-d-7 ms  | A050715027 | Unk  | 14.3   | 0      |
| 41 | 180-43458-d-7 ms  | A050715028 | Unk  | 13.4   | 0      |
| 42 | rinse             | A050715029 | Unk  | 1      | 0      |
| 43 | 180-43458-d-7 msd | A050715030 | Unk  | 14.4   | 0      |
| 44 | 180-43458-d-7 msd | A050715031 | Unk  | 14.1   | 0      |
| 45 | rinse             | A050715032 | Unk  | 1      | 0      |
| 46 | 180-43458-d-7 du  | A050715033 | Unk  | 14.1   | 0      |
| 47 | 180-43458-d-7 du  | A050715034 | Unk  | 13.7   | 0      |
| 48 | rinse             | A050715035 | Unk  | 1      | 0      |
| 49 | 180-43458-d-8     | A050715036 | Unk  | 17.3   | 0      |
| 50 | 180-43458-d-8     | A050715037 | Unk  | 17.5   | 0      |
| 51 | rinse             | A050715038 | Unk  | 1      | 0      |
| 52 | 180-43458-n-9     | A050715039 | Unk  | 13.6   | 0      |
| 53 | 180-43458-n-9     | A050715040 | Unk  | 14     | 0      |
| 54 | rinse             | A050715041 | Unk  | 1      | 0      |
| 55 | ccv               | A050715042 | Unk  | 100    | 0      |
| 56 | ccb               | A050715043 | Unk  | 20     | 0      |
| 57 | 180-43458-d-10    | A050715044 | Unk  | 16     | 0      |
| 58 | 180-43458-d-10    | A050715045 | Unk  | 17.3   | 0      |
| 59 | rinse             | A050715046 | Unk  | 1      | 0      |
| 60 | 180-43458-d-11    | A050715047 | Unk  | 14     | 0      |
| 61 | 180-43458-d-11    | A050715048 | Unk  | 14.9   | 0      |
| 62 | rinse             | A050715049 | Unk  | 1      | 0      |
| 63 | 180-43458-d-12    | A050715050 | Unk  | 14.1   | 0      |
| 64 | 180-43458-d-12    | A050715051 | Unk  | 13.8   | 0      |
| 65 | rinse             | A050715052 | Unk  | 1      | 0      |
| 66 | 180-43411-a-1     | A050715053 | Unk  | 21.7   | 0      |
| 67 | 180-43411-a-1     | A050715054 | Unk  | 20     | 0      |
| 68 | rinse             | A050715055 | Unk  | 1      | 0      |
| 69 | 180-43411-a-2     | A050715056 | Unk  | 4.8    | 0      |
| 70 | 180-43411-a-2     | A050715057 | Unk  | 5.3    | 0      |
| 71 | rinse             | A050715058 | Unk  | 1      | 0      |
| 72 | 180-43423-d-2     | A050715059 | Unk  | 21.2   | 0      |
| 73 | 180-43423-d-2     | A050715060 | Unk  | 20.4   | 0      |
| 74 | rinse             | A050715061 | Unk  | 1      | 0      |
| 75 | ccv               | A050715062 | Unk  | 100    | 0      |
| 76 | ccb               | A050715063 | Unk  | 20     | 0      |
| 77 | 180-43548-m-2     | A050715064 | Unk  | 20.1   | 0      |
| 78 | 180-43548-m-2     | A050715065 | Unk  | 21     | 0      |
| 79 | rinse             | A050715066 | Unk  | 1      | 0      |
| 80 | 180-43548-d-3     | A050715067 | Unk  | 12.9   | 0      |
| 81 | 180-43548-d-3     | A050715068 | Unk  | 12.8   | 0      |
| 82 | rinse             | A050715069 | Unk  | 1      | 0      |
| 83 | 180-43548-d-4     | A050715070 | Unk  | 20.6   | 0      |



| #  | Sample name   | Filename   | Type | Weight | Hum. % |
|----|---------------|------------|------|--------|--------|
| 84 | 180-43548-d-4 | A050715071 | Unk  | 21     | 0      |
| 85 | rinse         | A050715072 | Unk  | 1      | 0      |
| 86 | 180-43548-d-5 | A050715073 | Unk  | 16.5   | 0      |
| 87 | 180-43548-d-5 | A050715074 | Unk  | 15.9   | 0      |
| 88 | rinse         | A050715075 | Unk  | 1      | 0      |
| 89 | 180-43548-d-6 | A050715076 | Unk  | 13.4   | 0      |
| 90 | 180-43548-d-6 | A050715077 | Unk  | 14     | 0      |
| 91 | rinse         | A050715078 | Unk  | 1      | 0      |
| 92 | 180-43636-b-1 | A050715079 | Unk  | 13.7   | 0      |
| 93 | 180-43636-b-1 | A050715080 | Unk  | 13.1   | 0      |
| 94 | rinse         | A050715081 | Unk  | 1      | 0      |
| 95 | ccv           | A050715082 | Unk  | 100    | 0      |
| 96 | ccb           | A050715083 | Unk  | 20     | 0      |

|    | A                 | B          | C          | D     | E      | F    | G | H       | I               | J        | K             | L               | M |
|----|-------------------|------------|------------|-------|--------|------|---|---------|-----------------|----------|---------------|-----------------|---|
| 1  |                   |            |            |       |        |      |   |         |                 |          |               |                 |   |
| 2  |                   |            |            |       |        |      |   |         |                 |          |               |                 |   |
| 3  |                   |            |            |       |        |      |   |         |                 |          |               |                 |   |
| 4  |                   |            |            |       |        |      |   |         |                 |          |               |                 |   |
| 5  |                   |            |            |       |        |      |   |         |                 |          |               |                 |   |
| 6  |                   |            |            |       |        |      |   |         |                 |          |               |                 |   |
| 7  |                   |            |            |       |        |      |   |         |                 |          |               |                 |   |
| 8  |                   |            |            |       |        |      |   |         |                 |          |               |                 |   |
| 9  |                   |            |            |       |        |      |   |         |                 |          |               |                 |   |
| 10 |                   |            |            |       |        |      |   |         |                 |          |               |                 |   |
| 11 |                   |            |            |       |        |      |   |         |                 |          |               |                 |   |
| 12 | Sample            | Data File  | Date       | Time  | Weight |      |   | Conc. % | Avg Conc. mg/kg | RPD %    | Higher Weight | Dilution Factor |   |
| 13 | ccv               | A050715001 | 05/07/2015 | 04:01 | 100    | 6.25 | 0 | 0.9747  |                 |          |               |                 |   |
| 14 | ccb               | A050715002 | 05/07/2015 | 04:06 | 20     | 6.25 | 0 | 0.0000  |                 |          |               |                 |   |
| 15 | 180-mb OS-2CB0290 | A050715003 | 05/07/2015 | 04:11 | 20.9   | 6.25 | 0 | 0.0000  | 0.00            | 0.0000   | 20.9          | 0.9569          |   |
| 16 | 180-mb OS-2CB0290 | A050715004 | 05/07/2015 | 04:16 | 20.9   | 6.25 | 0 | 0.0000  |                 |          |               |                 |   |
| 17 | 180-lcs           | A050715005 | 05/07/2015 | 04:25 | 10.85  | 6.25 | 0 | 2.4599  | 22883.81        | 14.9922  | 10.85         | 1.8433          |   |
| 18 | 180-lcs           | A050715006 | 05/07/2015 | 04:30 | 10.85  | 6.25 | 0 | 2.1168  |                 |          |               |                 |   |
| 19 | 180-43458-d-2     | A050715007 | 05/07/2015 | 04:35 | 16.1   | 6.25 | 0 | 1.7352  | 17367.97        | -0.1885  | 16.4          | 1.2195          |   |
| 20 | 180-43458-d-2     | A050715008 | 05/07/2015 | 04:40 | 16.4   | 6.25 | 0 | 1.7384  |                 |          |               |                 |   |
| 21 | 180-43458-d-3     | A050715010 | 05/07/2015 | 04:51 | 20.6   | 6.25 | 0 | 0.2908  | 2883.81         | 1.0050   | 21.7          | 0.9217          |   |
| 22 | 180-43458-d-3     | A050715011 | 05/07/2015 | 04:56 | 21.7   | 6.25 | 0 | 0.2879  |                 |          |               |                 |   |
| 23 | 180-43458-d-4     | A050715013 | 05/07/2015 | 05:07 | 12     | 6.25 | 0 | 2.8286  | 28932.53        | -4.6056  | 12            | 1.6667          |   |
| 24 | 180-43458-d-4     | A050715014 | 05/07/2015 | 05:12 | 11.8   | 6.25 | 0 | 2.9599  |                 |          |               |                 |   |
| 25 | 180-43458-d-5     | A050715016 | 05/07/2015 | 05:22 | 15.3   | 6.25 | 0 | 1.9457  | 20161.64        | -6.9917  | 15.3          | 1.3072          |   |
| 26 | 180-43458-d-5     | A050715017 | 05/07/2015 | 05:28 | 14.5   | 6.25 | 0 | 2.0866  |                 |          |               |                 |   |
| 27 | 180-43458-m-6     | A050715019 | 05/07/2015 | 05:38 | 15.4   | 6.25 | 0 | 2.0306  | 21429.82        | -10.4914 | 15.4          | 1.2987          |   |
| 28 | 180-43458-m-6     | A050715020 | 05/07/2015 | 05:44 | 15.3   | 6.25 | 0 | 2.2554  |                 |          |               |                 |   |
| 29 | ccv               | A050715022 | 05/07/2015 | 05:54 | 100    | 6.25 | 0 | 1.0452  |                 |          |               |                 |   |
| 30 | ccb               | A050715023 | 05/07/2015 | 06:00 | 20     | 6.25 | 0 | 0.0000  |                 |          |               |                 |   |
| 31 | 180-43458-d-7     | A050715024 | 05/07/2015 | 06:06 | 13.4   | 6.25 | 0 | 1.8570  | 19504.89        | -9.5881  | 13.4          | 1.4925          |   |
| 32 | 180-43458-d-7     | A050715025 | 05/07/2015 | 06:11 | 13.4   | 6.25 | 0 | 2.0440  |                 |          |               |                 |   |
| 33 | 180-43458-d-7 ms  | A050715027 | 05/07/2015 | 06:21 | 13.85  | 6.25 | 0 | 4.4377  | 41099.77        | 15.9474  | 13.85         | 1.4440          |   |
| 34 | 180-43458-d-7 ms  | A050715028 | 05/07/2015 | 06:27 | 13.85  | 6.25 | 0 | 3.7823  |                 |          |               |                 |   |
| 35 | 180-43458-d-7 msd | A050715030 | 05/07/2015 | 06:39 | 14.25  | 6.25 | 0 | 4.2052  | 40400.36        | 8.1788   | 14.25         | 1.4035          |   |
| 36 | 180-43458-d-7 msd | A050715031 | 05/07/2015 | 06:44 | 14.25  | 6.25 | 0 | 3.8748  |                 |          |               |                 |   |
| 37 | 180-43458-d-7 du  | A050715033 | 05/07/2015 | 06:55 | 13.9   | 6.25 | 0 | 2.2083  | 22242.82        | -1.4354  | 13.9          | 1.4388          |   |
| 38 | 180-43458-d-7 du  | A050715034 | 05/07/2015 | 07:00 | 13.9   | 6.25 | 0 | 2.2402  |                 |          |               |                 |   |
| 39 | 180-43458-d-8     | A050715036 | 05/07/2015 | 07:10 | 17.3   | 6.25 | 0 | 2.1847  | 22187.28        | -3.0703  | 17.5          | 1.1429          |   |
| 40 | 180-43458-d-8     | A050715037 | 05/07/2015 | 07:16 | 17.5   | 6.25 | 0 | 2.2528  |                 |          |               |                 |   |
| 41 | 180-43458-n-9     | A050715039 | 05/07/2015 | 07:26 | 13.6   | 6.25 | 0 | 2.5941  | 26502.49        | -4.2349  | 14            | 1.4286          |   |
| 42 | 180-43458-n-9     | A050715040 | 05/07/2015 | 07:31 | 14     | 6.25 | 0 | 2.7064  |                 |          |               |                 |   |
| 43 | ccv               | A050715042 | 05/07/2015 | 07:42 | 100    | 6.25 | 0 | 1.0220  |                 |          |               |                 |   |
| 44 | ccb               | A050715043 | 05/07/2015 | 07:47 | 20     | 6.25 | 0 | 0.0000  |                 |          |               |                 |   |
| 45 | 180-43458-d-10    | A050715044 | 05/07/2015 | 07:52 | 16     | 6.25 | 0 | 1.4277  | 14714.13        | -5.9477  | 17.3          | 1.1561          |   |
| 46 | 180-43458-d-10    | A050715045 | 05/07/2015 | 07:57 | 17.3   | 6.25 | 0 | 1.5152  |                 |          |               |                 |   |
| 47 | 180-43458-d-11    | A050715047 | 05/07/2015 | 08:08 | 14     | 6.25 | 0 | 2.6784  | 29071.30        | -15.7376 | 14.9          | 1.3423          |   |
| 48 | 180-43458-d-11    | A050715048 | 05/07/2015 | 08:13 | 14.9   | 6.25 | 0 | 3.1359  |                 |          |               |                 |   |
| 49 | 180-43458-d-12    | A050715050 | 05/07/2015 | 08:25 | 14.1   | 6.25 | 0 | 3.3675  | 33504.00        | 0.4219   | 14.1          | 1.4184          |   |

|    | A              | B          | C          | D     | E    | F    | G | I      | J        | K       | L    | M      |
|----|----------------|------------|------------|-------|------|------|---|--------|----------|---------|------|--------|
| 50 | 180-43458-d-12 | A050715051 | 05/07/2015 | 08:30 | 13.8 | 6.25 | 0 | 3.3433 |          |         |      |        |
| 51 | 180-43411-e-1  | A050715053 | 05/07/2015 | 08:41 | 21.7 | 6.25 | 0 | 0.2490 | 2326.14  | 14.0874 | 21.7 | 0.9217 |
| 52 | 180-43411-e-1  | A050715054 | 05/07/2015 | 08:46 | 20   | 6.25 | 0 | 0.2162 |          |         |      |        |
| 53 | 180-43411-e-2  | A050715056 | 05/07/2015 | 08:56 | 4.8  | 6.25 | 0 | 1.2171 | 11981.00 | 3.1572  | 5.3  | 3.7736 |
| 54 | 180-43411-e-2  | A050715057 | 05/07/2015 | 09:02 | 5.3  | 6.25 | 0 | 1.1792 |          |         |      |        |
| 55 | 180-43423-d-2  | A050715059 | 05/07/2015 | 09:12 | 21.2 | 6.25 | 0 | 0.1828 | 1836.06  | -0.8763 | 21.2 | 0.9434 |
| 56 | 180-43423-d-2  | A050715060 | 05/07/2015 | 09:17 | 20.4 | 6.25 | 0 | 0.1844 |          |         |      |        |
| 57 | ccv            | A050715062 | 05/07/2015 | 09:28 | 100  | 6.25 | 0 | 1.0424 |          |         |      |        |
| 58 | ccb            | A050715063 | 05/07/2015 | 09:33 | 20   | 6.25 | 0 | 0.0000 |          |         |      |        |
| 59 | 180-43548-m-2  | A050715064 | 05/07/2015 | 09:43 | 20.1 | 6.25 | 0 | 0.4307 | 4295.46  | 0.5548  | 21   | 0.9524 |
| 60 | 180-43548-m-2  | A050715065 | 05/07/2015 | 09:48 | 21   | 6.25 | 0 | 0.4284 |          |         |      |        |
| 61 | 180-43548-d-3  | A050715067 | 05/07/2015 | 09:59 | 12.9 | 6.25 | 0 | 3.1030 | 30963.08 | 0.4316  | 12.9 | 1.5504 |
| 62 | 180-43548-d-3  | A050715068 | 05/07/2015 | 10:04 | 12.8 | 6.25 | 0 | 3.0896 |          |         |      |        |
| 63 | 180-43548-d-4  | A050715070 | 05/07/2015 | 10:15 | 20.6 | 6.25 | 0 | 0.4638 | 4546.92  | 4.0053  | 21   | 0.9524 |
| 64 | 180-43548-d-4  | A050715071 | 05/07/2015 | 10:20 | 21   | 6.25 | 0 | 0.4456 |          |         |      |        |
| 65 | 180-43548-d-5  | A050715073 | 05/07/2015 | 10:31 | 16.5 | 6.25 | 0 | 1.5702 | 16517.72 | -9.8775 | 16.5 | 1.2121 |
| 66 | 180-43548-d-5  | A050715074 | 05/07/2015 | 10:36 | 15.9 | 6.25 | 0 | 1.7333 |          |         |      |        |
| 67 | 180-43548-d-6  | A050715076 | 05/07/2015 | 10:47 | 13.4 | 6.25 | 0 | 2.0824 | 17460.34 | 38.5284 | 14   | 1.4286 |
| 68 | 180-43548-d-6  | A050715077 | 05/07/2015 | 10:52 | 14   | 6.25 | 0 | 1.4097 |          |         |      |        |
| 69 | 180-43636-b-1  | A050715079 | 05/07/2015 | 11:02 | 13.7 | 6.25 | 0 | 3.4654 | 34391.71 | 1.5251  | 13.7 | 1.4599 |
| 70 | 180-43636-b-1  | A050715080 | 05/07/2015 | 11:08 | 13.1 | 6.25 | 0 | 3.4129 |          |         |      |        |
| 71 | ccv            | A050715082 | 05/07/2015 | 11:18 | 100  | 6.25 | 0 | 1.0155 |          |         |      |        |
| 72 | ccb            | A050715083 | 05/07/2015 | 11:24 | 20   | 6.25 | 0 | 0.0000 |          |         |      |        |

# Eager Xperience

Method name : Lloyd Kahn  
Method filename : C:\data\January\050715x.mth

## Sample table

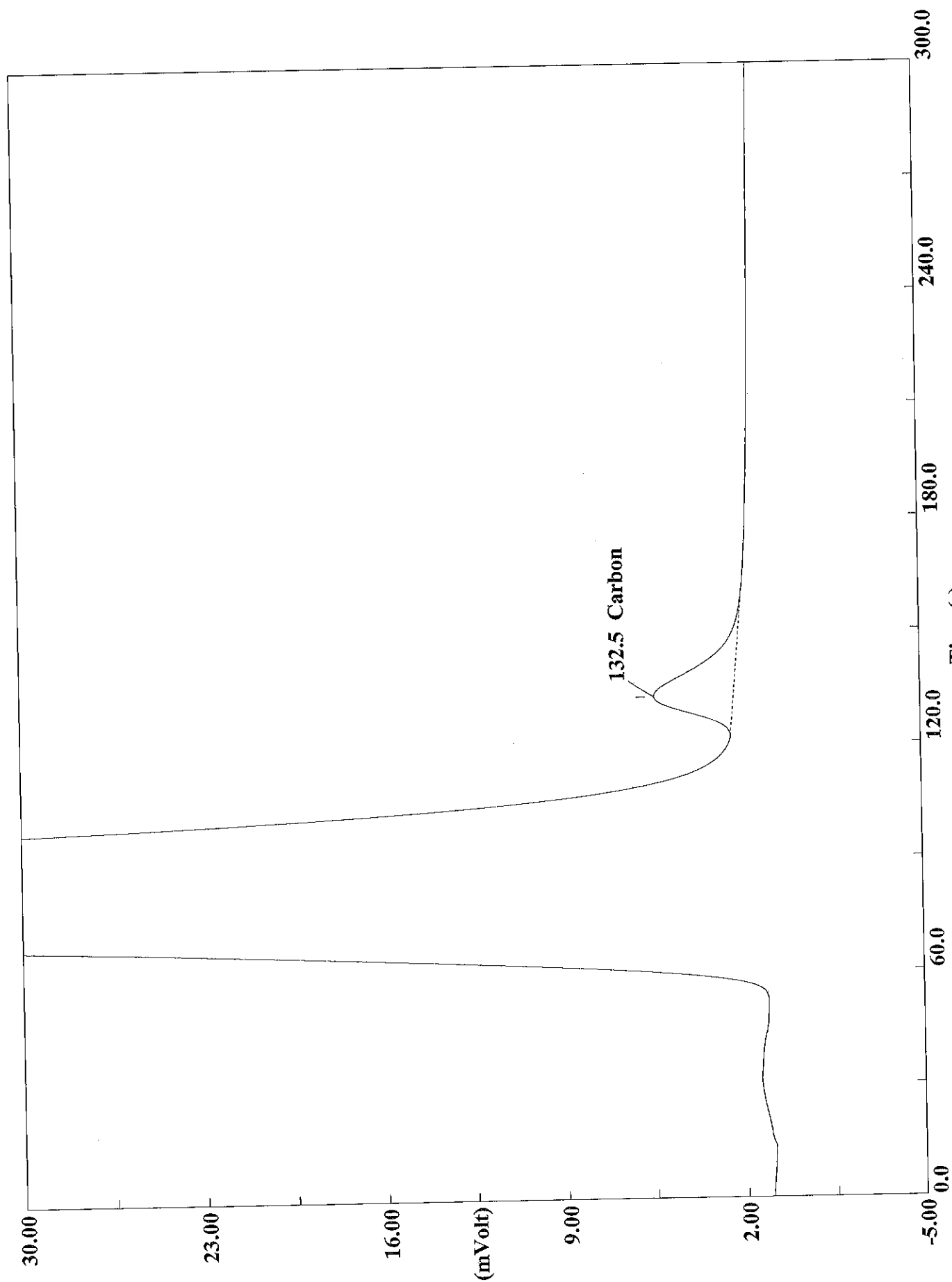
Chromatogram overwrite : Enabled

| #  | Sample name    | Filename   | Type | Weight | Hum. % |
|----|----------------|------------|------|--------|--------|
| 1  | BY PASS        | A050615100 | ByP  | -      | 0      |
| 2  | BLANK          | A050615101 | Unk  | 20     | 0      |
| 3  | BLANK          | A050615102 | Unk  | 20     | 0      |
| 4  | 1,000 KHP      | A050615103 | Std  | 200    | 0      |
| 5  | 2,500 KHP      | A050615104 | Std  | 50     | 0      |
| 6  | 5,000 KHP      | A050615105 | Std  | 100    | 0      |
| 7  | 10,000 KHP     | A050615106 | Std  | 200    | 0      |
| 8  | 25,000 KHP     | A050615107 | Std  | 50     | 0      |
| 9  | 50,000 KHP     | A050615108 | Std  | 100    | 0      |
| 10 | 100,000 KHP    | A050615109 | Std  | 200    | 0      |
| 11 | ICV 22,900 KHP | A050615110 | Unk  | 11.3   | 0      |
| 12 | ccv            | A050615111 | Unk  | 100    | 0      |
| 13 | ccb            | A050615112 | Unk  | 20     | 0      |
| 14 | ccv            | A050715001 | Unk  | 100    | 0      |
| 15 | ccb            | A050715002 | Unk  | 20     | 0      |
| 16 | mb OS-2CB0290  | A050715003 | Unk  | 20.9   | 0      |
| 17 | mb OS-2CB0290  | A050715004 | Unk  | 20.9   | 0      |
| 18 | lcs            | A050715005 | Unk  | 10.85  | 0      |
| 19 | lcs            | A050715006 | Unk  | 10.85  | 0      |
| 20 | 180-43458-d-2  | A050715007 | Unk  | 16.1   | 0      |
| 21 | 180-43458-d-2  | A050715008 | Unk  | 16.4   | 0      |
| 22 | rinse          | A050715009 | Unk  | 1      | 0      |
| 23 | 180-43458-d-3  | A050715010 | Unk  | 20.6   | 0      |
| 24 | 180-43458-d-3  | A050715011 | Unk  | 21.7   | 0      |
| 25 | rinse          | A050715012 | Unk  | 1      | 0      |
| 26 | 180-43458-d-4  | A050715013 | Unk  | 12     | 0      |
| 27 | 180-43458-d-4  | A050715014 | Unk  | 11.8   | 0      |
| 28 | rinse          | A050715015 | Unk  | 1      | 0      |
| 29 | 180-43458-d-5  | A050715016 | Unk  | 15.3   | 0      |
| 30 | 180-43458-d-5  | A050715017 | Unk  | 14.5   | 0      |
| 31 | rinse          | A050715018 | Unk  | 1      | 0      |
| 32 | 180-43458-m-6  | A050715019 | Unk  | 15.4   | 0      |
| 33 | 180-43458-m-6  | A050715020 | Unk  | 15.3   | 0      |
| 34 | rinse          | A050715021 | Unk  | 1      | 0      |
| 35 | ccv            | A050715022 | Unk  | 100    | 0      |
| 36 | ccb            | A050715023 | Unk  | 20     | 0      |
| 37 | 180-43458-d-7  | A050715024 | Unk  | 13.4   | 0      |

| #  | Sample name       | Filename   | Type | Weight | Hum. % |
|----|-------------------|------------|------|--------|--------|
| 38 | 180-43458-d-7     | A050715025 | Unk  | 13.4   | 0      |
| 39 | rinse             | A050715026 | Unk  | 1      | 0      |
| 40 | 180-43458-d-7 ms  | A050715027 | Unk  | 13.85  | 0      |
| 41 | 180-43458-d-7 ms  | A050715028 | Unk  | 13.85  | 0      |
| 42 | rinse             | A050715029 | Unk  | 1      | 0      |
| 43 | 180-43458-d-7 msd | A050715030 | Unk  | 14.25  | 0      |
| 44 | 180-43458-d-7 msd | A050715031 | Unk  | 14.25  | 0      |
| 45 | rinse             | A050715032 | Unk  | 1      | 0      |
| 46 | 180-43458-d-7 du  | A050715033 | Unk  | 13.9   | 0      |
| 47 | 180-43458-d-7 du  | A050715034 | Unk  | 13.9   | 0      |
| 48 | rinse             | A050715035 | Unk  | 1      | 0      |
| 49 | 180-43458-d-8     | A050715036 | Unk  | 17.3   | 0      |
| 50 | 180-43458-d-8     | A050715037 | Unk  | 17.5   | 0      |
| 51 | rinse             | A050715038 | Unk  | 1      | 0      |
| 52 | 180-43458-n-9     | A050715039 | Unk  | 13.6   | 0      |
| 53 | 180-43458-n-9     | A050715040 | Unk  | 14     | 0      |
| 54 | rinse             | A050715041 | Unk  | 1      | 0      |
| 55 | ccv               | A050715042 | Unk  | 100    | 0      |
| 56 | ccb               | A050715043 | Unk  | 20     | 0      |
| 57 | 180-43458-d-10    | A050715044 | Unk  | 16     | 0      |
| 58 | 180-43458-d-10    | A050715045 | Unk  | 17.3   | 0      |
| 59 | rinse             | A050715046 | Unk  | 1      | 0      |
| 60 | 180-43458-d-11    | A050715047 | Unk  | 14     | 0      |
| 61 | 180-43458-d-11    | A050715048 | Unk  | 14.9   | 0      |
| 62 | rinse             | A050715049 | Unk  | 1      | 0      |
| 63 | 180-43458-d-12    | A050715050 | Unk  | 14.1   | 0      |
| 64 | 180-43458-d-12    | A050715051 | Unk  | 13.8   | 0      |
| 65 | rinse             | A050715052 | Unk  | 1      | 0      |
| 66 | 180-43411-a-1     | A050715053 | Unk  | 21.7   | 0      |
| 67 | 180-43411-a-1     | A050715054 | Unk  | 20     | 0      |
| 68 | rinse             | A050715055 | Unk  | 1      | 0      |
| 69 | 180-43411-a-2     | A050715056 | Unk  | 4.8    | 0      |
| 70 | 180-43411-a-2     | A050715057 | Unk  | 5.3    | 0      |
| 71 | rinse             | A050715058 | Unk  | 1      | 0      |
| 72 | 180-43423-d-2     | A050715059 | Unk  | 21.2   | 0      |
| 73 | 180-43423-d-2     | A050715060 | Unk  | 20.4   | 0      |
| 74 | rinse             | A050715061 | Unk  | 1      | 0      |
| 75 | ccv               | A050715062 | Unk  | 100    | 0      |
| 76 | ccb               | A050715063 | Unk  | 20     | 0      |
| 77 | 180-43548-m-2     | A050715064 | Unk  | 20.1   | 0      |
| 78 | 180-43548-m-2     | A050715065 | Unk  | 21     | 0      |
| 79 | rinse             | A050715066 | Unk  | 1      | 0      |
| 80 | 180-43548-d-3     | A050715067 | Unk  | 12.9   | 0      |
| 81 | 180-43548-d-3     | A050715068 | Unk  | 12.8   | 0      |
| 82 | rinse             | A050715069 | Unk  | 1      | 0      |
| 83 | 180-43548-d-4     | A050715070 | Unk  | 20.6   | 0      |

| #  | Sample name   | Filename   | Type | Weight | Hum. % |
|----|---------------|------------|------|--------|--------|
| 84 | 180-43548-d-4 | A050715071 | Unk  | 21     | 0      |
| 85 | rinse         | A050715072 | Unk  | 1      | 0      |
| 86 | 180-43548-d-5 | A050715073 | Unk  | 16.5   | 0      |
| 87 | 180-43548-d-5 | A050715074 | Unk  | 15.9   | 0      |
| 88 | rinse         | A050715075 | Unk  | 1      | 0      |
| 89 | 180-43548-d-6 | A050715076 | Unk  | 13.4   | 0      |
| 90 | 180-43548-d-6 | A050715077 | Unk  | 14     | 0      |
| 91 | rinse         | A050715078 | Unk  | 1      | 0      |
| 92 | 180-43636-b-1 | A050715079 | Unk  | 13.7   | 0      |
| 93 | 180-43636-b-1 | A050715080 | Unk  | 13.1   | 0      |
| 94 | rinse         | A050715081 | Unk  | 1      | 0      |
| 95 | ccv           | A050715082 | Unk  | 100    | 0      |
| 96 | ccb           | A050715083 | Unk  | 20     | 0      |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715005.DAT  
Sample name : lcs    Analysed : 05/07/2015 04:25

# Eager 300 Report

Page: 1 Sample: lcs (A050715005)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715x.mth  
Chromatogram : A050715005  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 04:25 Printed : 5/8/2015 11:30  
Sample ID : lcs (# 18)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 10.85

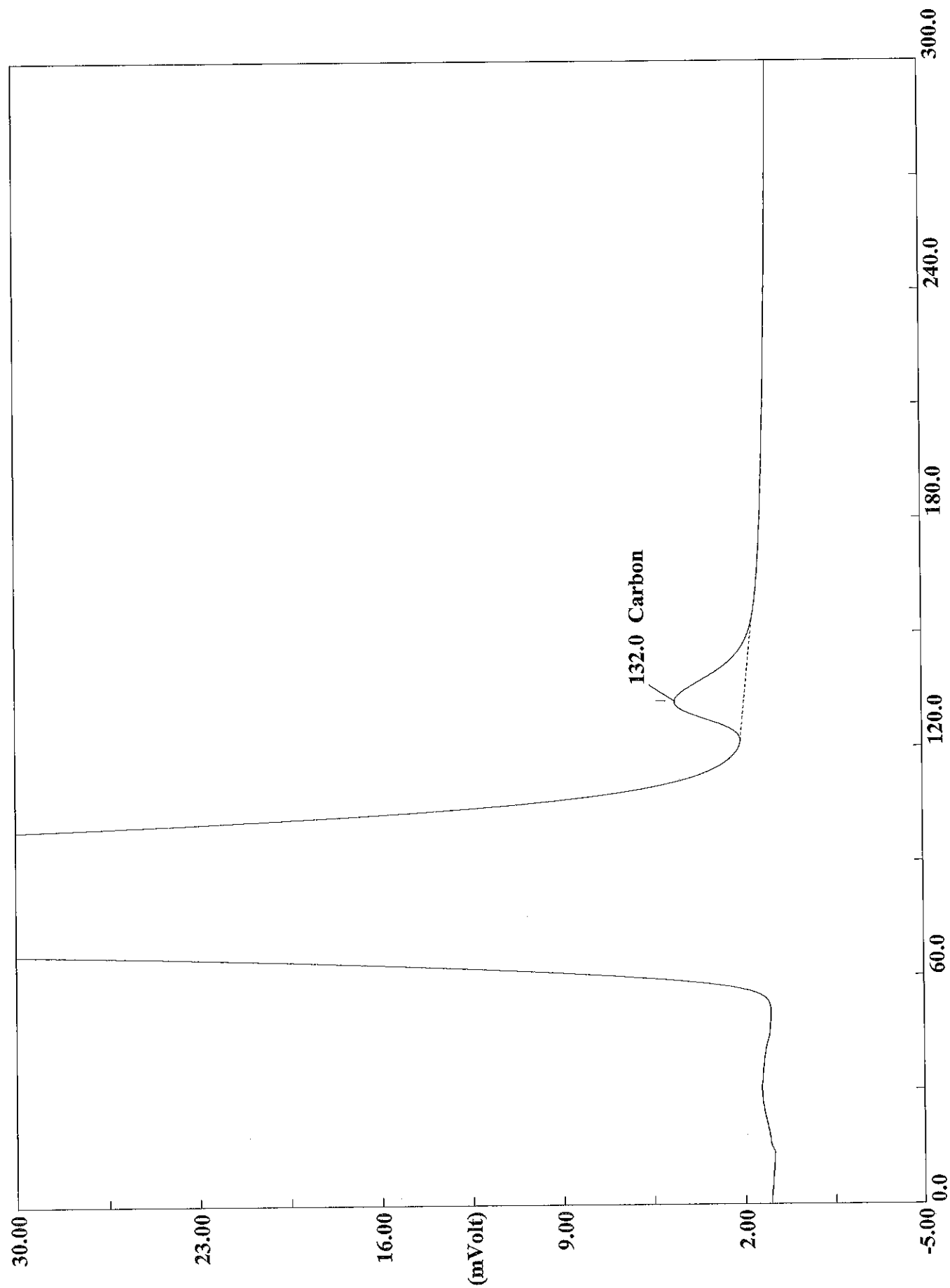
Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 2.4599 | 133      | 409274 | mi | 1.000000   |          |



Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715006.DAT  
Sample name :ics Analysed :05/07/2015 04:30

# Eager 300 Report

Page: 1 Sample: lcs (A050715006)

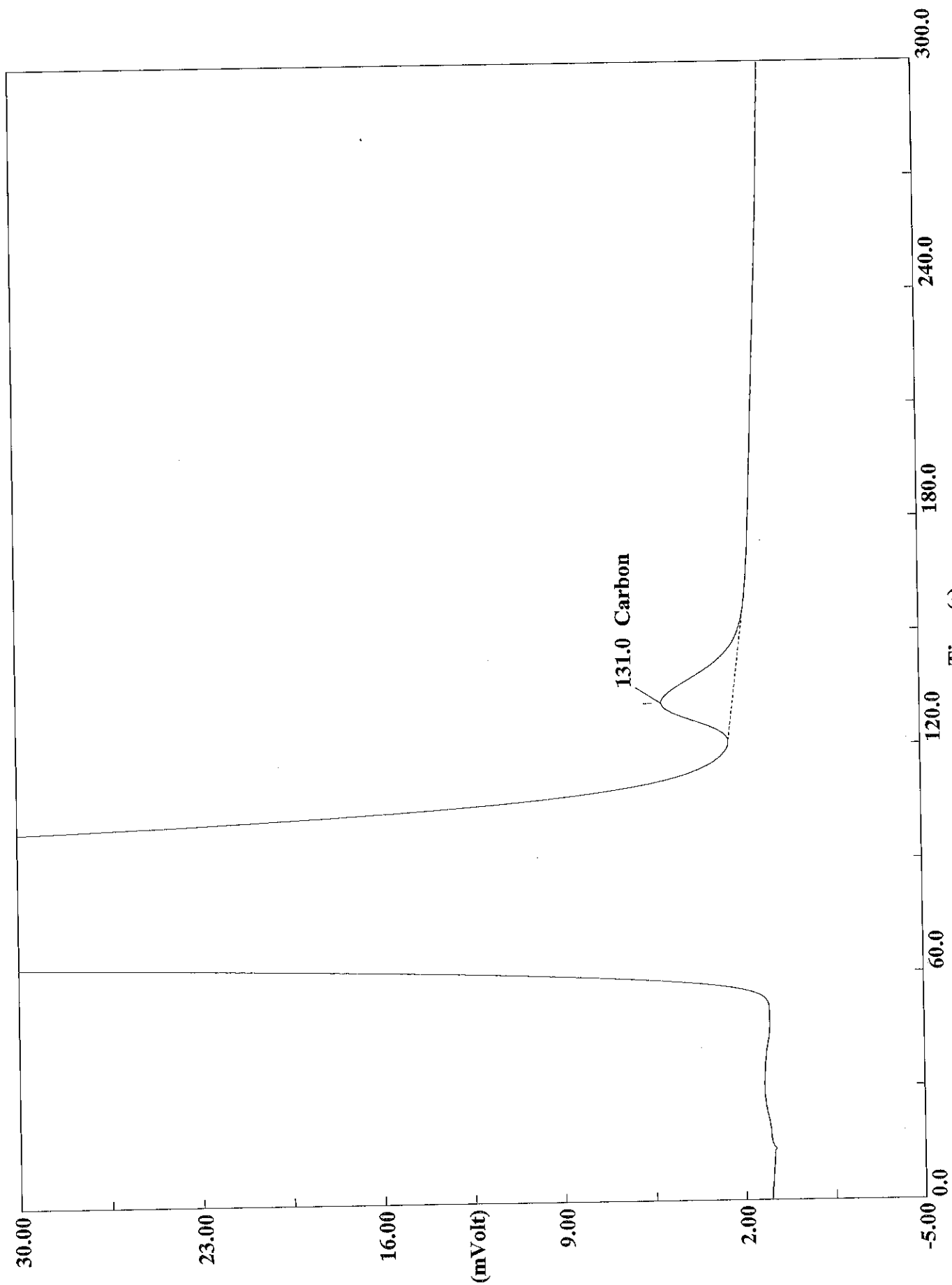
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715x.mth  
Chromatogram : A050715006  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 04:30 Printed : 5/8/2015 11:30  
Sample ID : lcs (# 19)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 10.85

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area      | BC | Area ratio | K factor |
|--------------|--------|----------|-----------|----|------------|----------|
| Carbon       | 2.1168 | 132      | 343606 mi |    | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715024.DAT

Sample name :180-43458-d-7 Analysed :05/07/2015 06:06

# Eager 300 Report

Page: 1 Sample: 180-43458-d-7 (A050715024)

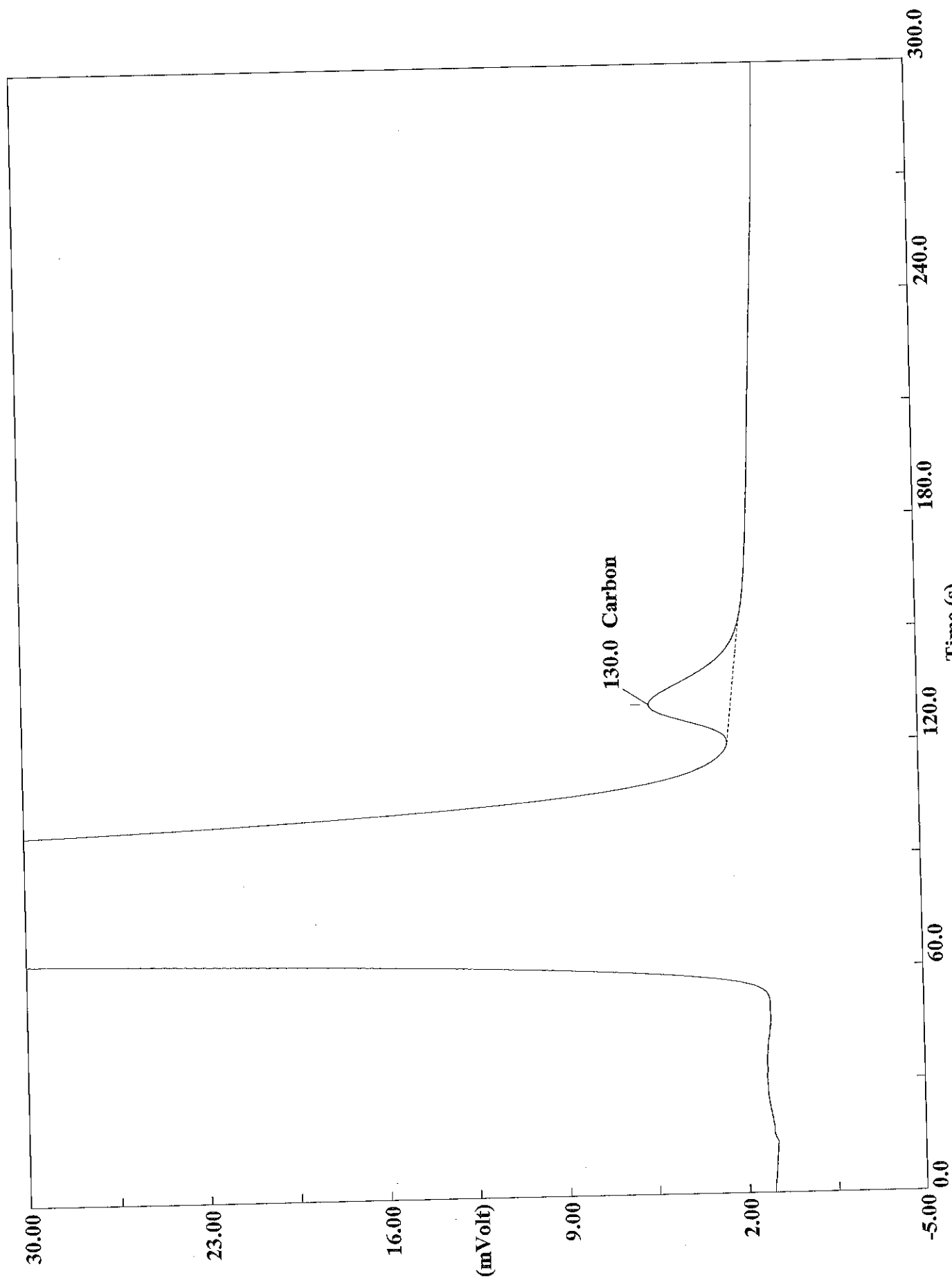
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715x.mth  
Chromatogram : A050715024  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 06:06 Printed : 5/8/2015 11:30  
Sample ID : 180-43458-d-7 (# 37)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 13.4

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area      | BC | Area ratio | K factor |
|--------------|--------|----------|-----------|----|------------|----------|
| Carbon       | 1.8570 | 131      | 377408 mi |    | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715025.DAT  
Sample name :180-43458-d-7 Analysed :05/07/2015 06:11

# Eager 300 Report

Page: 1 Sample: 180-43458-d-7 (A050715025)

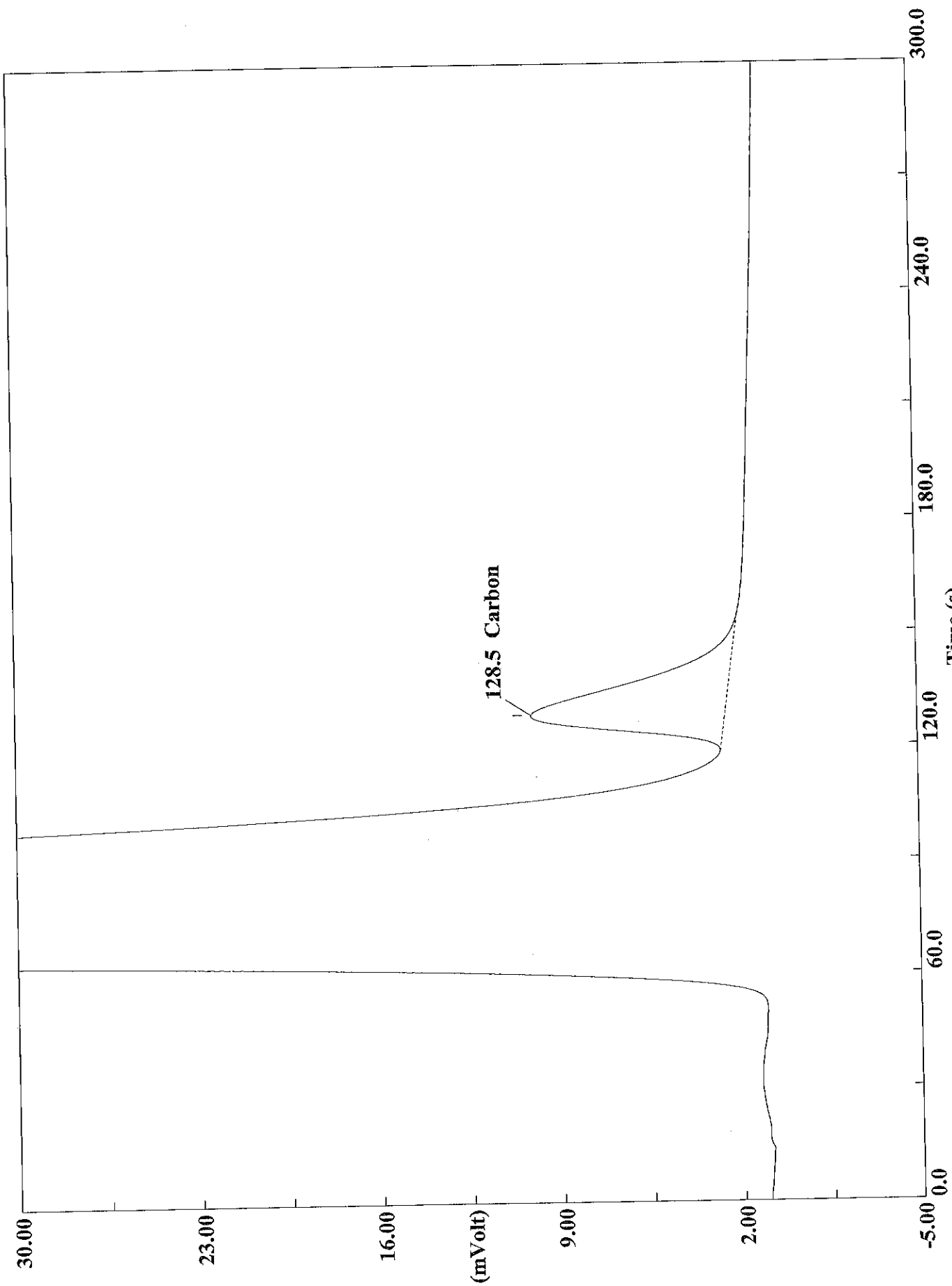
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715x.mth  
Chromatogram : A050715025  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 06:11 Printed : 5/8/2015 11:30  
Sample ID : 180-43458-d-7 (# 38)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 13.4

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area      | BC | Area ratio | K factor |
|--------------|--------|----------|-----------|----|------------|----------|
| Carbon       | 2.0440 | 130      | 421608 mi |    | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715027.DAT  
Sample name :180-43458-d-7 ms Analysed :05/07/2015 06:21

# Eager 300 Report

Page: 1 Sample: 180-43458-d-7 ms (A050715027)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715x.mth  
Chromatogram : A050715027  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 06:21 Printed : 5/8/2015 11:30  
Sample ID : 180-43458-d-7 ms (# 40)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 13.85

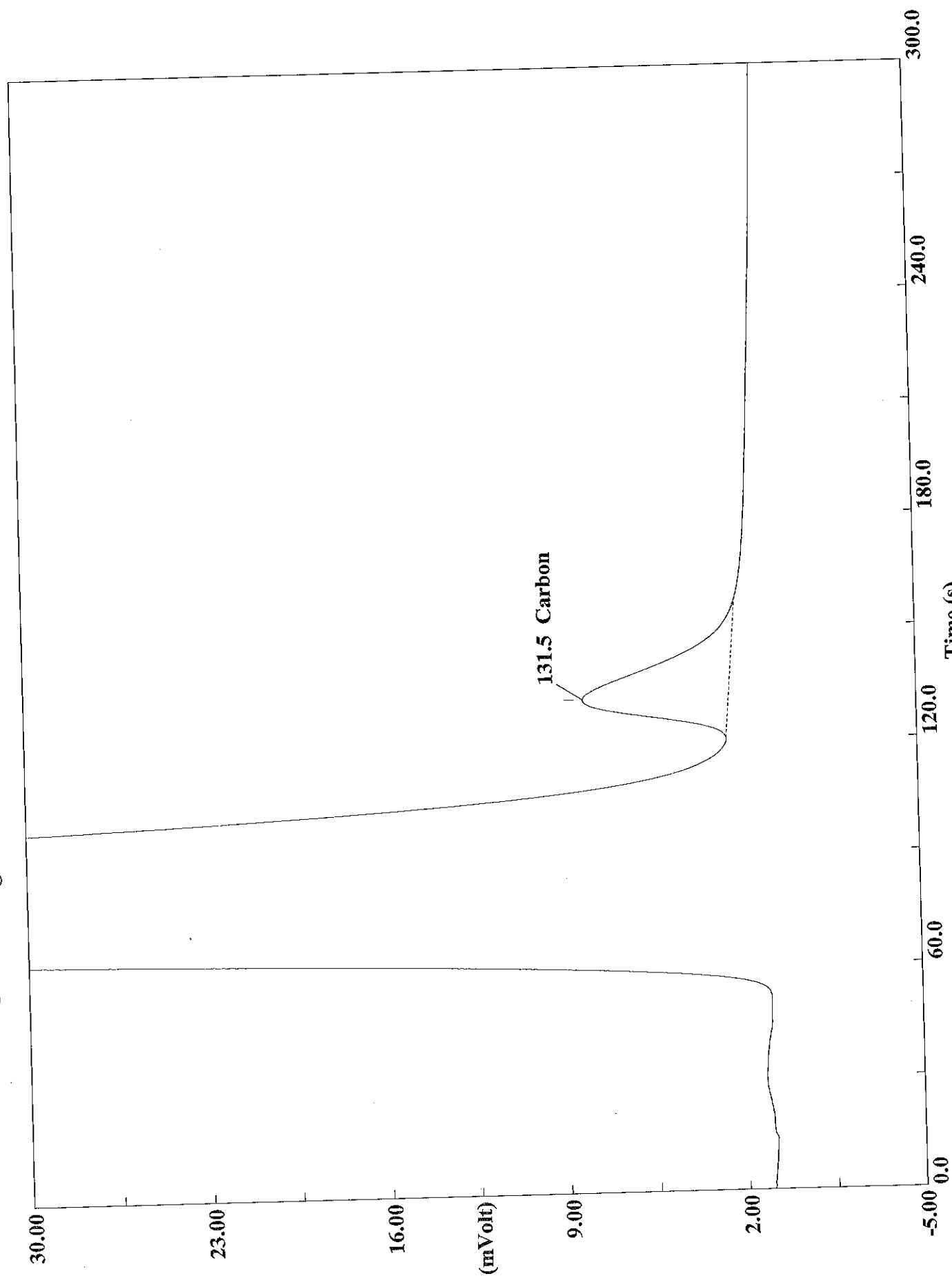
Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area    | BC | Area ratio | K factor |
|--------------|--------|----------|---------|----|------------|----------|
| Carbon       | 4.4377 | 129      | 1022697 | mi | 1.000000   |          |



Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715028.DAT  
Sample name : 180-43458-d-7 ms Analysed : 05/07/2015 06:27

# Eager 300 Report

Page: 1 Sample: 180-43458-d-7 ms (A050715028)

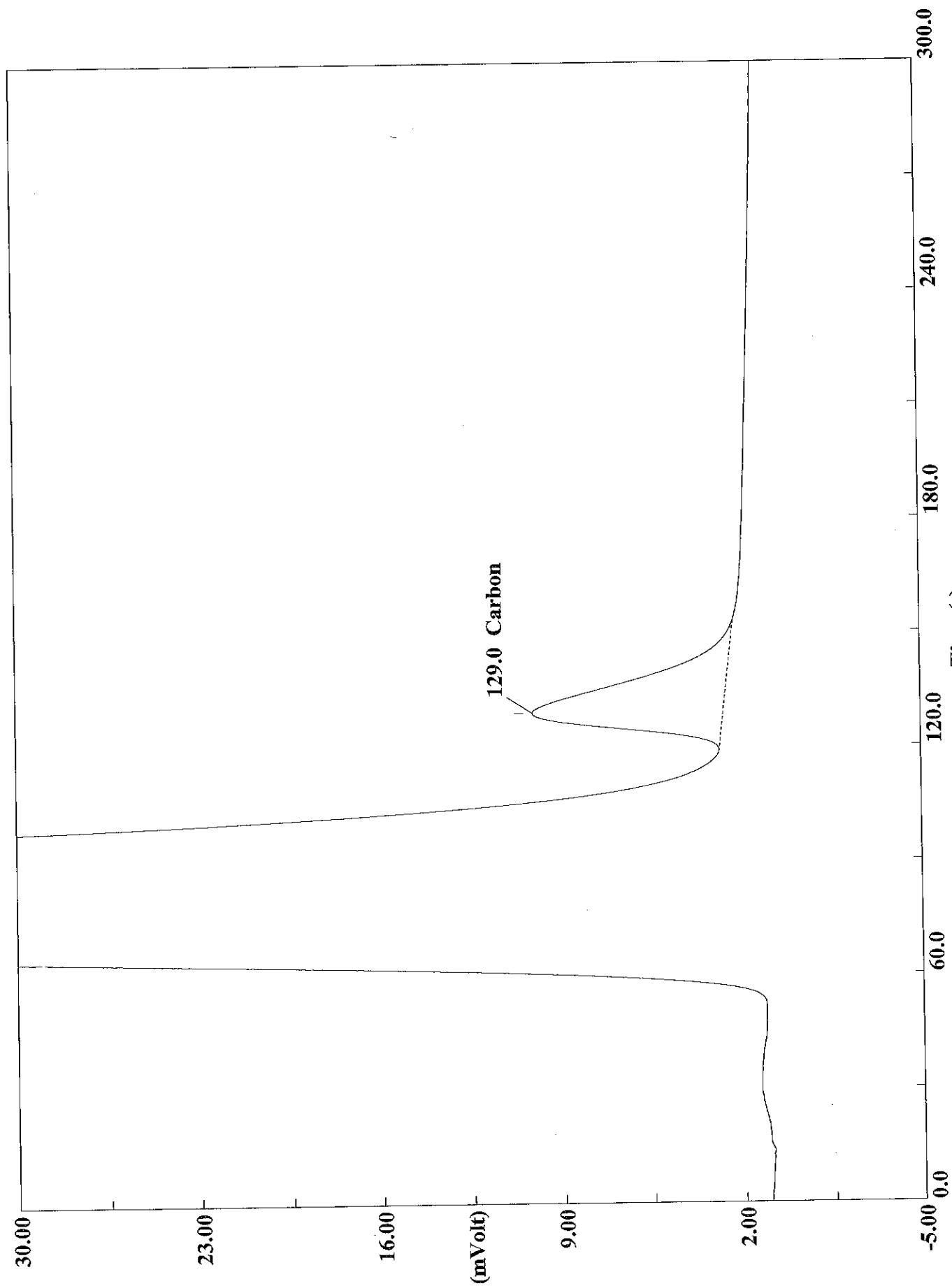
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715x.mth  
Chromatogram : A050715028  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 06:27 Printed : 5/8/2015 11:30  
Sample ID : 180-43458-d-7 ms (# 41)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 13.85

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area      | BC | Area ratio | K factor |
|--------------|--------|----------|-----------|----|------------|----------|
| Carbon       | 3.7823 | 132      | 862553 mi |    | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715030.DAT  
Sample name : 180-43458-d-7 msd Analysed : 05/07/2015 06:39

# Eager 300 Report

Page: 1 Sample: 180-43458-d-7 msd (A050715030)

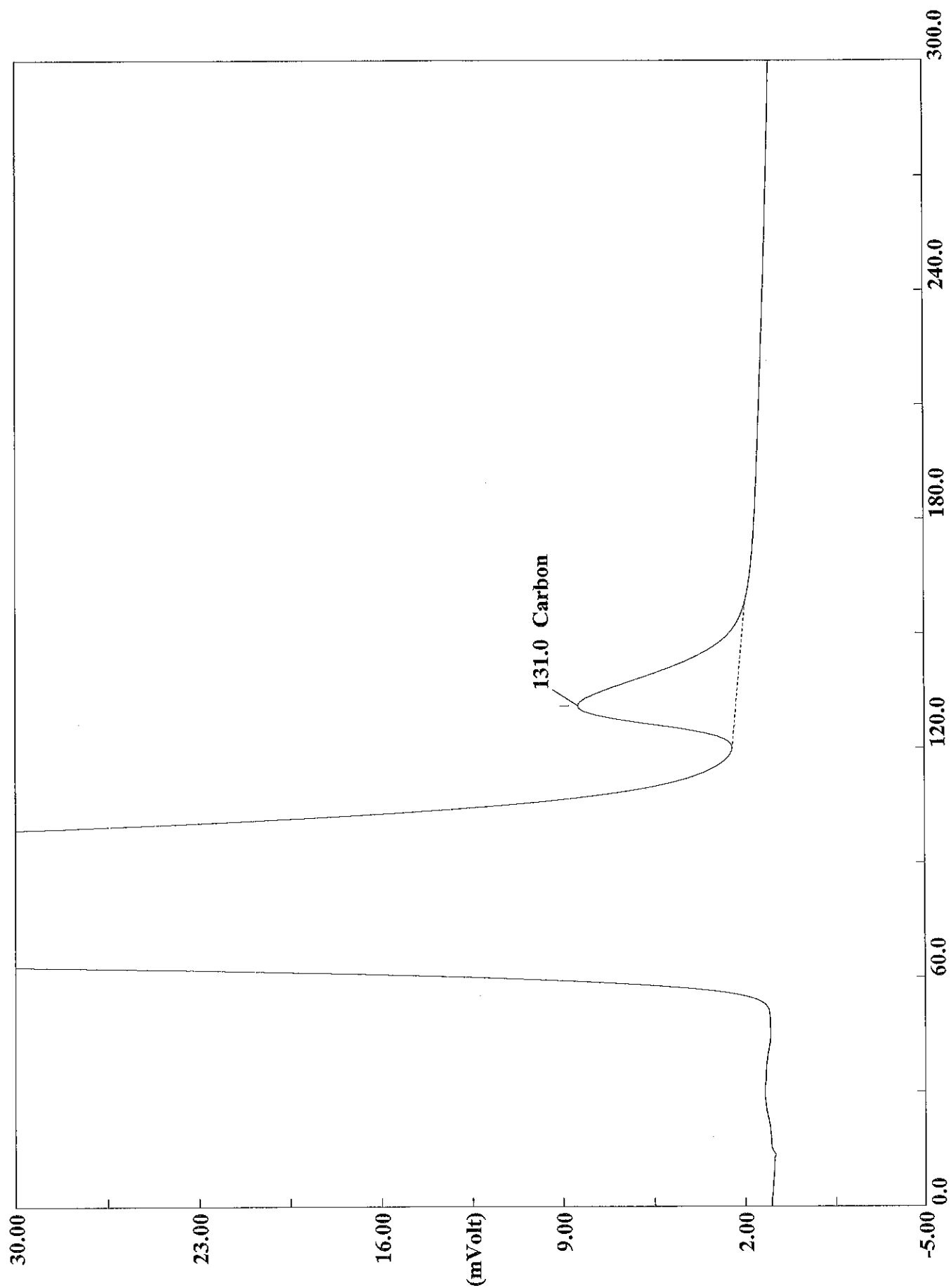
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715x.mth  
Chromatogram : A050715030  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 06:39 Printed : 5/8/2015 11:31  
Sample ID : 180-43458-d-7 msd (# 43)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 14.25

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 4.2052 | 129      | 995578 | mi | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715031.DAT

Sample name : 180-43458-d-7 msd Analysed : 05/07/2015 06:44

# Eager 300 Report

Page: 1 Sample: 180-43458-d-7 msd (A050715031)

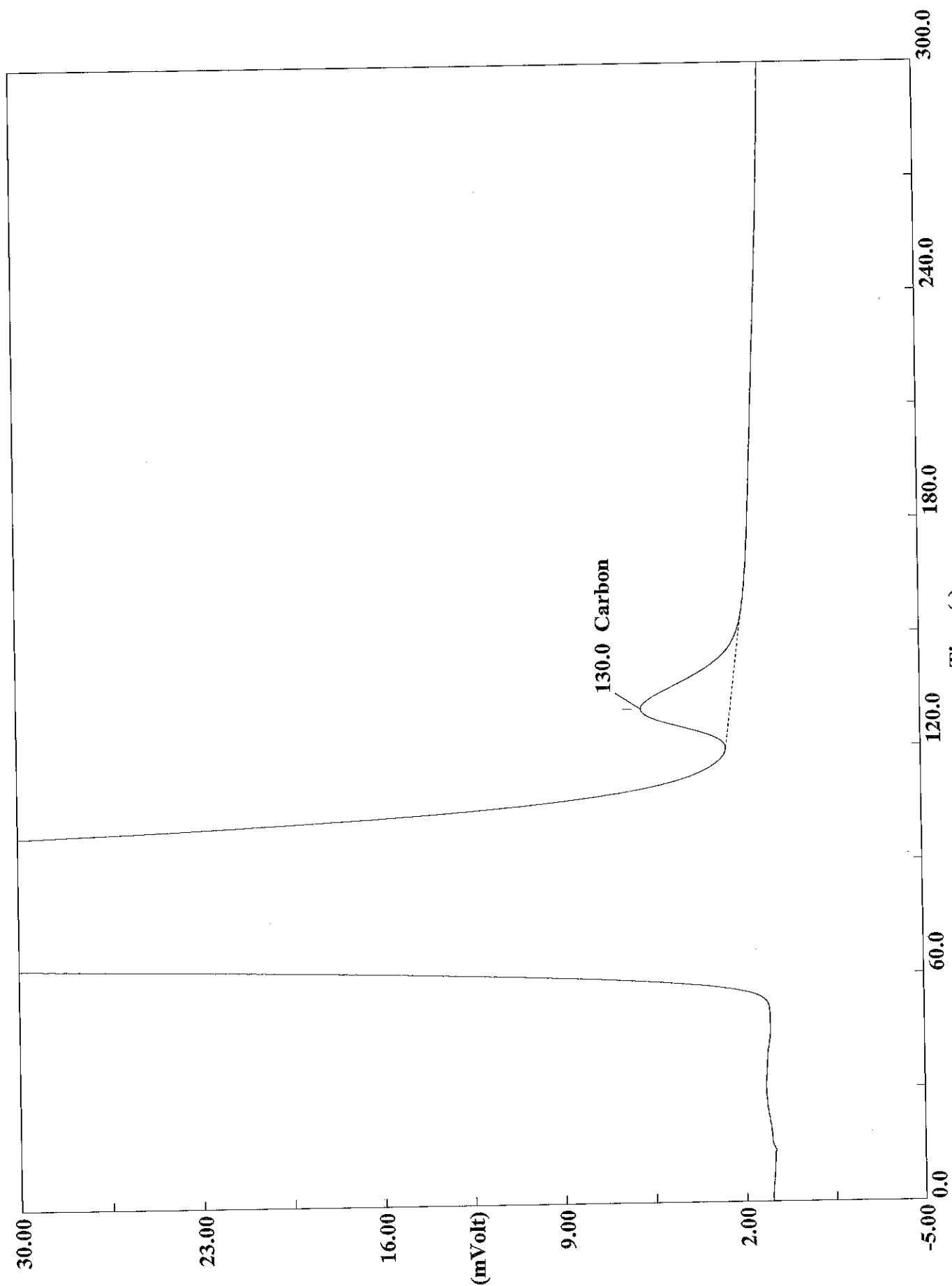
Method Name : Lloyd Kahn  
Method File : C:\data\January\050715x.mth  
Chromatogram : A050715031  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 06:44 Printed : 5/8/2015 11:31  
Sample ID : 180-43458-d-7 msd (# 44)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 14.25

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area      | BC | Area ratio | K factor |
|--------------|--------|----------|-----------|----|------------|----------|
| Carbon       | 3.8748 | 131      | 912512 mi |    | 1.000000   |          |

Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



# Eager 300 Report

Page: 1 Sample: 180-43458-d-7 du (A050715033)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715x.mth  
Chromatogram : A050715033  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 06:55 Printed : 5/8/2015 11:31  
Sample ID : 180-43458-d-7 du (# 46)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 13.9

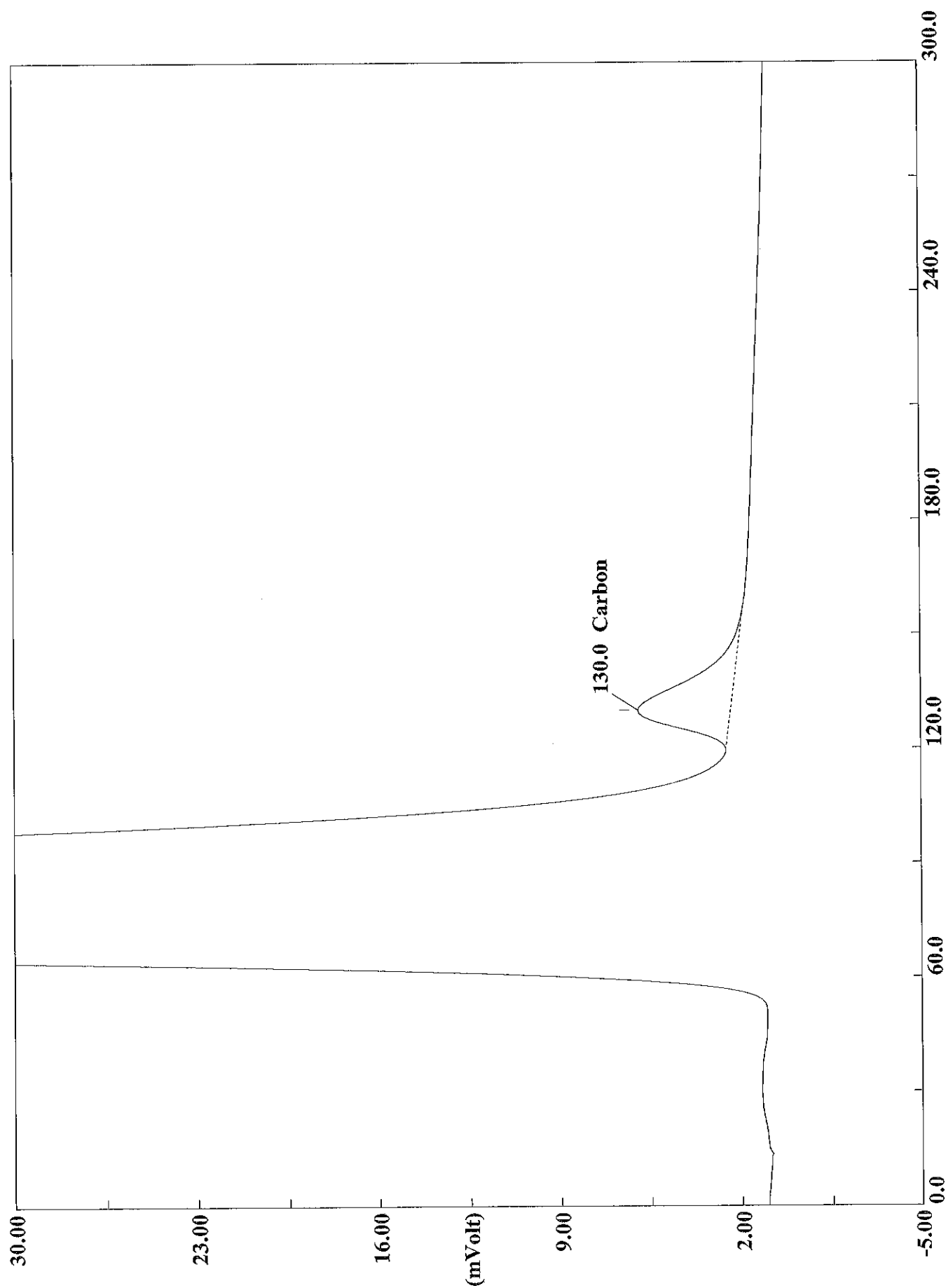
Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area      | BC | Area ratio | K factor |
|--------------|--------|----------|-----------|----|------------|----------|
| Carbon       | 2.2083 | 130      | 479936 mi |    | 1.000000   |          |



Manual Integration on 05/08/15 by Jim DeRubeis due to poor baseline draw



Filename C:\data\January\A050715034.DAT

Sample name :180-43458-d-7 du Analysed :05/07/2015 07:00

# Eager 300 Report

Page: 1 Sample: 180-43458-d-7 du (A050715034)

Method Name : Lloyd Kahn  
Method File : C:\data\January\050715x.mth  
Chromatogram : A050715034  
Operator ID : James DeRubeis Company Name : TestAmerica Pitt  
Analysed : 05/07/2015 07:00 Printed : 5/8/2015 11:31  
Sample ID : 180-43458-d-7 du (# 47)  
Instrument N. : Instrument #1  
Analysis Type : UnkNown (Area) Sample weight : 13.9

Calib. method : using 'Least Squares to Linear fit'

Warning Chromatogram has been subjected to manual integration.

| Element Name | %      | Ret.Time | Area   | BC | Area ratio | K factor |
|--------------|--------|----------|--------|----|------------|----------|
| Carbon       | 2.2402 | 130      | 487765 | mi | 1.000000   |          |

## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Batch Number: 139851 Batch Start Date: 04/28/15 08:30 Batch Analyst: Johnson, PaulBatch Method: 9010C Batch End Date: 04/28/15 10:00

| Lab Sample ID        | Client Sample ID | Method Chain | Basis | InitialAmount | FinalAmount | WCN0.5L1 00491 | WCN10Pi 00483 | WCNSoillCS<br>00015 |  |
|----------------------|------------------|--------------|-------|---------------|-------------|----------------|---------------|---------------------|--|
| LLCS<br>180-139851/1 |                  | 9010C, 9014  |       | 50 mL         | 50 mL       | 5 mL           |               |                     |  |
| HLCS<br>180-139851/2 |                  | 9010C, 9014  |       | 50 mL         | 50 mL       |                | 1.25 mL       |                     |  |
| LCS<br>180-139851/3  |                  | 9010C, 9014  |       | 1.00 g        | 50 mL       |                |               | 1 g                 |  |
| MB 180-139851/4      |                  | 9010C, 9014  |       | 2.00 g        | 50 mL       |                |               |                     |  |
| 180-43411-A-1        | DE01-SD          | 9010C, 9014  | T     | 2.03 g        | 50 mL       |                |               |                     |  |
| 180-43411-A-2        | F05-SD           | 9010C, 9014  | T     | 2.00 g        | 50 mL       |                |               |                     |  |

| Batch Notes                        |               |
|------------------------------------|---------------|
| Balance ID                         | 15900520      |
| Distillation Temperature           | 150 Degrees C |
| Lead Acetate Lot #                 | 1276537       |
| Magnesium Chloride Dispenser ID    | 42145         |
| Magnesium Chloride Lot Number      | 1508124       |
| NaOH Dispenser ID                  | 10J62292      |
| Sodium Hydroxide Reagent ID Number | 1427994       |
| Pipette ID                         | J1207624U     |
| Sulfamic Acid Reagent ID Number    | 955307        |
| Sulfuric Acid Dispenser ID         | 21014         |
| Sulfuric Acid Reagent ID Number    | 1516133       |
| Telfon Chips Lot #                 | 1524960       |

| Basis | Basis Description |
|-------|-------------------|
| T     | Total/NA          |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Batch Number: 139911 Batch Start Date: 04/28/15 10:42 Batch Analyst: Johnson, PaulBatch Method: 9014 Batch End Date: \_\_\_\_\_

| Lab Sample ID        | Client Sample ID | Method Chain | Basis | FinalAmount | WCN0.1L3 00041 | WCN0.2ICV 00326 |  |  |  |
|----------------------|------------------|--------------|-------|-------------|----------------|-----------------|--|--|--|
| ICV<br>180-139911/9  |                  | 9014         |       | 1 mL        |                | 1 mL            |  |  |  |
| CCV<br>180-139911/11 |                  | 9014         |       | 1 mL        | 1 mL           |                 |  |  |  |
| CCV<br>180-139911/23 |                  | 9014         |       | 1 mL        | 1 mL           |                 |  |  |  |
| CCV<br>180-139911/34 |                  | 9014         |       | 1 mL        | 1 mL           |                 |  |  |  |
| CCV<br>180-139911/37 |                  | 9014         |       | 1 mL        | 1 mL           |                 |  |  |  |

| Batch Notes                         |           |
|-------------------------------------|-----------|
| Buffer Reagent ID Number            | 1390860   |
| Chloramine-T Reagent ID Number      | 1545808   |
| NaOH Lot #                          | 1427994   |
| Pipette ID                          | D1203165U |
| Pyridine-Barbituric Acid Reagent ID | 1428101   |

| Basis | Basis Description |
|-------|-------------------|
|       |                   |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Batch Number: 139811 Batch Start Date: 04/27/15 15:42 Batch Analyst: Swanson, JimBatch Method: 2540G Batch End Date: \_\_\_\_\_

| Lab Sample ID | Client Sample ID | Method Chain | Basis | DISH#              | DishWeight | SampleMassWet | SampleMassDry |  |  |
|---------------|------------------|--------------|-------|--------------------|------------|---------------|---------------|--|--|
| 180-43411-A-1 | DE01-SD          | 2540G        | T     | B0323096<br>0.1079 | 2.58 g     | 16.07 g       | 12.32 g       |  |  |
| 180-43411-A-2 | F05-SD           | 2540G        | T     | B0323097<br>0.1104 | 2.52 g     | 12.01 g       | 9.29 g        |  |  |

| Batch Notes                              |                    |
|--|--------------------|
| Balance ID                               | 1126472457 No Unit |
| Date and Time Samples in Desiccator      | 4/28/15 04:50      |
| Date and Time Samples out of Desiccator  | 4/28/15 08:40      |
| Date samples were placed in the oven     | 04/27/15           |
| Oven Temp when samples are put in oven   | 104.5 Degrees C    |
| Time samples were place in the oven      | 1610               |
| Date samples were removed from oven      | 04/28/15           |
| Oven Temp when samples removed from oven | 103.5 Degrees C    |
| Time Samples were removed from oven      | 04:50              |
| Oven ID                                  | 5005               |
| ID number of the thermometer             | Wet 34             |
| Uncorrected In Temperature               | 105 Celsius        |
| Uncorrected Out Temperature              | 104 Celsius        |

| Basis | Basis Description |
|-------|-------------------|
| T     | Total/NA          |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Batch Number: 140637 Batch Start Date: 05/05/15 16:30 Batch Analyst: Reagle, CarlBatch Method: AVSSEM Batch End Date: 05/05/15 17:30

| Lab Sample ID       | Client Sample ID | Method Chain | Basis | InitialAmount | FinalAmount | WSULFPSP 00201 |  |  |  |
|---------------------|------------------|--------------|-------|---------------|-------------|----------------|--|--|--|
| MB 180-140637/1     |                  | AVSSEM, 9034 |       | 10.00 g       | 50 mL       |                |  |  |  |
| LCS<br>180-140637/2 |                  | AVSSEM, 9034 |       | 10.00 g       | 50 mL       | 1 mL           |  |  |  |
| 180-43411-A-1       | DE01-SD          | AVSSEM, 9034 | V     | 10.03 g       | 50 mL       |                |  |  |  |
| 180-43411-A-2       | F05-SD           | AVSSEM, 9034 | V     | 9.95 g        | 50 mL       |                |  |  |  |

| Batch Notes |  |
|-------------|--|
|             |  |
|             |  |

| Basis | Basis Description |
|-------|-------------------|
| V     | SEM/AVS           |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Batch Number: 140700 Batch Start Date: 05/05/15 18:20 Batch Analyst: Reagle, CarlBatch Method: 9034 Batch End Date: 05/05/15 18:50

| Lab Sample ID         | Client Sample ID | Method Chain | Basis | FinalAmount | IodineAmount | BuretStart1 | BuretStop1 | TitrantVolume1 | CalcMsg |
|-----------------------|------------------|--------------|-------|-------------|--------------|-------------|------------|----------------|---------|
| ICV<br>180-140700/1   |                  | 9034         |       | 50 mL       | 10 mL        | 0 mL        | 7.73 mL    | 7.73 mL        | OK      |
| ICB<br>180-140700/2   |                  | 9034         |       | 50 mL       | 10 mL        | 0 mL        | 10.03 mL   | 10.03 mL       | OK      |
| MB<br>180-140637/1-A  |                  | 9034         |       | 50 mL       | 10 mL        | 0 mL        | 10.05 mL   | 10.05 mL       | OK      |
| LCS<br>180-140637/2-A |                  | 9034         |       | 50 mL       | 10 mL        | 0 mL        | 7.79 mL    | 7.79 mL        | OK      |
| CCV<br>180-140700/13  |                  | 9034         |       | 50 mL       | 10 mL        | 0 mL        | 7.70 mL    | 7.7 mL         | OK      |
| CCB<br>180-140700/14  |                  | 9034         |       | 50 mL       | 10 mL        | 0 mL        | 10.08 mL   | 10.08 mL       | OK      |
| 180-43411-A-1-D       | DE01-SD          | 9034         | V     | 50 mL       | 10 mL        | 0 mL        | 9.83 mL    | 9.83 mL        | OK      |
| 180-43411-A-2-K       | F05-SD           | 9034         | V     | 50 mL       | 30 mL        | 0 mL        | 10.11 mL   | 10.11 mL       | OK      |
| CCV<br>180-140700/20  |                  | 9034         |       | 50 mL       | 10 mL        | 0 mL        | 7.75 mL    | 7.75 mL        | OK      |
| CCB<br>180-140700/21  |                  | 9034         |       | 50 mL       | 10 mL        | 0 mL        | 10.07 mL   | 10.07 mL       | OK      |

| Lab Sample ID         | Client Sample ID | Method Chain | Basis | WSULFSICVCCV<br>00204 |  |  |  |  |  |
|-----------------------|------------------|--------------|-------|-----------------------|--|--|--|--|--|
| ICV<br>180-140700/1   |                  | 9034         |       | 1 mL                  |  |  |  |  |  |
| ICB<br>180-140700/2   |                  | 9034         |       |                       |  |  |  |  |  |
| MB<br>180-140637/1-A  |                  | 9034         |       |                       |  |  |  |  |  |
| LCS<br>180-140637/2-A |                  | 9034         |       |                       |  |  |  |  |  |
| CCV<br>180-140700/13  |                  | 9034         |       | 1 mL                  |  |  |  |  |  |
| CCB<br>180-140700/14  |                  | 9034         |       |                       |  |  |  |  |  |
| 180-43411-A-1-D       | DE01-SD          | 9034         | V     |                       |  |  |  |  |  |
| 180-43411-A-2-K       | F05-SD           | 9034         | V     |                       |  |  |  |  |  |
| CCV<br>180-140700/20  |                  | 9034         |       | 1 mL                  |  |  |  |  |  |
| CCB<br>180-140700/21  |                  | 9034         |       |                       |  |  |  |  |  |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Batch Number: 140700 Batch Start Date: 05/05/15 18:20 Batch Analyst: Reagle, CarlBatch Method: 9034 Batch End Date: 05/05/15 18:50

| Batch Notes                           |                     |
|---------------------------------------|---------------------|
| HCl Concentration                     | 6 N                 |
| Lot # of hydrochloric acid            | 1539063             |
| Iodine Lot Number                     | 1296715             |
| Iodine Vendor                         | 1296715             |
| Normality of Iodine Solution          | 0.0241 N            |
| Sodium Thiosulfate Reagent ID Number  | 1457116             |
| Pipette ID                            | G1488373U J1207624U |
| Perform Calculation (0=No, 1=Yes)     | 1                   |
| Starch Lot Number                     | 1461162             |
| Starch Vendor                         | 1461162             |
| Normality of first Titrant            | 0.0240 N            |
| Zinc Acetate Buffer Reagent ID Number | 1548123             |

| Basis | Basis Description |
|-------|-------------------|
| V     | SEM/AVS           |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.



## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Batch Number: 139713 Batch Start Date: 04/27/15 08:29 Batch Analyst: Merriman, JeremyBatch Method: 9071B Batch End Date: 04/27/15 11:45

| Lab Sample ID        | Client Sample ID | Method Chain | Basis | InitialAmount | FinalAmount | WHemPSP 00183 |  |  |  |
|----------------------|------------------|--------------|-------|---------------|-------------|---------------|--|--|--|
| MB 180-139713/1      |                  | 9071B, 9071B |       | 30.0 g        | 30.0 g      |               |  |  |  |
| LCS<br>180-139713/2  |                  | 9071B, 9071B |       | 30.0 g        | 30.0 g      | 10 mL         |  |  |  |
| LCSD<br>180-139713/3 |                  | 9071B, 9071B |       | 30.0 g        | 30.0 g      | 10 mL         |  |  |  |
| 180-43411-A-2        | F05-SD           | 9071B, 9071B | T     | 5.0 g         | 30.0 g      |               |  |  |  |

| Batch Notes       |            |
|-------------------|------------|
| Balance ID        | 1120122641 |
| Batch Comment     | Sox # 7    |
| Hexane Lot#       | 1531111    |
| Na2SO4 Lot Number | 1540001    |

| Basis | Basis Description |
|-------|-------------------|
| T     | Total/NA          |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

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## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Batch Number: 139865 Batch Start Date: 04/28/15 09:30 Batch Analyst: Wesoloski, MichaelBatch Method: 9071B Batch End Date: \_\_\_\_\_

| Lab Sample ID          | Client Sample ID | Method Chain | Basis | FinalAmount | ReceiverTube | HEMWgt1  | HEMWgt2  | Weight2OK    | Residue  |
|------------------------|------------------|--------------|-------|-------------|--------------|----------|----------|--------------|----------|
| MB<br>180-139713/1-A   |                  | 9071B        |       | 30.0 g      | 2.2371 g     | 2.2374 g | 2.2374 g | Pass 0.0005g | 0.0003 g |
| LCS<br>180-139713/2-A  |                  | 9071B        |       | 30.0 g      | 2.2799 g     | 2.3189 g | 2.3189 g | Pass 0.0005g | 0.039 g  |
| LCSD<br>180-139713/3-A |                  | 9071B        |       | 30.0 g      | 2.2854 g     | 2.3243 g | 2.3242 g | Pass 0.0005g | 0.0389 g |
| 180-43411-A-2-D        | F05-SD           | 9071B        | T     | 30.0 g      | 2.2327 g     | 2.2832 g | 2.2832 g | Pass 0.0005g | 0.0505 g |

| Lab Sample ID          | Client Sample ID | Method Chain | Basis | Residue2 | CalcMsg                            |  |  |  |  |
|------------------------|------------------|--------------|-------|----------|------------------------------------|--|--|--|--|
| MB<br>180-139713/1-A   |                  | 9071B        |       | 0.0003 g | HEM OK. SGT-HEM<br>not calculated. |  |  |  |  |
| LCS<br>180-139713/2-A  |                  | 9071B        |       | 0.039 g  | HEM OK. SGT-HEM<br>not calculated. |  |  |  |  |
| LCSD<br>180-139713/3-A |                  | 9071B        |       | 0.0388 g | HEM OK. SGT-HEM<br>not calculated. |  |  |  |  |
| 180-43411-A-2-D        | F05-SD           | 9071B        | T     | 0.0505 g | HEM OK. SGT-HEM<br>not calculated. |  |  |  |  |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Batch Number: 139865 Batch Start Date: 04/28/15 09:30 Batch Analyst: Wesoloski, MichaelBatch Method: 9071B Batch End Date: \_\_\_\_\_

| Batch Notes                           |                 |
|---------------------------------------|-----------------|
| Balance ID                            | 1126020829      |
| Cal check after 1st Weighing - 1g     | 1.0000 g        |
| Cal check after 1st Weighing - 2 mg   | .0020 g         |
| Cal check after 2nd Weighing - 1g     | 1.0001 g        |
| Cal check after 2nd Weighing - 2 mg   | .0020 g         |
| Calibration Check After 1st Weighing  | 5.0000          |
| Calibration Check After 2nd Weighing  | 5.0001.         |
| Calibration Check Before 1st Weighing | 5.0001          |
| Calibration Check Before 2nd Weighing | 5.0001          |
| Cal check before 1st Weighing - 1g    | 1.0000 g        |
| Cal check before 1st Weighing - 2 mg  | .0020 g         |
| Cal check before 2nd Weighing - 1g    | 1.0000 g        |
| Cal check before 2nd Weighing - 2 mg  | .0020 g         |
| Batch Comment                         | Sox # 7         |
| Evaporator Temperature                | 48              |
| Filter Paper Lot Number               | Whatman 9598590 |

| Basis | Basis Description |
|-------|-------------------|
| T     | Total/NA          |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

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## GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: TestAmerica Pittsburgh Job No.: 180-43411-1

SDG No.: \_\_\_\_\_

Batch Number: 141007 Batch Start Date: 05/07/15 04:01 Batch Analyst: DeRubeis, James DBatch Method: Lloyd Kahn Batch End Date: \_\_\_\_\_

| Lab Sample ID        | Client Sample ID | Method Chain | Basis | InitialAmount | FinalAmount | LKTOCKHPL1<br>00012 | LKTOCSRM 00016 |  |  |
|----------------------|------------------|--------------|-------|---------------|-------------|---------------------|----------------|--|--|
| CCV<br>180-141007/1  |                  | Lloyd Kahn   |       |               |             | 0.1 mL              |                |  |  |
| LCS<br>180-141007/4  |                  | Lloyd Kahn   |       | 10.85 mg      | 10.85 mg    |                     | 10.85 mg       |  |  |
| CCV<br>180-141007/15 |                  | Lloyd Kahn   |       |               |             | 0.1 mL              |                |  |  |
| CCV<br>180-141007/29 |                  | Lloyd Kahn   |       |               |             | 0.1 mL              |                |  |  |
| CCV<br>180-141007/43 |                  | Lloyd Kahn   |       |               |             | 0.1 mL              |                |  |  |

| Batch Notes              |         |
|--------------------------|---------|
| Lot # of Phosphoric Acid | 1476189 |

| Basis | Basis Description |
|-------|-------------------|
|       |                   |

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Lloyd Kahn

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# Shipping and Receiving Documents



**Fed**

Express

FedEx  
Tracking  
Number

8070 6983 0140

1 From

Date

Sender's Name

Company

Address

City

State

ZIP

Phone

2 Your Internal Billing Reference

3 To

Recipient's Name

Company

Phone

P codes



180-43411 Waybill

Uncorrected temp  
Thermometer ID

CF 0 Initials

PT-WI-SR-001 effective 7/26/13

8070 6983 0140

HOLD Weekday  
FedEx locations deliver  
on business days only.  
FedEx Priority Overnight  
and FedEx 2Day are not  
delivered on Saturdays.

Drop Feed/Qualifrom

HOLD Saturday  
FedEx locations deliver  
on business days only.  
FedEx Priority Overnight  
and FedEx 2Day are not  
delivered on Saturdays.

31.6 °C

Un

DW

4 Express Package Service

NOTE: Service order has changed. Please select carefully.

FedEx First Overnight

FedEx 2Day A.M.

FedEx Priority Overnight

FedEx Standard Overnight

FedEx Express Saver

FedEx Envelope

FedEx Pak

FedEx Tube

Other

Special Handling and Delivery Signature Options

SATURDAY Delivery

No Signature Required

Direct Signature

Indirect Signature

Does this shipment contain dangerous goods?

No

Yes

Signature Required

Signature Not Required

Signature Not Required

Signature Not Required

Signature Not Required

Signature Not Required

Signature Not Required

Signature Not Required

Signature Not Required

Signature Not Required

Signature Not Required

Signature Not Required

Signature Not Required

Signature Not Required

Signature Not Required

Signature Not Required

Signature Not Required

## Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 180-43411-1

Login Number: 43411

List Source: TestAmerica Pittsburgh

List Number: 1

Creator: Watson, Debbie

| Question   | Answer | Comment |
|--|--------|---------|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | True   |         |
| The cooler's custody seal, if present, is intact.  | True   |         |
| Sample custody seals, if present, are intact.  | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |         |
| Samples were received on ice.  | True   |         |
| Cooler Temperature is acceptable.  | True   |         |
| Cooler Temperature is recorded.  | True   |         |
| COC is present.  | True   |         |
| COC is filled out in ink and legible.  | True   |         |
| COC is filled out with all pertinent information.  | True   |         |
| Is the Field Sampler's name present on COC?  | True   |         |
| There are no discrepancies between the containers received and the COC.                  | True   |         |
| Samples are received within Holding Time.  | True   |         |
| Sample containers have legible labels.   | True   |         |
| Containers are not broken or leaking.  | True   |         |
| Sample collection date/times are provided.   | True   |         |
| Appropriate sample containers are used.  | True   |         |
| Sample bottles are completely filled.  | True   |         |
| Sample Preservation Verified.  | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |         |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | True   |         |
| Multiphasic samples are not present.   | True   |         |
| Samples do not require splitting or compositing.   | True   |         |
| Residual Chlorine Checked.   | N/A    |         |